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Table 1: Manitoba Hydro Financial Targets 1986 to 2010/11

| Test Year             | Reserve Target/Basis for Reserve Level/ Timeframe to Build Reserve  | Debt: Equity Target         | Timeframe to Meet Debt: Equity Target                          | Interest Coverage Target | Capital Coverage Target  |
|-----------------------|---|-----------------------------|--|--------------------------|--|
| 1986-1988             | \$180-200M/ 2 consecutive years of the worst drought on record/ unidentified timeframe  | N/A N/A                     |  | N/A                      | N/A  |
| 1988/89               | \$280M/ 2 consecutive years of the worst drought on record/ by 1994/95  | N/A N/A                     |  | N/A                      | N/A  |
| 1989/90               | \$370M/ 2 consecutive years of the worst drought on record plus maximum self-insurance loss/ by 1994/95   | 85:15                       | 10 years after the achievement of the target reserve (2004/05) | 1.15 to 1.25             | N/A  |
| 1990/91               | 370M/ 2 consecutive years of the worst drought on record plus maximum self-insurance loss/ by 1994/95   | 85:15                       | 10 years after the achievement of the target reserve (2004/05) | 1.15 to 1.25             | N/A  |
| 1991/92               | 370M/ 2 consecutive years of the worst drought on record plus maximum self-insurance loss/ by 1994/95 <sup>1</sup>  | 85:15                       | By 2004/05   | 1.15 to 1.25             | N/A  |
| 1993/94               | \$370M/ retain target from 1992 <sup>2</sup> / by 1996/97   | 85:15                       | By 2004/05   | 1.15 to 1.25             | N/A  |
| 1995/96               | N/A (although no longer a formal target, 2 consecutive years of the worst drought on record plus maximum self-insurance loss was estimated in MIPUG/MH I-1(a) (1996/97 GRA) at \$390M, growing to \$470M by 2002/03 and \$450M by 2005/06 | 75:25                       | By 2005/06   | 1.15 to 1.35             | 1.0  |
| 2002 Status Update    | N/A (although no longer a formal target, 2 consecutive years of the worst drought on record <sup>3</sup> was shown in PUB/MH I-2(a) (2002 Status Update) to be \$735M, growing to \$771M by 2009/10                                       | 75:25 B                     | y 2005/06  | Minimum 1.20             | 1.0  |
| 2004/05 <sup>4</sup>  | N/A (although no longer a formal target, 2 consecutive years of the worst drought on record plus maximum self-insurance loss was shown in MIPUG/MH I-5(c) (2004 GRA) to be \$716M and growing to \$1,151M by 2011/12                      | 75:25 2011/12               |  | Minimum 1.00             | 1.0  |
| 2005/06 <sup>5</sup>  | N/A 75:25   |                             | 2011/12  | Minimum 1.20             | Minimum 1.0<br>Excludes new major generation and transmission                                      |
| 2006/07 <sup>6</sup>  | N/A   | Maintain a minimum of 75:25 | 2011/12  | Minimum 1.20             | Attain and maintain 1.0<br>Excludes head office building and new major generation and transmission |
| 2007/08 <sup>7</sup>  | N/A 75:25   |                             | 2011/12  | Minimum 1.20             | Minimum 1.0<br>Excludes head office building and new major generation and transmission             |
| 2008/09 <sup>8</sup>  | N/A 75:25   |                             | 2011/12  | Minimum 1.20             | Minimum 1.0<br>Excludes head office building and new major generation and transmission             |
| 2009/10 <sup>9</sup>  | All targets may not be maintained during years of major investment in generation and transmission<br>N/A  | Maintain a minimum of 75:25 | N/A <sup>10</sup>  | Minimum 1.20             | Minimum 1.2<br>Excludes new major generation and transmission                                      |
| 2010/11 <sup>11</sup> | All targets may not be maintained during years of major investment in generation and transmission<br>N/A  | Maintain a minimum of 75:25 | N/A <sup>12</sup>  | Minimum 1.20             | Minimum 1.2<br>Excludes new major generation and transmission                                      |

<sup>1</sup> IFF91-4 page 5. However, other filed materials also note “slippage” in the achievement of the target by one year, to 1995/96 (this is further summarized in IFF93-3 from the 1994 GRA- page 4.

<sup>2</sup> 2 years of the worst drought on record plus maximum self-insurance loss was estimated in MIPUG/MH I-1 from that hearing at \$300M in 1993/94 growing to \$570M by 2002-03 and \$530M by 2004/05.

<sup>3</sup> Hydro no longer self-insured, so that component of the “minimum retained earnings target” measurement was eliminated. The self-insurance program ended in September of 2000, PUB/MH I-51 from the 2002 Status Update.

<sup>4</sup> 1986-2004/05 Data as per MIPUG Evidence from 2004 GRA, page 50.

<sup>5</sup> From IFF05-1 page 2: *capital construction expenditures, except for major new generation and transmission to be financed by internally generated funds*

<sup>6</sup> From IFF06-3 page 14. *Timeframe to meet debt: equity target projected to be obtained by 2016/17-no change in target date of 2011/12 recommended at that time.*

<sup>7</sup> From IFF07-1 page 14

<sup>8</sup> From IFF08-1 page 15 *Timeframe to meet Debt: equity target of 75/25 projected to result by the end of 2008/09 due to the current favourable water flow conditions. Net income levels are projected to be sufficient to maintain this ratio at the target level until 2014/15 when capital expenditure levels begin to grow as a result of the construction of Keeyask, Conawapa and Bipole III*

<sup>9</sup> From IFF09 -1 page 15.

<sup>10</sup> As noted in IFF09-1: *due to major investments in the generation and transmission system over the next decade, this ratio is projected to regress to 80:20 between 2015/16 to 2018/19 and then to recover strongly thereafter.(p.16)*

<sup>11</sup> From IFF10 page 14.

<sup>12</sup> From IFF10 page 14 *Primarily due to major investments in the generation and transmission system over the next decade (“the decade of investment”) and lower net export revenues compared to the previous forecast IFF09, this ratio is projected to regress to 81:19 by 2019/20.*



### Manitoba Hydro Actual Debt Equity and Interest Coverage Ratios

| Year              | MH Debt: Equity Ratio<br>Actuals from Annual Reports | MH Interest Coverage<br>Actuals from Annual Reports |
|-------------------|--|---|
| 1984              | 96:04 0.99   |   |
| 1985              | 95:05 1.04   |   |
| 1986              | 94:06 1.11   |   |
| 1987              | 94:06 1.05   |   |
| 1988              | 95:05 0.94   |   |
| 1989              | 95:05 0.92   |   |
| 1990              | 95:05 1.07   |   |
| 1991              | 94:06 1.13   |   |
| 1992              | 94:06 1.04   |   |
| 1993 <sup>1</sup> | 95:05 0.95   |   |
| 1994              | 93:07 1.16   |   |
| 1995              | 92:08 1.13   |   |
| 1996              | 91:09 1.16   |   |
| 1997              | 88:12 1.23   |   |
| 1998              | 86:14 1.25   |   |
| 1999              | 84:16 1.23   |   |
| 2000              | 83:17 1.35   |   |
| 2001 <sup>2</sup> | 80:20 1.62   |   |
| 2002              | 77:23 1.42   |   |
| 2003              | 80:20 1.14   |   |
| 2004              | 87:13 0.17   |   |
| 2005              | 85:15 1.25   |   |
| 2006              | 81:19 1.77   |   |
| 2007              | 80:20 1.23   |   |
| 2008              | 73:27 1.69   |   |
| 2009              | 77:23 1.49   |   |
| 2010 <sup>3</sup> | 73:27 1.32   |   |

**Note:** 2008 and 2009 Debt:Equity Ratio and Interest Coverage Expense differ in the table above from the 58<sup>th</sup> Annual Report as Accumulated Other Comprehensive Income (AOCI) was not included as a component of equity in the accounting practices used in the 58<sup>th</sup> Annual Report. AOCI is included effective 2009/10 in accordance with changing accounting standards and the table above retroactively applies AOCI to the 2 years for comparative purposes. Without the inclusion of AOCI the Debt Ratio for 2008 and 2009 are 76% and 75% respectively.<sup>4</sup>

<sup>1</sup> 1984-1993 Debt:Equity and Interest Coverage as per page 62 of the 42nd Annual Report for the Year Ended March 31, 1993.

<sup>2</sup> 1992-2001 Debt:Equity and Interest Coverage as per page 79 of the 50th Annual Report for the Year Ended March 31, 2001.

<sup>3</sup> 2001-2010 data from page 100 of Manitoba Hydro's 59th Annual Report for Year Ended March 31, 2010.

<sup>4</sup> As per CAC/MSOS/MH I-116 b and c

**MIPUG/MH I-3****Financial Targets**

- b) Please update the response to Coalition/MH I-82 (j) from the 2008 General Rate Application regarding the calculation of the debt:equity ratios, including actuals for fiscal years ending 2008 and 2009 as well as forecasts from the IFF 09-1 forecasts for the 2010-2020 period.

**ANSWER:**

The following table provides the calculations requested.

| Debt Ratio<br>(\$ millions) |                      |  |   |                   |                               |                    |                           |                              |
|-----------------------------|----------------------|--|---|-------------------|-------------------------------|--------------------|---------------------------|------------------------------|
|                             | A                    | B  | C   | D                 | E                             | F                  | G                         | (D-E+F-G)<br>(A+B+C+D-E+F-G) |
| Fiscal<br>Year<br>Ended     | Retained<br>Earnings | Unamortized<br>Customer<br>Contributions | Accumulated<br>Other<br>Comprehensive<br>Income | Long-Term<br>Debt | Sinking<br>Fund<br>Investment | Short-Term<br>Debt | Short-Term<br>Investments | Debt<br>Ratio*               |
| 2008                        | 1,822                | 300                                      | 305   | 7,571             | 718                           | -                  | 133                       | 0.73                         |
| 2009                        | 2,120                | 296                                      | (169)   | 8,180             | 666                           | 100                | 170                       | 0.77                         |
| 2010                        | 2,227                | 293                                      | 192   | 8,120             | 392                           | 48                 | 9                         | 0.74                         |
| 2011                        | 2,315                | 291                                      | 178   | 8,640             | 264                           | 40                 | 14                        | 0.75                         |
| 2012                        | 2,396                | 285                                      | 143   | 9,255             | 336                           | 23                 | 19                        | 0.76                         |
| 2013                        | 2,479                | 280                                      | 178   | 9,635             | 344                           | 109                | 25                        | 0.76                         |
| 2014                        | 2,616                | 276                                      | 94  | 10,466            | 40                            | -                  | 72                        | 0.78                         |
| 2015                        | 2,738                | 273                                      | 71  | 11,784            | 146                           | -                  | 87                        | 0.79                         |
| 2016                        | 2,997                | 272                                      | 38  | 13,341            | 342                           | 41                 | 42                        | 0.80                         |
| 2017                        | 3,268                | 270                                      | 17  | 14,959            | 518                           | 21                 | 48                        | 0.80                         |
| 2018                        | 3,515                | 268                                      | 6   | 16,232            | 762                           | -                  | 81                        | 0.80                         |
| 2019                        | 3,772                | 267                                      | 3   | 16,767            | 508                           | 72                 | 61                        | 0.80                         |
| 2020                        | 4,059                | 267                                      | 3   | 17,449            | 595                           | -                  | 146                       | 0.79                         |

\* Debt Ratio for 2008 and 2009 has been restated as per CAC/MSOS/MH I-116(b)

Ref A: As reported in the Financial Statistics of 2009 Annual Report (page 118) and the IFF09-1 Consolidated Projected Balance Sheet (page 25).

Ref B: As reported in the Financial Statistics of 2009 Annual Report (page 118) and the IFF09-1 Consolidated Projected Balance Sheet (page 25).

Ref C: As reported in the Financial Statistics of 2009 Annual Report (page 118).

Ref D: As calculated in the table below.



Ref E: As reported in the Financial Statistics of 2009 Annual Report (page 118).

Ref F: Represents “Notes payable” as reported on the Balance Sheet in the 2009 Annual Report (page 89).

Ref G: Represents “Cash and cash equivalents” as reported on the Balance Sheet in the 2009 Annual Report (page 88).

The following table provides the calculation of long-term debt used in the aforementioned debt ratio calculation.

| (\$ millions)           |                   |                                   |                   |
|-------------------------|-------------------|-----------------------------------|-------------------|
|                         | <b>H</b>          | <b>I</b>                          | <b>D = (H+I)</b>  |
| Fiscal<br>Year<br>Ended | Long-Term<br>Debt | Current Portion<br>Long-Term Debt | Long-Term<br>Debt |
| 2008                    | 7,218             | 353                               | 7,571             |
| 2009                    | 7,661             | 519                               | 8,180             |
| 2010                    | 7,816             | 304                               | 8,120             |
| 2011                    | 8,613             | 27                                | 8,640             |
| 2012                    | 9,071             | 184                               | 9,255             |
| 2013                    | 8,786             | 849                               | 9,635             |
| 2014                    | 10,366            | 100                               | 10,466            |
| 2015                    | 11,522            | 262                               | 11,784            |
| 2016                    | 13,140            | 201                               | 13,341            |
| 2017                    | 14,429            | 530                               | 14,959            |
| 2018                    | 15,363            | 869                               | 16,232            |
| 2019                    | 16,446            | 321                               | 16,767            |
| 2020                    | 14,164            | 3,285                             | 17,449            |

Ref H: As reported in the Financial Statistics of 2009 Annual Report (page 118) and the IFF09-1 Consolidated Projected Balance Sheet (page 25).

Ref I: As reported on the Balance Sheet in the 2009 Annual Report (page 89).

**PUB/MH I-62****Reference: Tab 5, Pages 4 to 7**

d) For each of the years 2004/05, 2005/06 and 2006/07 (actual) and 2007/08 to 2008/09 (forecast), please provide the detailed calculation of:

- i. Debt to Equity Ratio
- ii. Capital Coverage Ratio
- iii. Interest Coverage Ratio

**ANSWER:**

- i. Please see the following table for the detailed calculation of consolidated debt to equity ratio.

| <b>Deb to Equity Ratio<br/>(\$ millions)</b> |                              |   |                           |  |                            |                                   |                                    |
|--|------------------------------|---|---------------------------|--|----------------------------|-----------------------------------|------------------------------------|
|  | <b>A</b>                     | <b>B</b>  | <b>C</b>                  | <b>D</b>                               | <b>E</b>                   | <b>F</b>                          | <b>(C-D+E-F)<br/>(A+B+C-D+E-F)</b> |
| <b>Fiscal<br/>Year</b>                       | <b>Retained<br/>Earnings</b> | <b>Unamortized<br/>Customer<br/>Contributions</b> | <b>Long Term<br/>Debt</b> | <b>Sinking<br/>Fund<br/>Investment</b> | <b>Short Term<br/>Debt</b> | <b>Short Term<br/>Investments</b> | <b>Debt:Equity<br/>Ratio</b>       |
| 2004/05                                      | 870                          | 296   | 7,249                     | 562                                    | 59                         | 9                                 | 0.85                               |
| 2005/06                                      | 1,285                        | 297   | 7,296                     | 555                                    | -                          | 119                               | 0.81                               |
| 2006/07                                      | 1,407                        | 335   | 7,376                     | 630                                    | 148                        | 1                                 | 0.80                               |
| 2007/08                                      | 1,708                        | 336   | 7,691                     | 695                                    | 93                         | -                                 | 0.78                               |
| 2008/09                                      | 1,869                        | 334   | 8,173                     | 544                                    | 31                         | -                                 | 0.78                               |

- ii. Please see table below for detailed calculation of capital coverage ratio.

**Capital Coverage Ratio**  
*Excluding Major Generation*

|             | <b>A</b>              | <b>B</b>                   | <b><math>\frac{A}{B}</math></b> |
|-------------|-----------------------|----------------------------|---------------------------------|
| Fiscal Year | Funds from Operations | Total Capital Expenditures | Capital Coverage                |
| 2004/05     | 433                   | 360                        | 1.20                            |
| 2005/06     | 710                   | 311                        | 2.28                            |
| 2006/07     | 443                   | 404                        | 1.10                            |
| 2007/08     | 484                   | 296                        | 1.64                            |
| 2008/09     | 391                   | 362                        | 1.08                            |

- iii. Please see table below for detailed calculation of interest coverage ratio.

**Interest Coverage**  
**(\$ millions)**

|             | <b>A</b>          | <b>B</b>             | <b>C</b>             | <b><math>\frac{(A+B+C)}{(B+C)}</math></b> |
|-------------|-------------------|----------------------|----------------------|---|
| Fiscal Year | Operating Surplus | Net Interest Expense | Capitalized Interest | Interest Coverage                         |
| 2004/05     | 136               | 502                  | 36                   | 1.25                                      |
| 2005/06     | 415               | 503                  | 38                   | 1.77                                      |
| 2006/07     | 122               | 506                  | 43                   | 1.23                                      |
| 2007/08     | 266               | 438                  | 67                   | 1.53                                      |
| 2008/09     | 160               | 461                  | 89                   | 1.29                                      |





# 20 YEAR FINANCIAL OUTLOOK

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2010/11 – 2029/30

FINANCIAL PLANNING  
CONTROLLER DIVISION  
FINANCE & ADMINISTRATION

March 2011

### 3.0 NET INCOME AND FINANCIAL TARGETS

Projected consolidated net income, equity ratios, interest coverage ratios, and capital coverage ratios for the 20 Year Financial Outlook are depicted in Table 1 and Figures 3 to 6.

**Table 1**  
**20 YEAR FINANCIAL OUTLOOK**

| <b>Year Ending</b><br><b>March 31</b> | <b>NET</b><br><b>INCOME</b><br><i>(Millions)</i> | <b>RETAINED</b><br><b>EARNINGS</b><br><i>(Millions)</i> | <b>RATIOS</b>      |                          |                         |
|---------------------------------------|--|---|--------------------|--------------------------|-------------------------|
|                                       |  |   | <b>Debt/Equity</b> | <b>Interest Coverage</b> | <b>Capital Coverage</b> |
| 2010 (actual)                         | 163  | 2,239   | 73 : 27            | 1.32                     | 1.30                    |
| 2011                                  | 158  | 2,398   | 74 : 26            | 1.28                     | 1.50                    |
| 2012                                  | 134  | 2,531   | 74 : 26            | 1.22                     | 1.50                    |
| 2013                                  | 130  | 2,658   | 76 : 24            | 1.20                     | 1.57                    |
| 2014                                  | 195  | 2,853   | 77 : 23            | 1.29                     | 1.29                    |
| 2015                                  | 152  | 3,005   | 79 : 21            | 1.20                     | 1.34                    |
| 2016                                  | 228  | 3,233   | 80 : 20            | 1.27                     | 1.62                    |
| 2017                                  | 278  | 3,511   | 80 : 20            | 1.29                     | 1.71                    |
| 2018                                  | 282  | 3,793   | 80 : 20            | 1.27                     | 1.73                    |
| 2019                                  | 234  | 4,027   | 81 : 19            | 1.21                     | 1.67                    |
| 2020                                  | 303  | 4,331   | 81 : 19            | 1.24                     | 1.83                    |
| 2021                                  | 122  | 4,453   | 81 : 19            | 1.09                     | 1.71                    |
| 2022                                  | 362  | 4,816   | 81 : 19            | 1.26                     | 2.11                    |
| 2023                                  | 456  | 5,271   | 80 : 20            | 1.32                     | 2.11                    |
| 2024                                  | 523  | 5,794   | 78 : 22            | 1.36                     | 2.16                    |
| 2025                                  | 642  | 6,436   | 76 : 24            | 1.43                     | 2.25                    |
| 2026                                  | 610  | 7,046   | 74 : 26            | 1.42                     | 2.37                    |
| 2027                                  | 705  | 7,751   | 72 : 28            | 1.49                     | 2.48                    |
| 2028                                  | 808  | 8,559   | 69 : 31            | 1.58                     | 2.70                    |
| 2029                                  | 919  | 9,478   | 66 : 34            | 1.67                     | 2.74                    |
| 2030                                  | 1,035  | 10,513  | 62 : 38            | 1.78                     | 2.80                    |

*Note:* Assumes 2.8% interim approved average rate increase April 1, 2010; 2.9% proposed average rate increase April 1, 2011; 3.5% projected average annual rate increases from 2013 to 2021; and 2.0% from 2022 to 2030.

**PUB/MH I-205**

**Reference: Tab 13, 13.4 (3) 20 -Year Financial Outlook**

**Please indicate the required rate change required in each year to maintain a 75:25 debt to equity ratio in each year of the 20 year forecast.**

**ANSWER:**

For illustrative purposes only, the attached table provides the annual rate adjustments required to maintain 75:25 debt/equity in each year of the forecast. Manitoba Hydro expects to manage rate change requirements to avoid abnormally large increases, or decreases, to ratepayers.

**Electric Rate Changes Required to Maintain a 75:25 Debt to Equity Ratio**

|               | <b>2010</b> | <b>2011</b> | <b>2012</b> | <b>2013</b> | <b>2014</b> | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Rate Increase | 0.0%        | 2.9%        | 10.1%       | -0.9%       | 16.3%       | 2.8%        | 0.0%        | 0.5%        | -3.1%       | 1.0%        | -4.4%       |
| Debt Ratio    | 74%         | 75%         | 75%         | 75%         | 75%         | 75%         | 75%         | 75%         | 75%         | 75%         | 75%         |
|               | <b>2021</b> | <b>2022</b> | <b>2023</b> | <b>2024</b> | <b>2025</b> | <b>2026</b> | <b>2027</b> | <b>2028</b> | <b>2029</b> |             |             |
| Rate Increase | 3.3%        | -6.0%       | -0.6%       | -18.8%      | -1.8%       | -2.5%       | 1.4%        | 0.6%        | 0.5%        |             |             |
| Debt Ratio    | 75%         | 75%         | 75%         | 75%         | 75%         | 75%         | 75%         | 75%         | 75%         |             |             |



1 proceed.

2                   The debt-equity ratio does deteriorate,  
3 and this is troublesome, certainly. We don't want -- we  
4 had -- we struggled for a very long time to achieve our  
5 75:25 debt eq -- equity target, and we're -- we are there  
6 now. We've -- in fact, we're currently sitting at 74:26,  
7 a little bit better than our target. The forecast is  
8 that it'll stay there throughout the balance of next year  
9 and then start to go down as we start incurring debt to  
10 finance our capital program.

11                   We will, though -- I can certainly commit  
12 that we will do everything -- everything possible to  
13 maintain that ratio at 75:25.

14                   The other ratios, interest coverage,  
15 capital coverage, meet the target, the minimum tar -- the  
16 target we set of one point two zero (1.20) in each and  
17 every year of the forecast --- for the ten (10) year  
18 forecast.

19                   Retained earnings continue to grow  
20 throughout the forecast period, and by 2019/'20 reach 4.3  
21 billion.

22                   On -- on slide number 10, we do outline  
23 the financial targets that were just referenced, so  
24 interest coverage, maintain a ratio greater than 1.20.  
25 Likewise with the capital, a ratio greater than 1.20 debt

Page 333

1 -- debt-equity 75:25.

2 We do note that the targets may not be  
3 maintained during years of major investment, and  
4 generation and transmission system. I have -- I must say  
5 I have had numerous discussions with our rating agencies  
6 about this, and they fully accept the fact that -- that  
7 our debt-equity ratio will deteriorate during this period  
8 of time.

9 They understand that Manitoba Hydro isn't  
10 embarking on a major investment program. They also  
11 understand that the returns in the next decade are huge.

12 On page 11, the interest coverage ratio,  
13 this just demonstrates that we do meet our target. The -  
14 - the black bars representing our financial -- updated  
15 finance -- financial forecast, IFF-10, so it does show  
16 that we will be meeting our target ratio of one point two  
17 zero (1.20) throughout the forecast period.

18 So this is a -- a slight improvement over  
19 the last year's forecast, IFF-09, where there were four  
20 (4) years there where we didn't achieve the target. This  
21 year, our forecast is that we will achieve the target  
22 each and every year.

23 On page 12, again with our capital  
24 coverage ratio, we will meet our target of -- of one  
25 point two zero (1.20) very comfortably, actually, in each

Page 4456

1 MR. BOB PETERS: And those comments come  
2 before you shared with Moody's, with Standard & Poor's,  
3 and DBRS, Manitoba Hydro's capital expenditure forecast  
4 2010?

5 MR. VINCE WARDEN: We -- we review our  
6 capital plans with the rating agencies. They are aware  
7 that the ratios will weaken during the decade of  
8 investment. They understand why we're doing it. They  
9 understand that we have a solid business plan and are  
10 accepting of that.

11 MR. BOB PETERS: They don't know that the  
12 new price tag for generation and transmission is at least  
13 17 billion, maybe even closer to \$20 billion, though, do  
14 they?

15 MR. VINCE WARDEN: Yes. Yes, we -- we  
16 share our financial forecast with them, so they would --  
17 they would be aware of our \$17 billion number over the  
18 next decade yes.

19 MR. BOB PETERS: Was the Moody's document  
20 prepared after Manitoba Hydro had provided Moody's with  
21 the capital expenditure forecast for 2010, including the  
22 revised prices for the capital costs of Keeyask and  
23 Conawapa?

24 MR. VINCE WARDEN: Yes.

25 MR. BOB PETERS: And the cost for Bipole



**CAC/MSOS/MH I-8****Subject: Reasons for the Application****Reference: Tab 2, page 3, lines 29-35 and page 4, lines 1-13**

- a) In the referenced lines on page 3, Manitoba Hydro appears to accept that the debt ratio can exceed its 75% target during the “decade of investment”. However, on page 4 Manitoba Hydro states that it is important to maintain an adequate level of retained earnings. Has Manitoba Hydro established any criteria or guidelines regarding what an acceptable versus unacceptable debt ratio and/or level of retained earnings would be during the forthcoming decade? If yes, please indicate what they are and how the criteria/guidelines were established.

**ANSWER:**

Manitoba Hydro’s long-standing target for the debt/equity ratio has been 75:25. The adequacy of this target and the level of equity (or retained earnings) at any given time depends upon the risks the Corporation faces and the tolerance that the Board of Manitoba Hydro has for risk in consideration of the current and projected circumstances. For example, at a time when water storage reservoir levels are full and export markets and prices are strong, the Board may be comfortable that the level of equity is adequate for the immediately ensuing period. The fact that Manitoba Hydro’s domestic rates are so much lower than other jurisdictions also allows for a higher tolerance for lower equity because the capacity to increase rates is substantially greater than elsewhere (should the need arise). A Financial Forecast that shows significant recovery to the debt/equity ratio in the “decade of returns” is also a consideration in the adequacy of the ratio in the intervening years.

The absolute level of equity is also an important consideration in determining its adequacy. With drought being one of the most significant risks faced by Manitoba Hydro, retained earnings should be sufficient to withstand a recurrence of the worst drought on record.





## Credit Opinion: **Manitoba Hydro Electric Board**

Global Credit Research - 08 Feb 2010

*Manitoba, Canada*

### Ratings

| Category             | Moody's Rating |
|----------------------|----------------|
| Outlook              | Stable         |
| Bkd Commercial Paper | P-1            |

### Contacts

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### Opinion

#### Rating Drivers

Manitoba Hydro-Electric Board's (MHEB)'s Prime-1 rating reflects the explicit guarantee of the Province of Manitoba (Province)

The Province is rated Aa1 with a stable outlook

The Province owns 100% of Manitoba Hydro-Electric Board's (MHEB) equity and holds over 90% of MHEB's debt

Extensive ownership, financial and public policy linkages to the Province

Regulated utility with predominantly low cost hydro-electric generation

#### Corporate Profile

MHEB is a vertically integrated regulated electric and gas utility which is 100% owned by the Province. MHEB's 14 hydroelectric generating stations typically generate the vast majority (>90%) of the energy the company delivers. The balance of energy delivered comes from thermal and wind assets and imports. MHEB's natural gas segment delivers over 2.1 billion cubic meters of natural gas to approximately 100 communities in the Province.

MHEB is a provincial Crown Corporation, and in addition to owning 100% of MHEB, the Province directly provides over 90% of MHEB's debt. The Province also unconditionally guarantees virtually all of MHEB's third party debt, including the promissory notes issued under MHEB's promissory note program (commercial paper or CP program). Only \$77 million or less than 1% of MHEB's total debt is neither held nor guaranteed by the Province

Manitoba. This \$77 million is comprised of Manitoba Hydro-Electric Bonds related to "mitigation projects".

## **SUMMARY RATING RATIONALE**

MHEB's Prime-1 (P-1) rating reflects the Province's guarantee of MHEB's promissory note program, together with Moody's belief that the Province manages its own liquidity in a professional manner and will have easy access to capital markets over the next year at a minimum.

### **Recent Developments**

In November 2009, MHEB's board of directors approved the corporation's Integrated Financial Forecast (IFF09-1) for the period 2009/10 - 2019/20 inclusive. IFF09-1 reflects the various impacts of the recession as well as the weak spot export power prices that prevailed during 2009. MHEB's base case expectation that weak spot export power prices will persist for some time, combined with large borrowing requirements related to MHEB's heavy capital spending program, is expected to result in a weakening of the company's financial profile. Consequently, MHEB expects to undershoot one or more of its key financial targets (Debt/Equity ratio of 75:25 or less; Interest Coverage ratio of 1.2:1.0 or more; and Capital Coverage ratio (excluding major new projects) of 1.2:1.0 or more) in the medium term.

MHEB filed a general rate application (electrical) on November 30, 2009. The GRA seeks average rate increases of 2.9% effective April 1, 2010 and April 1, 2011. Since MHEB does not expect a final decision from the Manitoba Public Utilities Board (PUB) on the GRA until late summer of 2010, MHEB has requested that the PUB approve the April 1, 2010 rate increase of 2.9% on an interim refundable basis. MHEB hopes to receive a decision on its request for an interim refundable rate increase in February 2010.

The Province's Ombudsman is investigating a complaint made in December 2008 under the Province's whistleblower protection laws claiming that MHEB has seriously miscalculated hydrology risk. The details of the whistleblower's allegations have not been made public, and Moody's notes that MHEB has defended its risk management policies vigorously. A report by independent consultants in September 2009 concluded that MHEB's management of drought risk was reasonable and adequate. The Audit Committee of MHEB's Board of Directors has also engaged KPMG to provide an independent assessment of its drought risk management, long term-contracts, hydrologic modeling and power trading governance. KPMG is expected to present its final report in March 2010. The PUB is expected to consider the report later in the year, and it may be several months before the Ombudsman concludes the formal review of the whistleblower's complaint. Moody's will monitor these developments to determine what, if any, impact they might have on MHEB's credit profile.

## **DETAILED RATING CONSIDERATIONS**

### **PROVINCIAL GUARANTEE**

MHEB's Prime-1 (P-1) rating reflects the Province's guarantee of MHEB's promissory note program, together with Moody's belief that the Province manages its own liquidity in a professional manner and will have ready access to capital markets over the next year at a minimum. MHEB and a similar entity, British Columbia Hydro & Power Authority (BC Hydro), are unique among Moody's-rated companies and are not readily comparable to other regulated electric utilities. Both are 100% owned by their respective provincial shareholder and the provincial shareholder owns virtually all of the companies' debts. The ratings of both MHEB and BC Hydro reflect the guarantee of the utility's rated debt by the respective provincial shareholder. Moody's observes that MHEB continues to independently support all of its outstanding debt, make water royalty payments in excess of \$100 million annually to the Province, and earn positive net income thereby maintaining or achieving modest improvements in its financial profile.



## Other Considerations

### PLANNED GENERATION DEVELOPMENTS WILL BOOST EXPORTS AND ANTICIPATE DOMESTIC DEMAND GROWTH

MHEB meets its customers' needs largely with low-cost power from its hydroelectric plants. These assets are valuable in that they provide the company with the opportunity to sell excess supply into neighbouring states and provinces during peak periods and import energy during off-peak periods. Approximately 35% of MHEB's electric revenues come from export sales during normal water years. MHEB continues to have a number of major capital projects in various stages of development. These projects will meet anticipated growth in domestic demand for the next 25-30 years and also allow MHEB to tap increasing demand for renewable energy in export markets. MHEB has signed binding term sheets for long-term export sales contracts with several US utilities that will partially underpin new generation developments. These contracts continue to be subject to regulatory approvals, and represent in total around 1,250 MW of capacity. The agreements are conditional upon the construction of new generation and interconnection facilities. MHEB's policy is to only enter into long-term contracts to the extent of firm energy that could be generated by 'dependable flow', which assumes a repetition of the worst river flows on record (1939-41). Moody's notes that this prudent policy does not entirely eliminate the risk that MHEB could be required to purchase power to meet its contractual commitments in extreme drought conditions.

MHEB's major development projects include the 200 MW run of river Wuskwatim project currently under construction. Wuskwatim, together with associated transmission investment, has an estimated capital cost of \$1.6 billion and a current expected in-service date of 2011. Two other major run of river projects, Keeyask and Conawapa, are in early stage development. Keeyask is currently envisioned as a 695 MW project with an estimated budget of \$4.6 billion and an earliest in service date of 2018 while Conawapa is currently expected to be a 1,485 MW project with an estimated budget of \$6.3 billion and a potential in service date of 2022. MHEB's major transmission project, known as Bipole III, is a new high voltage direct current (HVDC) transmission line on the west side of the Province. Bipole III will act as a back-up to the current system as well as carry power from new generation to the south and to export markets. The current targeted in-service date is fiscal 2017/18, at an estimated cost of \$2.2 billion.

Moody's expects that MHEB will finance the construction of its major development projects with a combination of additional long-term borrowings from the Province and internally generated funds. Management's 2009 financial forecast, which incorporates an expectation of weaker near to medium-term export revenues, indicates that MHEB will be more reliant on debt financing than had been expected in earlier forecasts.

### BORROWING REQUIREMENTS AND WEAK SPOT EXPORT POWER PRICES COULD RESULT IN FAILURE TO MEET FINANCIAL TARGETS IN MEDIUM TERM

MHEB achieved its minimum 25% equity target with an as reported debt/total capitalization of 75% at March 31, 2009. Favourable hydrology conditions enabled MHEB to achieve this level earlier than the original 2012 target. However, according to management's 2009 financial forecast, the company will be challenged to maintain its 75:25 debt/equity target after fiscal 2011 and may not achieve the target again until some time during the next decade. Although management's forecast assumes 2.9% annual average electric rate increases in each of fiscal 2010 and 2011 and 3.5% average electric rate increases annually thereafter, borrowings required to finance MHEB's significant capital program and weak spot export power prices are expected to drive the company's debt/equity ratio to approximately 80:20 later this decade. This ratio is projected to strengthen rapidly after Conawapa enters service, and Moody's also notes that some combination of larger rate increases, an earlier and more dramatic recovery of export power prices or a reduction in debt-financed capital spending could assist MHEB in achieving its

financial targets earlier than is indicated by its 2009 financial forecast.

As noted above, MHEB's rating primarily reflects the Province's guarantee and liquidity support. However, MHEB's financial ratios, including interest coverage, are an indication of the extent to which it is capable of supporting its debt independently, which is a consideration in the rating of the Province. MHEB's financial forecasts indicate that management expects to generate sufficient cash flow to service the interest on its debt. However, the anticipated weakening of MHEB's financial profile means that the company has less cushion against unexpected events such as poor hydrology, capital cost overruns or construction delays. In the event of such unexpected events, MHEB might need to seek larger rate increases, curtail its capital spending or take other actions to ensure that the company continues to be able to independently service its debt.

### **Liquidity Profile**

MHEB's CP borrowings are guaranteed by the Province of Manitoba. While the Province does not maintain committed bank credit facilities in support of its short-term borrowing programs, Moody's believes that the probability that the Aa1-rated Province would be unable to obtain funding on a timely basis either from the capital markets or its bankers is highly remote. Accordingly, Moody's is comfortable with the Prime -1 rating assigned to MHEB's provincially guaranteed CP program despite the absence of committed back-up facilities at either MHEB or the Province. While MHEB maintains \$500 million uncommitted credit facilities in support of its \$500 million CP program, Moody's generally views uncommitted facilities as providing little in the way of support for CP borrowings. Accordingly, our Prime -1 rating of MHEB's CP program relies principally on the guarantee of the Province.

### **Rating Outlook**

The Stable Outlook reflects the outlook of the guarantor, the Province of Manitoba.

### **What Could Change the Rating - Up**

A change in the rating of the guarantor

### **What Could Change the Rating - Down**

A change in the rating of the guarantor



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**Credit Opinion: Manitoba Hydro Electric Board**

Global Credit Research - 07 Feb 2011

Manitoba, Canada

**Ratings**

| Category             | Moody's Rating |
|----------------------|----------------|
| Outlook              | Stable         |
| Bkd Commercial Paper | P-1            |

**Contacts**

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| William L. Hess/New York | 212.553.3837 |

**Opinion**
**Rating Drivers**

Manitoba Hydro-Electric Board's (MHEB)'s Prime-1 rating reflects the explicit guarantee of the Province of Manitoba (Province)

The Province is rated Aa1 with a stable outlook

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**Corporate Profile**

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MHEB is a provincial Crown Corporation, and in addition to owning 100% of MHEB, the Province directly provides over 90% of MHEB's debt. The Province also unconditionally guarantees virtually all of MHEB's third party debt, including the promissory notes issued under MHEB's promissory note program (commercial paper or CP program). Only \$76 million or less than 1% of MHEB's total debt is neither held nor guaranteed by the Province Manitoba. This \$76 million is comprised of Manitoba Hydro-Electric Bonds related to "mitigation projects".

**SUMMARY RATING RATIONALE**

MHEB's Prime-1 (P-1) rating reflects the Province's guarantee of MHEB's promissory note program, together with our belief that the Province manages its own liquidity in a professional manner and will have ready access to capital markets over the next year at a minimum.

**Recent Developments**

In November 2009, MHEB filed a general rate application (electrical), seeking average rate increases of 2.9% effective April 1, 2010 and April 1, 2011. In February 2010 the Manitoba Public Utilities Board's (PUB) approved a 2.8% interim rate increase, effective April 1, 2010.

However, final resolution of the rate application has been delayed, largely because of the PUB's extensive review of MHEB's risk management practices. This review was prompted by a complaint made by a former consultant to the company in December 2008 under the Province's whistleblower protection laws claiming that MHEB had seriously miscalculated hydrology risk. The Audit Committee of MHEB's Board of Directors and the PUB each engaged independent consultants to assess the validity of these claims. While these reports recommend a number of improvements to risk processes and modelling capabilities, they conclude that MHEB is managing its risk profile appropriately within established risk tolerances. We will continue to monitor the progress of the PUB's risk review, but do not expect this to have any material impact on MHEB's credit profile.

**DETAILED RATING CONSIDERATIONS**
**PROVINCIAL GUARANTEE**

MHEB's Prime-1 (P-1) rating reflects the Province's guarantee of MHEB's promissory note program, together with our belief that the Province manages its own liquidity in a professional manner and will have ready access to capital markets over the next year at a minimum. MHEB and a similar entity, British Columbia Hydro & Power Authority (BC Hydro), are unique among Moody's-rated companies and are not readily

comparable to other regulated electric utilities. Both are 100% owned by their respective provincial shareholder and the provincial shareholder owns virtually all of the companies' debts. The ratings of both MHEB and BC Hydro reflect the guarantee of the utility's rated debt by the respective provincial shareholder. We observe that MHEB continues to independently support all of its outstanding debt, make water rental payments in excess of \$100 million annually to the Province, and earn positive net income thereby maintaining or achieving modest improvements in its financial profile.

### Other Considerations

#### PLANNED GENERATION DEVELOPMENTS WILL BOOST EXPORTS AND ANTICIPATE DOMESTIC DEMAND GROWTH

MHEB meets its customers' needs largely with low-cost power from its hydroelectric plants. Approximately 35% of MHEB's electric revenues come from export sales during normal water years, although low power prices meant that exports represented only 27% of electric revenues for the fiscal year ending March 31, 2010. MHEB continues to have a number of major capital projects in various stages of development. These projects will meet anticipated growth in domestic demand for the next 25-30 years and also allow MHEB to tap increasing demand for renewable energy in export markets. The new generation developments will be partially underpinned by long-term export sales contracts with several US utilities. In April 2010, MHEB entered into power purchase agreements with Xcel Energy for the sale of at least 325 MW of capacity (375MW in summer) between 2015-2025, which will increase by 125 MW from 2021 if MHEB's proposed Conawapa hydroelectric plant has entered service. The agreements remain subject to regulatory approval. MHEB continues to negotiate definitive contracts for a further 750 MW of capacity sales to other US utilities pursuant to binding term sheets signed in 2007 and 2008. These agreements would be conditional upon the construction of the proposed plants at Keeyask and Conawapa as well major new transmission investments. MHEB's policy is to only enter into long-term contracts to the extent of firm energy that could be generated by 'dependable flow', which assumes a repetition of the worst river flows on record (1939-41). We understand MHEB's export contracts all contain curtailment provisions which apply if hydrology conditions are more severe than previously experienced, and these help mitigate the low probability, high impact risk associated with extreme drought. We regard this strategy as prudent, but believe that the risk that MHEB could be required to purchase power to meet export commitments has not been entirely eliminated, partly because we believe any attempt to exercise this type of force majeure protection could be subject to dispute.

MHEB's major development projects include the 200 MW run of river Wuskwatim project currently under construction. Wuskwatim, together with associated transmission investment, has an estimated capital cost of \$1.6 billion and a current expected in-service date of 2011. Two other major run of river projects, Keeyask and Conawapa, are in early stage development. Keeyask is currently envisioned as a 695 MW project with an estimated budget of \$5.6 billion and an earliest in service date of 2019 while Conawapa is currently expected to be a 1,485 MW project with an estimated budget of \$7.8 billion and a potential in service date of 2023. MHEB's major transmission project, known as Bipole III, is a new high voltage direct current (HVDC) transmission line on the west side of the Province. The Bipole III line is required to improve the reliability of MHEB's high voltage direct current transmission system and to provide additional capability to deliver power from new generation to southern markets. The current targeted in-service date is 2017, at an estimated cost of \$2.2 billion. We note that MHEB's latest estimates resulted in an approximate one-year deferral for the entry into service of both Keeyask and Conawapa projects, and an increase in their combined cost of approximately \$2.5 billion. Similarly, revisions to timetable and budget may be made in respect of Bipole III when a review of that project is completed later this year.

#### BORROWING REQUIREMENTS AND WEAK SPOT EXPORT POWER PRICES LIKELY TO RESULT IN FAILURE TO MEET FINANCIAL TARGETS IN MEDIUM TERM

MHEB achieved its minimum 25% equity target with an as reported equity/total capitalization of 27% at March 31, 2010. Favourable hydrology conditions enabled MHEB to achieve this level earlier than the original 2012 target. However, according to management's 2010 financial forecast, the company will be challenged to maintain its minimum 25% equity ratio after fiscal 2012 and may not achieve the target again until sometime during the middle of the next decade. Although management's forecast assumes a 2.9% annual average electric rate increase in 2011 and 3.5% average electric rate increases annually thereafter, borrowings required to finance MHEB's significant capital program and weak spot export power prices are expected to drive the company's equity ratio below 20% later this decade. This ratio is projected to strengthen rapidly after Conawapa enters service, and we also note that some combination of larger rate increases, an earlier and more dramatic recovery of export power prices or a reduction in debt-financed capital spending could assist MHEB in achieving its financial targets earlier than is indicated by its 2010 financial forecast.

As noted above, MHEB's rating primarily reflects the Province's guarantee and liquidity support. However, MHEB's financial ratios, including interest coverage, are an indication of the extent to which it is capable of supporting its debt independently, which is a consideration in the rating of the Province. MHEB's financial forecasts indicate that management expects to generate sufficient cash flow to service the interest on its debt. However, the anticipated weakening of MHEB's financial profile means that the company has less cushion against unexpected events such as poor hydrology, capital cost overruns or construction delays. Should such unexpected events arise, MHEB might need to seek larger rate increases, curtail its capital spending or take other actions to ensure that the company continues to be able to independently service its debt.

### Liquidity Profile

MHEB's CP borrowings are guaranteed by the Province of Manitoba. While the Province does not maintain committed bank credit facilities in support of its short-term borrowing programs, Moody's believes that the probability that the Aa1-rated Province would be unable to obtain funding on a timely basis either from the capital markets or its bankers is highly remote. Accordingly, Moody's is comfortable with the Prime -1 rating assigned to MHEB's provincially guaranteed CP program despite the absence of committed back-up facilities at either MHEB or the Province. While MHEB maintains \$500 million uncommitted credit facilities in support of its \$500 million CP program, Moody's generally views uncommitted facilities as providing little in the way of support for CP borrowings. Accordingly, our Prime -1 rating of MHEB's CP program relies principally on the guarantee of the Province.

### Rating Outlook

The Stable Outlook reflects the outlook of the guarantor, the Province of Manitoba.

#### What Could Change the Rating - Up

A change in the rating of the guarantor

#### What Could Change the Rating - Down

A change in the rating of the guarantor



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Insight beyond the rating.

## Rating Report

### Report Date:

February 12, 2009

### Previous Report:

November 29, 2007

# The Manitoba Hydro-Electric Board

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## The Utility

The Manitoba Hydro-Electric Board (the Utility), a wholly owned Crown corporation of the Province of Manitoba, is a vertically integrated electric utility that provides generation, transmission and distribution of electricity to approximately 522,000 customers throughout Manitoba and natural gas service to approximately 261,000 customers via its subsidiary, Centra Gas Manitoba Inc. The Utility also exports electricity to more than 30 electric utilities through its participation in four wholesale markets in Canada and the mid-western United States.

## Authorized Commercial Paper Limit

\$500 million

## Rating

| Debt                   | Rating Action | Rating       | Trend  |
|------------------------|---------------|--------------|--------|
| Short-Term Obligations | Confirmed     | R-1 (middle) | Stable |
| Long-Term Obligations  | Confirmed     | A (high)     | Stable |

Note: These Obligations are based on the implicit support of the Province of Manitoba and the unconditional guarantee provided by the Province on Manitoba Hydro's third-party debt, and thus reflect the Province's debt ratings.

## Rating Update

The ratings of The Manitoba Hydro-Electric Board (Manitoba Hydro or the Utility) reflect the short- and long-term ratings of the Province of Manitoba (the Province; see the **DBRS report** published December 15, 2008). Manitoba Hydro's Long-Term Obligations and Short-Term Obligations ratings are a flow-through of the Province's ratings based on (1) the implicit support of the Province as Manitoba Hydro is for all purposes an agent of the Province (see **Rating Sovereign Governments** for further detail) and (2) the unconditional guarantee provided by the Province on the majority of the Utility's outstanding third-party obligations. The Province's Short-Term Debt and Long-Term Debt ratings were confirmed by DBRS on December 15, 2008, at R-1 (middle) and A (high), respectively. The trends on both ratings are Stable.

The Province supports Manitoba Hydro by both advancing funds and guaranteeing its new issues. As at March 31, 2008, the Province has provided approximately 94% of the Utility's long-term debt in the form of provincial advances, with the same terms and conditions as the Province's external debt. Manitoba Hydro has issued \$456 million of long-term debt in its own name, with an unconditional guarantee provided by the Province, except \$104 million of Manitoba Hydro-Electric Board Bonds, which do not benefit from an explicit provincial guarantee. (Continued on page 2.)

## Rating Considerations

### Strengths

- (1) Agent of the Crown with debt securities held or guaranteed by the Province
- (2) Low-cost hydro-based generation with substantial storage capacity
- (3) Reasonable regulatory framework
- (4) Interconnections with the United States, Saskatchewan and Ontario provide access to favourable export markets

### Challenges

- (1) Hydrology risk
- (2) High debt levels
- (3) Heightened capital expenditure profile
- (4) Export revenues sensitive to fluctuations in exchange rates
- (5) One Northern Flood Agreement (NFA) First Nations claim not yet settled

## Financial Information

| Manitoba Hydro-Electric Board          | For the year ended March 31 |       |       |       |        |
|--|-----------------------------|-------|-------|-------|--------|
|  | 2008                        | 2007  | 2006  | 2005  | 2004   |
| EBITDA interest coverage (times) (2)   | 2.47                        | 1.83  | 2.41  | 1.85  | 0.65   |
| % debt in capital structure (1)        | 79.0%                       | 82.7% | 83.7% | 88.5% | 90.2%  |
| Cash flow/total debt                   | 10.1%                       | 6.7%  | 11.1% | 6.7%  | (2.1%) |
| Cash flow/capital expenditures (times) | 0.84                        | 0.70  | 1.48  | 0.89  | (0.28) |
| Reported net income (\$ millions)      | 346                         | 122   | 415   | 136   | (436)  |
| Operating cash flow (\$ millions)      | 695                         | 454   | 737   | 447   | (140)  |

(1) Net of sinking fund assets. (2) Before capitalized interest, AFUDC.



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### Rating Update (Continued from page 1.)

The Utility's credit profile is further supported by the low-cost hydro-based generation, a constructive regulatory environment and its vast interconnections (56% of installed capacity), which provide access to favourable export markets. Hydrology continues to be the primary risk factor affecting credit metrics, but the risk is somewhat mitigated by the geographic diversification of the watersheds, reservoir storage capacity and import capabilities.

Manitoba Hydro benefited from robust hydrological conditions during the past year, resulting in a measurable improvement in its operating and financial performance indicators. Interim increases in domestic electricity rates and favourable export market conditions also contributed positively to operating results. While operating cash flow increased markedly, the Utility continued to incur cash flow deficits as a result of substantial capital expenditures. In recent years, cash flow deficits have been funded with debt and, in previous years, with sinking fund withdrawals or a combination of both debt and withdrawals. Despite improvement across key credit metrics, Manitoba Hydro's leverage remains one of the highest among government-owned integrated utilities in Canada.

Continued efforts to forge stronger connections within the U.S. market resulted in the signing of two 15-year term sheets with Minnesota Power (MP) and Wisconsin Public Service (WPS), totalling 750 megawatts (MW) in aggregate. The MP term sheet is for 250 MW starting in 2020, with the sale of surplus energy in 2008, while the WPS term sheet is for 500 MW in 2018. DBRS believes the growing demand for clean, renewable sources of energy, such as water power, will continue to economically benefit Manitoba Hydro over the longer term. These term sheets will require the development of both new major hydro generation and transmission facilities, which the Utility is currently undertaking.

Looking forward, DBRS believes that Manitoba Hydro will continue to generate reasonable levels of EBIT and operating cash flows, with the potential for significant volatility resulting from hydrological and export market conditions. The ongoing heightened capital expenditure program is expected to continue to pressure balance sheet and credit metrics. In addition, completing the large hydro generation and transmission projects on time and within budget is key to maintaining a stable financial profile.

### Rating Considerations Details

#### Strengths

(1) Manitoba Hydro is an agent of the Crown and its debt securities are almost entirely held or guaranteed by the Province. Therefore, the ratings assigned to Manitoba Hydro's obligations are a flow-through of the ratings of the Province.

(2) Low-cost hydroelectric-based generating capacity accounts for approximately 91% of installed capacity and results in one of the lowest variable cost structures in North America. The low-cost power generation has enabled Manitoba Hydro to provide electricity to its domestic customers at one of the lowest rates on the continent. This gives the Utility the flexibility to increase rates in the future, especially in light of the substantially heightened future capital expenditure requirements to replace aging infrastructure and develop new generation facilities. Furthermore, given the water storage capacity of its hydroelectric-based generating facilities, Manitoba Hydro has the ability to trade power, buying low-cost power during off-peak hours and selling its own power during peak periods at higher rates. Some geographic diversification of drainage basins somewhat reduces fluctuations in water flows and water levels.

(3) The regulatory environment in Manitoba is constructive. Manitoba's Public Utilities Board (PUB) has been supportive of Manitoba Hydro's rate applications and its financial targets. While Manitoba Hydro does not benefit from an automatic pass-through of costs, this is mitigated by its low-cost hydroelectric-based generating capacity and the PUB's demonstrated track record of approving rate increases during drought conditions.


**The Manitoba Hydro-Electric Board**
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(4) Manitoba Hydro's interconnections (approximately 56% of installed capacity), with 2,250 MW to the United States, 525 MW to Saskatchewan and 300 MW to Ontario, provide the Utility with access to favourable export markets. The interconnections also provide a secure supply of electricity for its domestic customers during times of poor hydrology.

**Challenges**

(1) Given that approximately 91% of Manitoba Hydro's installed generating capacity is hydroelectricity-based, earnings and cash flows are highly sensitive to hydrological conditions. The hydrology risk is somewhat mitigated by the geographic diversification of the watersheds, reservoir storage and import capacity. The two thermal generating stations, with a total capacity of 462 MW (Brandon and Selkirk), and the new 99 MW St. Leon wind farm provide a small amount of diversity to the generation mix. Given that 40% of Manitoba Hydro's exports are under a long-term fixed price-to-volume basis, during times of poor hydrological conditions such as in F2004, Manitoba Hydro may find itself procuring power supply from import markets to honour its export commitments under the fixed price-to-volume contract. This exposes Manitoba Hydro to significant price and volume risk. However, Manitoba Hydro employs the following strategies to mitigate these impacts:

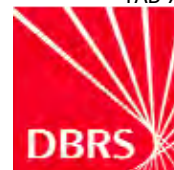
- Manitoba Hydro sells long-term forward contracts into the export markets based on its historically lowest water flow conditions. Any excess power, after accounting for the long-term forward contract sales, are sold into the spot market.
- The three primary advantages of long-term forward contracts are (1) forward prices tend to be higher than spot market prices; (2) long-term large volume power contracts with other utilities provide an incentive for these utilities to build and/or expand transmission infrastructure in their respective jurisdictions to be able to import export power, thus providing Manitoba Hydro with an expanded access to export and import markets; and (3) large long-term forward contracts also provide incentive to Manitoba Hydro to expedite the construction of new generating facilities, thus mitigating the price and volume risk.
- Growing its generation base both through upgrades at existing plants (estimated at 122 MW) and new greenfield developments (more than 2,200 MW), the Utility is currently constructing a 200 MW plant and is in the pre-project planning phase for two major hydro generation facilities. Over the longer term, once these projects are completed, Manitoba Hydro will be significantly long on power, thus mitigating long-term price and volume risk even further.
- Manitoba Hydro can file for a rate increase through a rate application to the PUB.

(2) Despite improvement across key credit metrics, Manitoba Hydro's leverage remains one of the highest among government-owned integrated utilities in Canada, limiting its financial flexibility.

(3) The need to refurbish its aging infrastructure, combined with the aggressive development of both new hydro generation and transmission facilities, will require Manitoba Hydro to deploy significant capital into its electricity infrastructure over the next several years. DBRS expects the heightened future capital expenditures to pressure the already high debt levels. The extent of this pressure is largely contingent on hydrology and export market conditions, which, if robust, would limit funding needs.

(4) The Utility's income statement and balance sheet are sensitive to changes in the U.S.-Canadian dollar exchange rate, since approximately 36% of its outstanding debt and 30% of electricity revenues (at March 31, 2008) are denominated in U.S. dollars. While U.S. dollar-denominated debt is fully hedged by export revenues, the net U.S. dollar surplus is sensitive to changes in the exchange rate. As such, a higher Canadian dollar restricts the rise in export revenue expressed in Canadian dollars.

(5) Four out of five First Nations claims related to the NFA have been settled; however, one NFA First Nations claim (Cross Lake) has not. The NFA provided for compensation and remedial measures necessary to ameliorate the impact of the Churchill River diversion and Lake Winnipeg regulation projects. Manitoba Hydro continues to address the adverse effects of its northern hydroelectric developments on five First Nations communities. Expenditures to mitigate the Churchill River diversion and the Lake Winnipeg regulation projects amounted to \$37 million in F2008, with \$653 million having been spent since 1977. In recognition of future anticipated mitigation payments, the Utility has recorded a liability of \$127 million.



## The Manitoba Hydro-Electric Board

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### Rating Methodology Update

Manitoba Hydro is, for all purposes, an agent of the provincial government and its powers may be exercised only as an agent of the government. When rating the financial obligations of agents of the federal or provincial governments, DBRS generally flows through the rating of the parent government if (1) the status of the agent is explicitly provided to the organization through legislation or regulation; (2) the agent is empowered to borrow in its constituting act; and (3) there is no provision in the constituting act or the terms of the debt precluding the applicability of the agent status to borrowing activities. As these three criteria apply to Manitoba Hydro, the Province of Manitoba's ratings will flow through to the Utility.

In addition, provincial support for the Utility is reflected in the fact that it advanced approximately 94% of the Utility's long-term debt (\$7,114 million) and has provided unconditional guarantee for the rest of the long-term debt (\$352 million), the exception being the \$104 million Manitoba Hydro-Electric Board Bonds issued for mitigation projects (as part of the NFA), which do not benefit from the provincial guarantee.

### Regulation

Manitoba Hydro is governed by the *Manitoba Hydro Act* and its electricity and natural gas rates are regulated by the Manitoba PUB.

#### Electricity

Each year, Manitoba Hydro reviews its financial targets, with particular focus on achieving a debt-to-equity target capital structure of 75%-to-25% by 2012. If it deems a rate adjustment is needed to meet its financial targets, it submits a rate application to the PUB. The PUB reviews the rate adjustment application with the objective of allowing Manitoba Hydro to recover its cost of service and achieve its long-term debt-to-equity target of 75%-to-25%. The PUB does not have the mandate to pre-approve capital expenditures. The capital expenditure planning responsibility resides with Manitoba Hydro and the government of Manitoba.

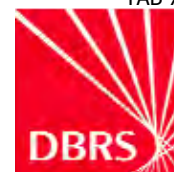
In July 2008, Manitoba Hydro was granted a 5.0% rate increase across all customer classes. The additional rate relief was required to meet financial targets and to reduce external funding needs for capital projects. The PUB continues to demonstrate support of Manitoba Hydro's rate applications and its long-term debt-to-equity target of 75%-to-25%.

While Manitoba Hydro is the sole retail electricity supplier in Manitoba, under the *Manitoba Hydro Amendment Act of 1997* (the Act), other utilities may access the transmission system to reach customers in neighbouring provinces and states. The Act also explicitly allows Manitoba Hydro to build new generating capacity for export sales, to offer new energy-related services, to enter into strategic alliances and joint ventures and to create subsidiaries.

There are presently no plans to move to full retail competition in the province. Manitoba retail customers currently enjoy rates that are among the lowest in North America because of Manitoba Hydro's predominantly hydroelectric generation, generally profitable exports and efficient resource management. More than 80% of Manitoba Hydro's export sales are through the Midwest Independent Transmission System Operator (MISO), which is a centrally operated electricity market in the U.S. Midwest region (from parts of North Dakota down through Minnesota, Wisconsin and Illinois through to Kentucky). This market operates much like a typical power pool, with utilities transacting directly with the exchange rather than with one another. The energy saved under the Utility's Power Smart program is sold into these higher-margin markets.

#### Natural Gas Distribution

Manitoba Hydro distributes natural gas through its wholly owned subsidiary, Centra Gas Manitoba Inc. (Centra Gas). In accordance with the rate-setting methodology for natural gas, commodity rates are changed every quarter based on 12-month forward natural gas market prices. The commodity cost of gas is a pass-through with no markup to customers.



## The Manitoba Hydro-Electric Board

### Report Date:

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Non-commodity costs, such as transportation, distribution and operating and general expenses related to the natural gas business, are passed on as well. The PUB allows Centra Gas to target an annual profit of approximately \$3 million, which is fairly modest compared with Manitoba Hydro's consolidated earnings. In addition, the PUB allows Manitoba Hydro to collect \$12 million per year through rates to meet its debt servicing and acquisition costs related to its 1999 purchase of Centra Gas from Westcoast Energy Inc.

Licensed natural gas retailers offer consumers a fixed-price alternative to Centra Gas's quarterly cost-based commodity billings. The PUB licenses all retailers, but their prices are unregulated and market driven. In accordance with a recent decision of the PUB, Centra Gas plans to enter the fixed-rate market in February 2009.

## Earnings and Outlook

| (CAD millions)               | For the year ended March 31 |       |       |       |         |
|------------------------------|-----------------------------|-------|-------|-------|---------|
|                              | 2008                        | 2007  | 2006  | 2005  | 2004    |
| Net electricity revenues (1) | 1,565                       | 1,413 | 1,702 | 1,374 | 753     |
| Net gas revenues             | 142                         | 129   | 120   | 125   | 119     |
| Total revenues               | 1,730                       | 1,558 | 1,839 | 1,514 | 890     |
| EBITDA                       | 1,095                       | 921   | 1,205 | 907   | 320     |
| EBIT                         | 746                         | 589   | 883   | 596   | 24      |
| Gross interest expense (2)   | 444                         | 504   | 501   | 491   | 495     |
| Net interest expense (3)     | 367                         | 435   | 435   | 432   | 417     |
| Reported net income          | 346                         | 122   | 415   | 136   | (436)   |
| Return on average equity     | 21.4%                       | 9.1%  | 38.5% | 17.0% | (45.8%) |

(1) Net electricity revenues are gross revenues less cost of purchased power. Net gas revenues are gross revenues less cost of gas.

(2) Includes \$32 MM F/X gain on U.S. denominated debt. (3) Adjusted for investment income and interest allocated to construction.

### Summary

Earnings as measured by EBIT improved measurably in 2008, largely due to stronger hydrological conditions. The increases in domestic electricity rates, lower fuel and power-purchased costs, as well as favourable export market conditions, also contributed positively to the operating results during this period. Despite a stronger Canadian dollar, U.S. extraprovincial revenues increased to \$515 million from \$507 million in F2007.

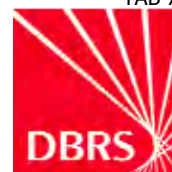
With the adoption of new accounting standards in 2007, net income increased by \$32 million because financing charges decreased as result of the recognition of foreign exchange gains on U.S. dollar-denominated debt. Earnings volatility has primarily been due to varying levels of hydrology. While hydrology conditions have been reasonable since F2004, Manitoba Hydro expects drought conditions to typically occur every ten years or so and retains sufficient earnings to accommodate the financial impact.

### Outlook

Earnings are expected to remain relatively strong over the next fiscal year, primarily due to above-average energy in reservoir storage, increases in domestic electricity rates and favourable prevailing exchange rates. Manitoba Hydro has projected net income to be greater than \$314 million for F2009. Factors that will continue to affect EBIT stability over the longer term include the following:

- Hydrological levels at the Utility's watersheds.
- Demand for power in Manitoba Hydro's export markets and the prevailing exchange rates.
- Domestic rate increases.
- Domestic load growth.




**The Manitoba  
Hydro-Electric  
Board**

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**Financial Profile**

|  | For the year ended March 31 |              |             |              |              |
|--|-----------------------------|--------------|-------------|--------------|--------------|
| <b>Statement of Cash Flow</b> (CAD millions) | <u>2008</u>                 | <u>2007</u>  | <u>2006</u> | <u>2005</u>  | <u>2004</u>  |
| Reported net income                          | 346                         | 122          | 415         | 136          | (436)        |
| Depreciation & amortization                  | 349                         | 332          | 322         | 311          | 296          |
| Other non-cash adjustments                   | -                           | -            | -           | -            | -            |
| <b>Cash Flow From Operations</b>             | <b>695</b>                  | <b>454</b>   | <b>737</b>  | <b>447</b>   | <b>(140)</b> |
| Capital expenditures (net of contrib.)       | (827)                       | (645)        | (498)       | (505)        | (498)        |
| Dividends                                    | -                           | -            | -           | -            | (3)          |
| <b>Cash Flow Before W/C Changes</b>          | <b>(132)</b>                | <b>(191)</b> | <b>239</b>  | <b>(58)</b>  | <b>(641)</b> |
| Changes in working capital                   | (65)                        | (11)         | (27)        | (14)         | 13           |
| <b>Net Free Cash Flow</b>                    | <b>(197)</b>                | <b>(202)</b> | <b>212</b>  | <b>(72)</b>  | <b>(628)</b> |
| Acq./divest./sinking fund pmt./other inv.    | (158)                       | (143)        | (179)       | (161)        | (152)        |
| <b>Cash Flow bef. Financing</b>              | <b>(355)</b>                | <b>(345)</b> | <b>33</b>   | <b>(233)</b> | <b>(780)</b> |
| Sinking fund withdrawals                     | 0                           | -            | 84          | 236          | 269          |
| Net change in long-term debt                 | 522                         | 240          | 11          | 20           | 487          |
| Other financing                              | (35)                        | (13)         | (18)        | (20)         | -            |
| <b>Net Change in Cash Flow</b>               | <b>132</b>                  | <b>(118)</b> | <b>110</b>  | <b>3</b>     | <b>(24)</b>  |

**Key Financial Ratios**

|                                      |       |       |       |       |        |
|--------------------------------------|-------|-------|-------|-------|--------|
| EBITDA interest coverage (times) (2) | 2.47  | 1.83  | 2.41  | 1.85  | 0.65   |
| % debt in capital structure (1)      | 79.0% | 82.7% | 83.7% | 88.5% | 90.2%  |
| Cash flow/total debt                 | 10.1% | 6.7%  | 11.1% | 6.7%  | (2.1%) |

(1) Net of sinking fund assets. (2) Before capitalized interest, AFUDC.

| <b>Capital Structure</b> | <u>2008</u>  | <u>2007</u>  | <u>2006</u>  | <u>2005</u>  | <u>2004</u>  |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Short-term debt          | 353          | 553          | 118          | 215          | 369          |
| Long-term debt           | 7,217        | 6,822        | 7,051        | 7,048        | 7,114        |
| LESS: sinking funds      | 700          | 630          | 555          | 562          | 715          |
| <b>Total Debt</b>        | <b>6,870</b> | <b>6,745</b> | <b>6,614</b> | <b>6,701</b> | <b>6,768</b> |
| Equity                   | 1,822        | 1,407        | 1,285        | 870          | 734          |
| <b>Total Capital</b>     | <b>8,692</b> | <b>8,152</b> | <b>7,899</b> | <b>7,571</b> | <b>7,502</b> |

**Summary**

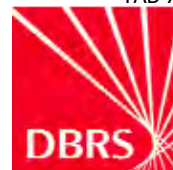
Despite stronger operating cash flow, Manitoba Hydro continued to generate free cash flow deficits, largely as a result of substantial capital expenditures. Cash flow deficits are typically funded with debt and sinking fund withdrawals. Increased capital expenditures have been driven primarily by (1) generation system upgrades; (2) the development of new generation facilities, specifically Wuskwatim (200 MW), Conawapa (1,485 MW) and Keeyask (695 MW) generating stations; (3) upgrades and additions to improve the reliability of Manitoba Hydro's aging transmission and distribution infrastructure; and (4) the construction of a new head office.

Growth in retained earnings has more than offset higher debt levels, resulting in continued improvement in the debt-to-capital ratio. However, Manitoba Hydro's leverage still remains one of the highest among government-owned integrated utilities in Canada. With no mandatory dividend payment requirements, the Utility has been able to shore up its balance sheet through retained earnings.

**Outlook**

Capital expenditures are expected to remain higher over the medium term as Manitoba Hydro continues to upgrade and improve the reliability of its aging electric infrastructure, as well as invest in the development of new hydro generation facilities. The ongoing heightened capital program is expected to result in continued cash flow deficits. The extent of the Utility's funding requirements will largely be dependent on hydrology and export market conditions.

Although debt balances will increase over the medium term, leverage could improve modestly from current levels due to increased retained earnings. In addition, completing large hydro generation and transmission projects on time and within budget is key to maintaining a stable financial profile.



## The Manitoba Hydro-Electric Board

**Report Date:**  
February 12, 2009

## Long-Term Debt Maturities and Bank Lines

| Debt Profile (CAD millions)  | %   | For year ended March 31, |       | Debt Maturities |                  |       |
|--|-----|--------------------------|-------|-----------------|------------------|-------|
|  |     | 2008                     | 2007  | Year            | % (CAD millions) |       |
| Advances from the Province   | 94% | 7,114                    | 6,640 | 2009            | 5%               | 353   |
| Manitoba Hydro Bonds   | 3%  | 212                      | 386   | 2010            | 6%               | 441   |
| Manitoba Hydro-Electric Board Bonds*                                 | 3%  | 244                      | 201   | 2011            | 4%               | 296   |
| Total  |     | 7,570                    | 7,227 | 2012            | 0%               | 16    |
| * \$104 million of unguaranteed bonds are part of the \$244 million. |     |                          |       | 2013            | 1%               | 78    |
|  |     |                          |       | Thereafter      | 84%              | 6,386 |
|  |     |                          |       | Total           |                  | 7,570 |

\* \$104 million of unguaranteed bonds are part of the \$244 million.

### Summary

The Province supports Manitoba Hydro by advancing funds or guaranteeing the Utility's long-term debt issues. Long-term debt, net of sinking funds, at March 31, 2008, consisted of the following:

- \$7,114 million in advances from the Province (all of which have annual sinking fund requirements).
- \$212 million Manitoba Hydro Bonds.
- \$244 Manitoba Hydro-Electric Board Bonds.
- \$2,705 or 36% of all obligations are denominated in U.S. dollars.

Manitoba Hydro's maturity schedule is relatively modest and expected to be refinanced. The Utility has bank credit facilities that provide for overdrafts and notes payable up to \$500 million denominated in Canadian and/or U.S. dollars. At March 31, 2008, there were no amounts outstanding. Manitoba Hydro issues short-term debt in its own name for all its short-term cash requirements and does not receive short-term funding from the Province. These short-term notes are guaranteed by the Province of Manitoba. The \$104 million of Manitoba Hydro-Electric Board Bonds do not carry the provincial guarantee.

## The Watershed Storage Capacity

Manitoba Hydro draws water from four distinct watersheds: Nelson River, Winnipeg River, Saskatchewan River and Laurie River. This provides the Utility with some geographic diversification, especially during times of low hydrology. The main generation source is the Nelson River, which accounted for approximately 79% of power generated in F2008.

### SOURCE OF ELECTRICAL ENERGY GENERATED AND IMPORTED

For the year ended March 31, 2008

|                              |              |                              |             |
|------------------------------|--------------|------------------------------|-------------|
| <b>Nelson River</b>          | <b>79%</b>   | <b>Saskatchewan River</b>    | <b>6.3%</b> |
| <b>Billion kWh generated</b> | <b>28.3</b>  | <b>Billion kWh generated</b> | <b>2.3</b>  |
| Limestone                    | 26%          | Grand Rapids                 | 6.3%        |
| Kettle                       | 24%          |                              |             |
| Long Spruce                  | 20.7%        | <b>Laurie River</b>          | <b>0.02</b> |
| Kelsey                       | 4.6%         | <b>Billion kWh generated</b> | <b>0.1</b>  |
| Jenpeg                       | 3.0%         | Laurie River #1              | 0.1%        |
|                              |              | Laurie #2                    | 0.1%        |
| <b>Winnipeg River</b>        | <b>11.8%</b> |                              |             |
| <b>Billion kWh generated</b> | <b>4.2</b>   | <b>Thermal</b>               | <b>1.3%</b> |
| Seven Sisters                | 3.3%         | <b>Billion kWh Generated</b> | <b>0.5</b>  |
| Great Falls                  | 2.6%         | Brandon                      | 1.3%        |
| Pine Falls                   | 1.9%         | Selkirk                      | 0.0%        |
| Pointe du Bois               | 1.5%         |                              |             |
| Slave Falls                  | 1.4%         | <b>Imports</b>               | <b>0.8%</b> |
| McArthur                     | 1.2%         | <b>Billion kWh imported</b>  | <b>0.3</b>  |

Source: Manitoba Hydro.



## The Manitoba Hydro-Electric Board

### Report Date:

February 12, 2009

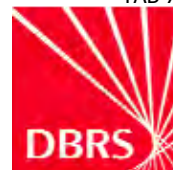


Source: Manitoba Hydro.

Favourable characteristics inherent in Manitoba Hydro's watersheds include the following:

- Cold temperatures reduce overall evaporation rates as much of the water is frozen for up to five months of the year.
- A significant portion of the watersheds consists of rock, which has lower seepage rates and higher runoff than predominately soil-covered watersheds.
- Lake Winnipeg, Cedar Lake and South Indian Lake serve as large storage reservoirs. The Utility's water storage capacity is a competitive advantage in trading electricity (buying surplus U.S. power at low off-peak prices and selling its electricity during peak demand periods at higher prices).




**The Manitoba  
Hydro-Electric  
Board**
**Report Date:**

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**Manitoba Hydro's Generating Capacity**

Manitoba Hydro owns and operates an aggregate generating capacity of 5,475 MW and is counterparty to an additional 99 MW of contracted wind capacity.

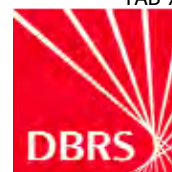
**Manitoba Hydro's Generating Stations and Capabilities**

| <b><u>Power Station</u></b>                | <b><u>Location</u></b> | <b><u># of units</u></b> | <b><u>Net Capacity<br/>(MW)</u></b> |
|--|------------------------|--------------------------|-------------------------------------|
| <b><u>Hydroelectric</u></b>                |                        |                          |                                     |
| Seven Sisters                              | Winnipeg River         | 6                        | 165                                 |
| Great Falls                                | Winnipeg River         | 6                        | 132                                 |
| Pine Falls                                 | Winnipeg River         | 6                        | 89                                  |
| McArthur Falls                             | Winnipeg River         | 8                        | 55                                  |
| Pointe du Bois                             | Winnipeg River         | 16                       | 74                                  |
| Slave Falls                                | Winnipeg River         | 8                        | 67                                  |
| Grand Rapids                               | Saskatchewan River     | 4                        | 479                                 |
| Limestone                                  | Nelson River           | 10                       | 1,340                               |
| Kettle                                     | Nelson River           | 12                       | 1,220                               |
| Long Spruce                                | Nelson River           | 10                       | 1,010                               |
| Kelsey                                     | Nelson River           | 7                        | 234                                 |
| Jenpeg                                     | Nelson River           | 6                        | 128                                 |
| Laurie River (2)                           | Laurie River           | 3                        | 10                                  |
| <b>Total Hydroelectric Generation</b>      |                        | <b>102</b>               | <b>5,003</b>                        |
| <b><u>Thermal</u></b>                      |                        |                          |                                     |
| Brandon (coal: 95 MW, gas: 241 MW)         |                        | 3                        | 336                                 |
| Selkirk (gas)                              |                        | 2                        | 126                                 |
| <b>Total Thermal Generation</b>            |                        | <b>5</b>                 | <b>462</b>                          |
| <b><u>Isolated Diesel Capabilities</u></b> |                        |                          |                                     |
| Brochet                                    |                        |                          | 3                                   |
| Lac Brochet                                |                        |                          | 2                                   |
| Shamattawa                                 |                        |                          | 3                                   |
| Tadoule Lake                               |                        |                          | 2                                   |
| <b>Total Isolated Diesel Generation</b>    |                        |                          | <b>10</b>                           |
| <b><u>Total Generation Capacity</u></b>    |                        |                          | <b>5,475</b>                        |

Source: Manitoba Hydro.



|  |  |
|--|--|
| <p><b>The Manitoba Hydro-Electric Board</b></p> <p><b>Report Date:</b><br/>February 12, 2009</p> | <p><b>The Province of Manitoba</b></p> <hr/> <p><i>(Excerpt from DBRS rating report dated December 15, 2008)</i></p> <p>The Province of Manitoba (Manitoba or the Province) has made steady progress over the past five years at reducing its debt burden, generating consistent economic growth and improving financial transparency, although the current economic turmoil introduces a significant amount of uncertainty. DBRS notes that Manitoba is one of the best-positioned provinces within its current rating to weather a significant downturn, with considerable financial flexibility and a track record of above-average economic resilience in recessionary periods. Provided the Province remains fiscally responsible and makes further progress towards containing debt growth, DBRS would likely review its position on the rating once economic conditions stabilize.</p> <p>Fiscal results were stronger than expected in 2007-08 as the Province posted a DBRS-adjusted deficit of \$174 million (including capital expenditures, as incurred, rather than as amortized by the Province). Strong income tax revenues, solid results at Manitoba Hydro and lower-than-expected capital expenditures more than offset small spending increases in other program areas. For 2008-09, the budget points to a DBRS-adjusted deficit of \$354 million as health and education spending will continue to offset modest revenue growth.</p> <p>Manitoba’s debt burden continued to steadily improve, down from 31.0% in 2006-07 to 29.3% in 2007-08. While capital spending plans will lead to debt growth in nominal terms, the Province’s debt-to-GDP ratio is expected to remain relatively flat in 2008-09, but could face modest upward pressure next year if GDP growth stalls.</p> <p>In light of rapidly deteriorating economic conditions, the recent private-sector consensus calls for real GDP growth of 2.3% in 2008 followed by 1.4% in 2009. This outlook is noticeably weaker than the 2.7% growth assumed in both years by the Province at the time of the budget, but compares favourably with provincial peers. Furthermore, DBRS notes that the forecast for growth in Manitoba has not been cut as drastically as in other provinces, and that speaks to the resilient and diversified nature of its economy.</p> |
|--|--|


**The Manitoba  
Hydro-Electric  
Board**
**Report Date:**

February 12, 2009

**The Manitoba Hydro-Electric Board**
**Balance Sheet (CAD millions)**

|                                    | As at March 31 |               |               |                                       | As at March 31 |               |               |
|------------------------------------|----------------|---------------|---------------|---------------------------------------|----------------|---------------|---------------|
|                                    | 2008           | 2007          | 2006          |                                       | 2008           | 2007          | 2006          |
| <b>Assets</b>                      |                |               |               | <b>Liabilities &amp; Equity</b>       |                |               |               |
| Cash & equivalents                 | 133            | 1             | 119           | Short-term debt                       | 0              | 148           | 0             |
| Accounts receivable + accrued rev. | 465            | 426           | 421           | L.t. debt due one yr.                 | 353            | 405           | 118           |
| Interest receivable & materials    | 111            | 127           | 165           | A/P & accrued liab.                   | 443            | 443           | 423           |
| <b>Current Assets</b>              | <b>709</b>     | <b>554</b>    | <b>705</b>    | <b>Current Liabilities</b>            | <b>796</b>     | <b>996</b>    | <b>541</b>    |
| Net fixed assets                   | 8,912          | 8,378         | 8,010         | Long-term debt                        | 7,217          | 6,822         | 7,051         |
| Deferred charges + Goodwill        | 665            | 560           | 493           | Def'd & other liab.                   | 613            | 736           | 702           |
| Pension assets                     | 781            | 800           | 719           | Pension obligation                    | 714            | 663           | 606           |
| Sinking fund investments           | 700            | 630           | 555           | Equity & Other                        | 2,427          | 1,705         | 1,582         |
| <b>Total Assets</b>                | <b>11,767</b>  | <b>10,922</b> | <b>10,482</b> | <b>Total Equity &amp; Liabilities</b> | <b>11,767</b>  | <b>10,922</b> | <b>10,482</b> |

**Ratio Analysis**

|   | For the year ended March 31 |       |       |       |        |
|---|-----------------------------|-------|-------|-------|--------|
|   | 2008                        | 2007  | 2006  | 2005  | 2004   |
| <b>Liquidity Ratios</b>                 |                             |       |       |       |        |
| Current ratio                           | 0.89                        | 0.56  | 1.30  | 0.88  | 0.64   |
| Total debt in the capital structure (1) | 79.0%                       | 82.7% | 83.7% | 88.5% | 90.2%  |
| Cash flow/total debt (1)                | 10.1%                       | 6.7%  | 11.1% | 6.7%  | (2.1%) |
| Cash flow/capital expenditures (2)      | 0.84                        | 0.70  | 1.48  | 0.89  | (0.28) |
| Debt/EBITDA                             | 6.3                         | 7.3   | 5.5   | 7.4   | 21.2   |

**Coverage Ratios (3)**

|                             |      |      |      |      |      |
|-----------------------------|------|------|------|------|------|
| EBIT interest coverage      | 1.68 | 1.17 | 1.76 | 1.21 | 0.05 |
| EBITDA interest coverage    | 2.47 | 1.83 | 2.41 | 1.85 | 0.65 |
| Cash flow interest coverage | 2.57 | 1.90 | 2.47 | 1.91 | 0.72 |

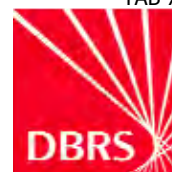
**Earnings Quality/Operating Efficiency**

|  |       |       |       |       |         |
|--|-------|-------|-------|-------|---------|
| Purchased power/revenues               | 7.9%  | 12.6% | 6.0%  | 8.0%  | 40.7%   |
| Operating margin                       | 38.3% | 31.6% | 43.6% | 34.8% | (1.4%)  |
| Net margin (before extras.)            | 18.6% | 6.9%  | 21.3% | 8.3%  | (31.0%) |
| Return on avg. equity (before extras.) | 21.4% | 9.1%  | 38.5% | 17.0% | (45.8%) |
| Customers/employee                     | 90    | 93    | 92    | 92    | 93      |
| Growth in electricity customer base    | 0.9%  | 1.4%  | 0.8%  | 0.8%  | 0.8%    |
| GWh sold/employee                      | 5.5   | 5.4   | 6.1   | 5.3   | 4.4     |

(1) Debt net of sinking fund assets.

(2) Capital expenditures net of customer contributions.

(3) Before capitalized interest, AFUDC



## The Manitoba Hydro-Electric Board

**Report Date:**  
February 12, 2009

## Rating

| Debt                   | Rating    | Rating Action | Trend  |
|------------------------|-----------|---------------|--------|
| Short-Term Obligations | Confirmed | R-1 (middle)  | Stable |
| Long-Term Obligations  | Confirmed | A (high)      | Stable |

Note: These Obligations are based on the implicit support of the Province of Manitoba and the unconditional guarantee provided by the Province on Manitoba Hydro's third-party debt, and thus reflect the Province's debt ratings.

## Rating History

|                        | Current      | 2008         | 2007         | 2006         | 2005      | 2004      |
|------------------------|--------------|--------------|--------------|--------------|-----------|-----------|
| Short-Term Obligations | R-1 (middle) | R-1 (middle) | R-1 (middle) | R-1 (middle) | R-1 (low) | R-1 (low) |
| Long-Term Obligations  | A (high)     | A (high )    | A (high)     | A (high)     | A (high)  | A (high)  |

Note: These Obligations are based on the implicit support of the Province of Manitoba and the unconditional guarantee provided by the Province on Manitoba Hydro's third-party debt, and thus reflect the Province's debt ratings.

## Related Research

- **DBRS Confirms the Province of Manitoba at A (high) and R-1 (middle)**, December 15, 2008.
- **Province of Manitoba Rating Report**, December 15, 2008.

Note:

All figures are in Canadian dollars unless otherwise noted.

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Insight beyond the rating.

## Rating Report

**Report Date:**  
November 10, 2010

**Previous Report:**  
February 12, 2009

# The Manitoba Hydro-Electric Board

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## The Utility

The Manitoba Hydro-Electric Board, a wholly owned Crown corporation of the Province of Manitoba, is a vertically integrated electric utility that provides generation, transmission and distribution of electricity to approximately 532,000 customers throughout Manitoba and natural gas service to approximately 264,000 customers via its subsidiary, Centra Gas Manitoba Inc. The Utility also exports electricity to more than 30 electric utilities through its participation in four wholesale markets in Canada and the mid-western United States.

**Short-Term Promissory Notes Programme**  
\$500 million

## Ratings

| Debt                   | Rating Action | Rating       | Trend  |
|------------------------|---------------|--------------|--------|
| Short-Term Obligations | Confirmed     | R-1 (middle) | Stable |
| Long-Term Obligations  | Confirmed     | A (high)     | Stable |

Note: These Obligations are based on the implicit support of the Province of Manitoba and the unconditional guarantee provided by the Province on Manitoba Hydro's third-party debt, and thus reflect the Province's debt ratings.

## Rating Update

DBRS has confirmed the Long-Term Obligations and Short-Term Obligations ratings of The Manitoba Hydro-Electric Board (Manitoba Hydro or the Utility) at A (high) and R-1 (middle), respectively. The trends are both Stable. Manitoba Hydro's ratings reflect the short- and long-term ratings of the Province of Manitoba (the Province; see the **DBRS report**). Manitoba Hydro's Long-Term Obligations and Short-Term Obligations ratings are a flow-through of the Province's ratings based on (1) the implicit support of the Province as Manitoba Hydro is for all purposes an agent of the Province (see methodology **Rating Sovereign Governments** for further detail) and (2) the unconditional guarantee provided by the Province on the majority of the Utility's outstanding third-party obligations. The Province's Short-Term Debt and Long-Term Debt ratings were confirmed by DBRS on October 8, 2010, at R-1 (middle) and A (high), respectively. The trends on both ratings are Stable.

The Province supports Manitoba Hydro by both advancing funds and guaranteeing its new issues. As at March 31, 2010, the Province has provided approximately 96% of the Utility's long-term debt in the form of provincial advances, with the same terms and conditions as the Province's external debt. Manitoba Hydro has issued \$331 million of long-term debt in its own name, with an unconditional guarantee provided by the Province, except for \$76 million of Manitoba Hydro-Electric Board Bonds, which do not benefit from an explicit provincial guarantee. (Continued on page 2.)

## Rating Considerations

### Strengths

- (1) Agent of the Crown with debt securities held or guaranteed by the Province
- (2) Low-cost hydro-based generation with substantial storage capacity
- (3) Reasonable regulatory framework
- (4) Interconnections with the United States, Saskatchewan and Ontario provide access to favourable export markets

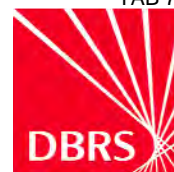
### Challenges

- (1) Hydrology risk
- (2) High leverage
- (3) Heightened capital expenditure profile
- (4) Net export revenues sensitive to fluctuations in exchange rates
- (5) One Northern Flood Agreement (NFA) First Nations claim not yet settled

## Financial Information

| Manitoba Hydro-Electric Board          | For the year ended March 31 |       |       |       |       |
|--|-----------------------------|-------|-------|-------|-------|
|  | 2010                        | 2009  | 2008  | 2007  | 2006  |
| EBITDA interest coverage (times) (2)   | 2.02                        | 2.18  | 2.47  | 1.83  | 2.41  |
| % debt in capital structure (1)        | 77.5%                       | 78.6% | 79.0% | 82.7% | 83.7% |
| Cash flow/total debt                   | 7.1%                        | 8.3%  | 10.1% | 6.7%  | 11.1% |
| Cash flow/capital expenditures (times) | 0.51                        | 0.69  | 0.84  | 0.70  | 1.48  |
| Reported net income (\$ millions)      | 163                         | 266   | 346   | 122   | 415   |
| Operating cash flow (\$ millions)      | 547                         | 634   | 695   | 454   | 737   |

(1) Net of sinking fund assets. (2) Before capitalized interest, AFUDC.



## The Manitoba Hydro-Electric Board

**Report Date:**  
November 10, 2010

### Rating Update (Continued from page 1.)

The Utility's credit profile is further supported by its low-cost hydro-based generation, a constructive regulatory environment and its vast interconnections (56% of installed capacity), which provide access to favourable export markets. Hydrology continues to be the primary risk factor affecting credit metrics, but this risk is somewhat mitigated by the geographic diversification of the watersheds, reservoir storage capacity and import capabilities. Over the medium term, the Utility has witnessed inflows that are well above average, resulting in above-average reservoir storage.

Manitoba Hydro's earnings and performance for the fiscal year ended March 31, 2010, was \$103 million lower than in the previous fiscal year, due mainly to lower electricity prices in export markets. The lower export prices are directly tied to lower demand due to poor economic conditions and the current low natural gas prices.

Manitoba Hydro continues to seek new power purchase agreements. In April 2010, Manitoba Hydro and Xcel Energy (Xcel) entered into new power purchase and seasonal exchange agreements that will commence in 2015 and extend to 2025, following the expiry of existing power agreements between the utilities. Furthermore, these agreements will allow for access to purchase additional power during the summers and winter season. Additionally, Manitoba Hydro entered into an agreement to sell Xcel an additional 125 megawatts (MW) per year commencing in 2021. This agreement is subject to the construction of Conawapa Generating Station.

Looking forward, DBRS believes that Manitoba Hydro will continue to generate reasonable levels of EBIT and operating cash flows, with the potential for significant volatility resulting from hydrological and export market conditions. The ongoing heightened capital expenditure program is expected to continue to pressure balance sheet and credit metrics. In addition, completing the large hydro generation and transmission projects on time and within budget is key to maintaining a stable financial profile.

### Rating Considerations Details

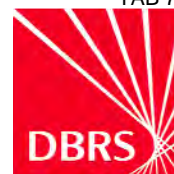
#### Strengths

(1) Manitoba Hydro is an agent of the Crown and its debt securities are almost entirely held or guaranteed by the Province. Therefore, the ratings assigned to Manitoba Hydro's obligations are a flow-through of the ratings of the Province.

(2) Low-cost hydroelectric-based generating capacity accounts for approximately 91% of installed capacity and results in one of the lowest variable cost structures in North America. The low-cost power generation has enabled Manitoba Hydro to provide electricity to its domestic customers at one of the lowest rates on the continent. This gives the Utility the flexibility to increase rates in the future, especially in light of the substantially heightened future capital expenditure requirements to replace aging infrastructure and develop new generation facilities. Furthermore, given the water storage capacity of its hydroelectric-based generating facilities, Manitoba Hydro has the ability to trade power, buying low-cost power during off-peak hours and selling its own power during peak periods at higher rates. Some geographic diversification of drainage basins somewhat reduces fluctuations in water flows and water levels.

(3) The regulatory environment in Manitoba is constructive. Manitoba's Public Utilities Board (PUB) has been supportive of Manitoba Hydro's rate applications and its financial targets. While Manitoba Hydro does not benefit from an automatic pass-through of costs, this is mitigated by its low-cost hydroelectric-based generating capacity and the PUB's demonstrated track record of approving rate increases during drought conditions.

(4) Manitoba Hydro's interconnections (approximately 56% of installed capacity), with 2,250 MW to the United States, 525 MW to Saskatchewan and 300 MW to Ontario, provide the Utility with access to favourable export markets. The interconnections also provide a secure supply of electricity for its domestic customers during times of poor hydrology.



## The Manitoba Hydro-Electric Board

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### Challenges

(1) Given that approximately 91% of Manitoba Hydro's installed generating capacity is hydroelectricity-based, earnings and cash flows are highly sensitive to hydrological conditions. The hydrology risk is somewhat mitigated by the geographic diversification of the watersheds, reservoir storage and import capacity. The two thermal generating stations, with a total capacity of 468 MW (Brandon and Selkirk), and the new 99 MW St. Leon wind farm provide a small amount of diversity to the generation mix. Given that 40% of Manitoba Hydro's exports are under a long-term fixed price-to-volume basis, during times of poor hydrological conditions such as in F2004, Manitoba Hydro may find itself procuring power supply from import markets to honour its export commitments under the fixed price-to-volume contract. This exposes Manitoba Hydro to significant price and volume risk. However, Manitoba Hydro employs the following strategies to mitigate these impacts:

- Manitoba Hydro sells long-term forward contracts into the export markets based on its historically lowest water flow conditions. Any excess power, after accounting for the long-term forward contract sales, is sold into the spot market.
- The three primary advantages of long-term forward contracts are (1) forward prices tend to be higher than spot market prices; (2) long-term large volume power contracts with other utilities provide an incentive for these utilities to build and/or expand transmission infrastructure in their respective jurisdictions to be able to import power, thus providing Manitoba Hydro with an expanded access to export and import markets; and (3) large long-term forward contracts also provide incentive to Manitoba Hydro to expedite the construction of new generating facilities, thus mitigating the price and volume risk.
- Growing its generation base both through upgrades at existing plants (estimated at 122 MW) and new greenfield developments (more than 2,200 MW), the Utility is currently constructing a 200 MW plant and is in the pre-project planning phase for two major hydro generation facilities. Over the longer term, once these projects are completed, Manitoba Hydro will be significantly long on power, thus mitigating long-term price and volume risk even further.
- Manitoba Hydro can file for a rate increase through a rate application to the PUB.

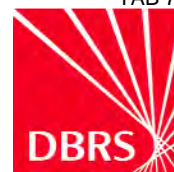
(2) Manitoba Hydro's leverage remains one of the highest among government-owned integrated utilities in Canada, limiting its financial flexibility.

(3) The need to refurbish its aging infrastructure, combined with the aggressive development of both new hydro generation and transmission facilities, will require Manitoba Hydro to deploy significant capital into its electricity infrastructure over the next several years. DBRS expects these heightened future capital expenditures to pressure the already high debt levels. The extent of this pressure is largely contingent on hydrology and export market conditions, which, if robust, would limit funding needs.

(4) The Utility's income statement and balance sheet are sensitive to changes in the U.S.-Canadian dollar exchange rate, since approximately 28% of its outstanding debt and 26% of electricity revenues (at March 31, 2010) are denominated in U.S. dollars. While U.S. dollar-denominated debt is fully hedged by export revenues, the net U.S. dollar surplus is sensitive to changes in the exchange rate; however, this amount is within the Company's risk tolerance levels.

(5) Four out of five First Nations claims related to the NFA have been settled; however, one NFA First Nations claim (Cross Lake) has not. The NFA provided for compensation and remedial measures necessary to ameliorate the impact of the Churchill River diversion and Lake Winnipeg regulation projects. Manitoba Hydro continues to address the adverse effects of its northern hydroelectric developments on five First Nations communities. Expenditures to mitigate the Churchill River diversion and the Lake Winnipeg regulation projects amounted to \$37 million in F2008, with \$653 million having been spent since 1977. In recognition of future anticipated mitigation payments, the Utility has recorded a liability of \$127 million.





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### Rating Methodology Update

Manitoba Hydro is, for all purposes, an agent of the provincial government and its powers may be exercised only as an agent of the government. When rating the financial obligations of agents of the federal or provincial governments, DBRS generally flows through the rating of the parent government if (1) the status of the agent is explicitly provided to the organization through legislation or regulation; (2) the agent is empowered to borrow in its constituting act; and (3) there is no provision in the constituting act or the terms of the debt precluding the applicability of the agent status to borrowing activities. As these three criteria apply to Manitoba Hydro, the Province of Manitoba's ratings will flow through to the Utility.

In addition, provincial support for the Utility is reflected in the fact that it advanced approximately 96% of the Utility's long-term debt (\$8,288 million) and has provided unconditional guarantee for the rest of the long-term debt (\$331 million), the exception being the \$76 million Manitoba Hydro-Electric Board Bonds issued for mitigation projects (as part of the NFA), which do not benefit from the provincial guarantee.

### Regulation

Manitoba Hydro is governed by the *Manitoba Hydro Act* and its electricity and natural gas rates are regulated by the Manitoba PUB.

#### Electricity

Each year, Manitoba Hydro reviews its financial targets, with particular focus on its debt-to-equity target capital structure of 75%-to-25%. If it deems a rate adjustment is needed to meet its financial targets, it submits a rate application to the PUB. The PUB reviews the rate adjustment application with the objective of allowing Manitoba Hydro to recover its cost of service and achieve its long-term debt-to-equity target of 75%-to-25%. The PUB does not have the mandate to pre-approve capital expenditures. The capital expenditure planning responsibility resides with Manitoba Hydro and the government of Manitoba.

In February 2010, the PUB approved, on an interim basis, new electricity rates effective April 1, 2010, for all Manitoba Hydro customer classes, except area and roadway lighting, resulting in an average rate increase of 2.8%. This interim increase is subject to change pending the outcome of Manitoba Hydro's General Rate Application (GRA) which is currently under review by the PUB. A final order is not expected until 2011.

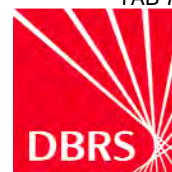
While Manitoba Hydro is the sole retail electricity supplier in Manitoba, under the *Manitoba Hydro Amendment Act of 1997* (the Act), other utilities may access the transmission system to reach customers in neighbouring provinces and states. The Act also explicitly allows Manitoba Hydro to build new generating capacity for export sales, to offer new energy-related services, to enter into strategic alliances and joint ventures and to create subsidiaries.

There are presently no plans to move to full retail competition in the province. Manitoba retail customers currently enjoy rates that are among the lowest in North America because of Manitoba Hydro's predominantly hydroelectric generation, generally profitable exports and efficient resource management. More than 80% of Manitoba Hydro's export sales are through the Midwest Independent Transmission System Operator (MISO), which is a centrally operated electricity market in the U.S. Midwest region (from parts of North Dakota down through Minnesota, Wisconsin and Illinois through to Kentucky). This market operates much like a typical power pool, with utilities transacting directly with the exchange rather than with one another. The energy saved under the Utility's Power Smart program is sold into these higher-margin markets.

#### Natural Gas Distribution

Manitoba Hydro distributes natural gas through its wholly owned subsidiary, Centra Gas Manitoba Inc. (Centra Gas). In accordance with the rate-setting methodology for natural gas, commodity rates are changed every quarter based on 12-month forward natural gas market prices. The commodity cost of gas is a pass-through with no markup to customers.




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Non-commodity costs, such as transportation, distribution and operating and general expenses related to the natural gas business, are passed on as well. The PUB allows Centra Gas to target an annual profit of approximately \$3 million, which is fairly modest compared with Manitoba Hydro's consolidated earnings. In addition, the PUB allows Manitoba Hydro to collect \$12 million per year through rates to meet its debt servicing and acquisition costs related to its 1999 purchase of Centra Gas from Westcoast Energy Inc.

## Earnings and Outlook

|                              | For the year ended March 31 |       |       |       |       |
|------------------------------|-----------------------------|-------|-------|-------|-------|
| (CAD millions)               | 2010                        | 2009  | 2008  | 2007  | 2006  |
| Net electricity revenues (1) | 1,469                       | 1,574 | 1,565 | 1,413 | 1,702 |
| Net gas revenues             | 136                         | 147   | 142   | 129   | 120   |
| Total revenues               | 1,633                       | 1,757 | 1,730 | 1,558 | 1,839 |
| EBITDA                       | 937                         | 1,026 | 1,095 | 921   | 1,205 |
| EBIT                         | 553                         | 658   | 746   | 589   | 883   |
| Gross interest expense (2)   | 463                         | 471   | 444   | 504   | 501   |
| Net interest expense (3)     | 335                         | 397   | 367   | 435   | 435   |
| Reported net income          | 163                         | 266   | 346   | 122   | 415   |
| Return on average equity     | 7.6%                        | 13.6% | 21.4% | 9.1%  | 38.5% |

(1) Net electricity revenues are gross revenues less cost of purchased power. Net gas revenues are gross revenues less cost of gas.

(2) Includes F/X gain/losses on U.S. denominated debt. (3) Adjusted for investment income and interest allocated to construction.

### Summary

During the fiscal year ending 2010, Manitoba Hydro witnessed a decrease both in earnings as measured by EBIT and in reported net income. The decrease is directly attributable to lower export prices and lower electricity demand caused by poor economic conditions and lower natural gas prices. Extraprovincial revenues decreased by \$196 million in 2010 to \$427 million.

As a result of lower prices and a soft economic environment, expenses for electricity and natural gas operations decreased from \$1.67 billion for fiscal 2009 to \$1.57 billion in fiscal 2010. This is attributable to lower fuel and power purchased costs as well as lower finance expenses and partially offset by an increase in depreciation and amortization costs, operating and administrative costs and capital and other taxes.

### Outlook

Earnings are expected to remain relatively stable over the next fiscal year, primarily due to above-average energy in reservoir storage, and increases in domestic electricity rates. Manitoba Hydro is projecting that its net income will exceed \$100 million for 2010-11. Factors that will continue to affect EBIT stability over the longer term include the following:

- Hydrological levels at the Utility's watersheds.
- Demand for power in Manitoba Hydro's export markets and the prevailing exchange rates.
- Domestic rate increases.
- Domestic load growth.


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**Financial Profile**

|  | For the year ended March 31 |              |              |              |             |
|--|-----------------------------|--------------|--------------|--------------|-------------|
|  | <u>2010</u>                 | <u>2009</u>  | <u>2008</u>  | <u>2007</u>  | <u>2006</u> |
| <b>Statement of Cash Flow</b> (CAD millions) |                             |              |              |              |             |
| Reported net income                          | 163                         | 266          | 346          | 122          | 415         |
| Depreciation & amortization                  | 384                         | 368          | 349          | 332          | 322         |
| Other non-cash adjustments                   | -                           | -            | -            | -            | -           |
| <b>Cash Flow From Operations</b>             | <b>547</b>                  | <b>634</b>   | <b>695</b>   | <b>454</b>   | <b>737</b>  |
| Capital expenditures (net of contrib.)       | (1063)                      | (915)        | (827)        | (645)        | (498)       |
| Dividends                                    | -                           | -            | -            | -            | -           |
| <b>Cash Flow Before W/C Changes</b>          | <b>(516)</b>                | <b>(281)</b> | <b>(132)</b> | <b>(191)</b> | <b>239</b>  |
| Changes in working capital                   | 4                           | 54           | (65)         | (11)         | (27)        |
| <b>Net Free Cash Flow</b>                    | <b>(512)</b>                | <b>(227)</b> | <b>(197)</b> | <b>(202)</b> | <b>212</b>  |
| Acq./divest./sinking fund pmt./other inv.    | (624)                       | (171)        | (158)        | (143)        | (179)       |
| <b>Cash Flow bef. Financing</b>              | <b>(1,136)</b>              | <b>(398)</b> | <b>(355)</b> | <b>(345)</b> | <b>33</b>   |
| Sinking fund withdrawals                     | 263                         | 261          | 0            | -            | 84          |
| Net change in long-term debt                 | 873                         | 157          | 522          | 240          | 11          |
| Other financing                              | 15                          | 6            | (35)         | (13)         | (18)        |
| <b>Net Change in Cash Flow</b>               | <b>15</b>                   | <b>26</b>    | <b>132</b>   | <b>(118)</b> | <b>110</b>  |

**Key Financial Ratios**

|                                      |       |       |       |       |       |
|--------------------------------------|-------|-------|-------|-------|-------|
| EBITDA interest coverage (times) (2) | 2.02  | 2.18  | 2.47  | 1.83  | 2.41  |
| % debt in capital structure (1)      | 77.5% | 78.6% | 79.0% | 82.7% | 83.7% |
| Cash flow/total debt                 | 7.1%  | 8.3%  | 10.1% | 6.7%  | 11.1% |

(1) Net of sinking fund assets. (2) Before capitalized interest, AFUDC.

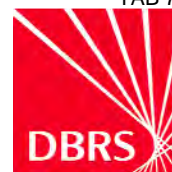
|                          | <u>2010</u>  | <u>2009</u>  | <u>2008</u>  | <u>2007</u>  | <u>2006</u>  |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| <b>Capital Structure</b> |              |              |              |              |              |
| Short-term debt          | 310          | 619          | 353          | 553          | 118          |
| Long-term debt           | 8,228        | 7,668        | 7,217        | 6,822        | 7,051        |
| LESS: sinking funds      | 822          | 666          | 700          | 630          | 555          |
| <b>Total Debt</b>        | <b>7,716</b> | <b>7,621</b> | <b>6,870</b> | <b>6,745</b> | <b>6,614</b> |
| Equity                   | 2,239        | 2,076        | 1,822        | 1,407        | 1,285        |
| <b>Total Capital</b>     | <b>9,955</b> | <b>9,697</b> | <b>8,692</b> | <b>8,152</b> | <b>7,899</b> |

**Summary**

Despite relatively strong operating cash flow, Manitoba Hydro continued to generate free cash flow deficits, largely as a result of substantial capital expenditures. Cash flow deficits are typically funded with debt and sinking fund withdrawals. Increased capital expenditures have been driven primarily by (1) generation system upgrades; (2) the development of new generation facilities, specifically Wuskwatim (200 MW), Conawapa (1,485 MW) and Keeyask (695 MW) generating stations; and (3) upgrades and additions to improve the reliability of Manitoba Hydro's aging transmission and distribution infrastructure.

Capital expenditures during the fiscal year ending March 31, 2010, amounted to just over \$1 billion for the electricity segment, up from \$888 million one year earlier. Capital expenditures for the electricity segment are for ongoing plant and equipment requirements, upgrades and new generation projects. For the gas segment, capital expenditures amounted to \$25 million compared to \$32 million in the previous fiscal year. Capital expenditures are related to new business, system improvement and other expenditures to meet the needs of natural gas customers.

Growth in retained earnings has more than offset higher debt levels, resulting in continued improvement in the debt-to-capital ratio. However, Manitoba Hydro's leverage still remains one of the highest among government-owned integrated utilities in Canada. With no mandatory dividend payment requirements, the Utility has been able to shore up its balance sheet through retained earnings.


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**Outlook**

Capital expenditures are expected to remain higher over the medium term as Manitoba Hydro continues to upgrade and improve the reliability of its aging electric infrastructure, as well as invest in the development of new hydro generation facilities. The ongoing heightened capital program is expected to result in continued cash flow deficits. The extent of the Utility's funding requirements will largely be dependent on hydrology and export market conditions.

Although debt balances will increase over the medium term, leverage could improve modestly from current levels due to increased retained earnings. In addition, completing large hydro generation and transmission projects on time and within budget is key to maintaining a stable financial profile.

**Long-Term Debt Maturities and Bank Lines**

| <b>Debt Profile (CAD millions)</b>   | <b>%</b> | <u>For year ended March 31,</u> |                    | <u><b>Debt Maturities</b></u> |                                |              |
|--------------------------------------|----------|---------------------------------|--------------------|-------------------------------|--------------------------------|--------------|
|                                      |          | <u><b>2010</b></u>              | <u><b>2009</b></u> | <u><b>Year</b></u>            | <u><b>% (CAD millions)</b></u> |              |
| Advances from the Province           | 96%      | 8,288                           | 7,836              | 2011                          | 4%                             | 310          |
| Manitoba Hydro Bonds                 | 2%       | 132                             | 165                | 2012                          | 0%                             | 16           |
| Manitoba Hydro-Electric Board Bonds* | 2%       | 199                             | 216                | 2013                          | 2%                             | 178          |
| Total                                |          | 8,619                           | 8,217              | 2014                          | 12%                            | 1,073        |
|                                      |          |                                 |                    | 2015                          | 1%                             | 100          |
|                                      |          |                                 |                    | Thereafter                    | 81%                            | 6,942        |
|                                      |          |                                 |                    | <b>Total</b>                  |                                | <b>8,619</b> |

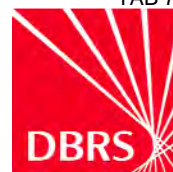
\* \$76 million of unguaranteed bonds are part of the \$199 million.

**Summary**

The Province supports Manitoba Hydro by advancing funds or guaranteeing the Utility's long-term debt issues. Long-term debt at March 31, 2010, consisted of the following:

- \$8,288 million in advances from the Province (all of which have annual sinking fund requirements).
- \$132 million Manitoba Hydro Bonds.
- \$199 million Manitoba Hydro-Electric Board Bonds.
- \$2,426 million or 28% of all obligations are denominated in U.S. dollars.

Manitoba Hydro maintains a relatively smooth maturity profile, no unhedged foreign currency debt and a moderate level of floating-rate debt, which adds stability to debt servicing costs and minimizes interest rate risk. The Utility has bank credit facilities that provide for overdrafts and notes payable up to \$500 million denominated in Canadian and/or U.S. dollars. At March 31, 2010, there were no amounts outstanding. Manitoba Hydro issues short-term debt in its own name for all its short-term cash requirements and does not receive short-term funding from the Province. These short-term notes are guaranteed by the Province of Manitoba. Only \$76 million of Manitoba Hydro-Electric Board Bonds do not carry the provincial guarantee.


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**The Watershed Storage Capacity**

Manitoba Hydro draws water from four distinct watersheds: Nelson River, Winnipeg River, Saskatchewan River and Churchill River (including the Laurie River). This provides the Utility with some geographic diversification, especially during times of low hydrology. The main generation source is the Nelson River, which accounted for approximately 81% of power generated in F2010.

**SOURCE OF ELECTRICAL ENERGY GENERATED AND IMPORTED**

For the year ended March 31, 2010

|                              |               |   |              |
|------------------------------|---------------|---|--------------|
| <b>Nelson River</b>          | <b>81.44%</b> | <b>Saskatchewan River</b>                           | <b>3.4%</b>  |
| <b>Billion kWh generated</b> | <b>28.2</b>   | <b>Billion kWh generated</b>                        | <b>1.2</b>   |
| Limestone                    | 27.06%        | Grand Rapids  | 3.37%        |
| Kettle                       | 25.66%        |   |              |
| Long Spruce                  | 21.20%        | <b>Churchill River (including the Laurie River)</b> | <b>0.18%</b> |
| Kelsey                       | 4.93%         | <b>Billion kWh generated</b>                        | <b>0.1</b>   |
| Jenpeg                       | 2.59%         | Laurie River #1                                     | 0.10%        |
|                              |               | Laurie #2   | 0.08%        |
| <b>Winnipeg River</b>        | <b>12.62%</b> |   |              |
| <b>Billion kWh generated</b> | <b>4.4</b>    | <b>Thermal</b>                                      | <b>0.41%</b> |
| Seven Sisters                | 3.60%         | <b>Billion kWh generated</b>                        | <b>0.1</b>   |
| Great Falls                  | 2.93%         | Brandon   | 0.32%        |
| Pine Falls                   | 2.04%         | Selkirk   | 0.09%        |
| Pointe du Bois               | 1.75%         |   |              |
| Slave Falls                  | 1.00%         | <b>Imports</b>                                      | <b>1.02%</b> |
| McArthur                     | 1.30%         | <b>Billion kWh imported</b>                         | <b>0.4</b>   |
|                              |               |   |              |
|                              |               | <b>Wind</b>   | <b>0.96%</b> |
|                              |               | <b>Billion kWh imported</b>                         | <b>0.3</b>   |

Source: Manitoba Hydro.





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## **Manitoba Hydro's Generating Capacity**

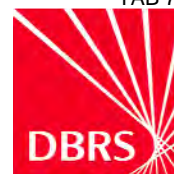
Manitoba Hydro owns and operates an aggregate generating capacity of 5,511 MW and is counterparty to an additional 99 MW of contracted wind capacity.

### **Manitoba Hydro's Generating Stations and Capabilities**

| <b><u>Power Station</u></b>                | <b><u>Location</u></b> | <b><u>of uni</u></b> | <b><u>Net Capacity<br/>(MW)</u></b> |
|--|------------------------|----------------------|-------------------------------------|
| <b><u>Hydroelectric</u></b>                |                        |                      |                                     |
| Seven Sisters                              | Winnipeg River         | 6                    | 165                                 |
| Great Falls                                | Winnipeg River         | 6                    | 136                                 |
| Pine Falls                                 | Winnipeg River         | 6                    | 89                                  |
| McArthur Falls                             | Winnipeg River         | 8                    | 55                                  |
| Pointe du Bois                             | Winnipeg River         | 16                   | 77                                  |
| Slave Falls                                | Winnipeg River         | 8                    | 67                                  |
| Grand Rapids                               | Saskatchewan R         | 4                    | 479                                 |
| Limestone                                  | Nelson River           | 10                   | 1,340                               |
| Kettle                                     | Nelson River           | 12                   | 1,220                               |
| Long Spruce                                | Nelson River           | 10                   | 1,010                               |
| Kelsey                                     | Nelson River           | 7                    | 250                                 |
| Jenpeg                                     | Nelson River           | 6                    | 135                                 |
| Laurie River (2)                           | Laurie River           | 3                    | 10                                  |
| <b>Total Hydroelectric Generation</b>      |                        | <b><u>102</u></b>    | <b><u>102</u></b>                   |
| <b><u>Thermal</u></b>                      |                        |                      |                                     |
| Brandon (coal: 98 MW, gas: 241 MW)         |                        | 3                    | 339                                 |
| Selkirk (gas)                              |                        | <u>2</u>             | <u>129</u>                          |
| <b>Total Thermal Generation</b>            |                        | <b><u>5</u></b>      | <b><u>468</u></b>                   |
| <b><u>Isolated Diesel Capabilities</u></b> |                        |                      |                                     |
| Brochet                                    |                        |                      | 3                                   |
| Lac Brochet                                |                        |                      | 2                                   |
| Shamattawa                                 |                        |                      | 3                                   |
| Tadoule Lake                               |                        |                      | <u>2</u>                            |
| <b>Total Isolated Diesel Generation</b>    |                        |                      | <b><u>10</u></b>                    |
| <b><u>Total Generation Capacity</u></b>    |                        |                      | <b><u>580</u></b>                   |

Source: Manitoba Hydro.





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**The Province of Manitoba**

*(Excerpt from DBRS rating report dated October 8, 2010)*

The Province of Manitoba (Manitoba or the Province) has a relatively resilient and diversified economy, which has resulted in only a modest deterioration in fiscal performance. While Manitoba's debt burden continues to grow, unwinding some of the positive momentum of recent years, the Province maintains considerable flexibility within its ratings and is well positioned to withstand a potentially prolonged period of slow economic growth.

In 2009-10, the Province recorded a deficit of \$201 million, weaker than the small surplus originally budgeted. This translates into a DBRS-adjusted deficit of \$685 million, or 1.4% of GDP – still a favourable result in relation to provincial peers. For the current fiscal year, the budget points to a deficit of \$545 million, or \$1.2 billion on a DBRS-adjusted basis. Despite improving economic conditions, total revenues are only budgeted to grow by a modest 0.6% in the current fiscal year, slower than the 4.4% increase in spending. Health care will account for the bulk of new spending as the Province aims to tightly manage growth in program costs and pursue labour agreements with no increases, which DBRS views as an ambitious target. The Province anticipates a return to balance by 2014-15, which equates to DBRS-adjusted deficits ranging from 2.0% to less than 1.0% of GDP.

DBRS-adjusted debt grew by \$1.4 billion in 2009-10, which pushed the debt-to-GDP ratio up to 31.6% from 28.9% a year earlier. Debt is expected to grow by a further \$1.4 billion in 2010-11, or 9.0%, taking the debt-to-GDP ratio to slightly above 33.0% and eroding some of the progress of recent years.

An improving fiscal picture and gradual decline in capital needs is expected to result in debt-to-GDP peaking at around 34% in 2012-13. This represents a somewhat higher peak than what was assumed at the time of last year's review but is nonetheless very manageable within the rating.

After experiencing only a minor contraction in 2009, the Province is anticipating a modest recovery with real growth of 2.5% in 2010. Lower non-residential investment in the Province and reduced agricultural output due to a wet summer are likely to dampen growth prospects. However, improving demand for non-renewable resources and sound domestic demand, supported by a growing population, should provide an offset. For 2011, the Province has assumed growth of 3.0%, consistent with the current private sector average, which DBRS believes carries some downside risks related to the uncertain pace of global economic recovery, and the impact of a strong Canadian dollar on exports. Overall, soft fiscal results and recent debt accumulation have lessened some of the positive momentum of recent years, but DBRS believes that Manitoba's above-average economic and fiscal performance through the recent downturn leaves it well positioned to withstand a potentially uneven economic recovery.


**The Manitoba Hydro-Electric Board**

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**The Manitoba Hydro-Electric Board**
**Balance Sheet (CAD millions)**

|                                    | As at March 31 |               |               |               |                                       | As at March 31 |               |               |               |
|------------------------------------|----------------|---------------|---------------|---------------|---------------------------------------|----------------|---------------|---------------|---------------|
|                                    | 2010           | 2009          | 2008          | 2007          |                                       | 2010           | 2009          | 2008          | 2007          |
| <b>Assets</b>                      |                |               |               |               | <b>Liabilities &amp; Equity</b>       |                |               |               |               |
| Cash & equivalents                 | 174            | 159           | 133           | 1             | Short-term debt                       | 0              | 100           | 0             | 148           |
| Accounts receivable + accrued rev. | 365            | 434           | 465           | 426           | L.t. debt due one yr.                 | 310            | 519           | 353           | 405           |
| Interest receivable & materials    | 104            | 88            | 111           | 127           | A/P & accrued liab.                   | 417            | 430           | 443           | 443           |
| <b>Current Assets</b>              | <b>643</b>     | <b>681</b>    | <b>709</b>    | <b>554</b>    | <b>Current Liabilities</b>            | <b>727</b>     | <b>1,049</b>  | <b>796</b>    | <b>996</b>    |
| Net fixed assets                   | 10,128         | 9,382         | 8,912         | 8,378         | Long-term debt                        | 8,228          | 7,668         | 7,217         | 6,822         |
| Deferred charges + Goodwill        | 545            | 531           | 665           | 560           | Def'd & other liab.                   | 215            | 218           | 613           | 736           |
| Pension assets                     | 299            | 287           | 781           | 800           | Pension obligation                    | 448            | 409           | 714           | 663           |
| Sinking fund investments           | 822            | 666           | 700           | 630           | Equity & Other                        | 2,819          | 2,203         | 2,427         | 1,705         |
| <b>Total Assets</b>                | <b>12,437</b>  | <b>11,547</b> | <b>11,767</b> | <b>10,922</b> | <b>Total Equity &amp; Liabilities</b> | <b>12,437</b>  | <b>11,547</b> | <b>11,767</b> | <b>10,922</b> |

**Ratio Analysis**

|   | For the year ended March 31 |       |       |       |       |       |        |
|---|-----------------------------|-------|-------|-------|-------|-------|--------|
|   | 2010                        | 2009  | 2008  | 2007  | 2006  | 2005  | 2004   |
| <b>Liquidity Ratios</b>                 |                             |       |       |       |       |       |        |
| Current ratio                           | 0.88                        | 0.65  | 0.89  | 0.56  | 1.30  | 0.88  | 0.64   |
| Total debt in the capital structure (1) | 77.5%                       | 78.6% | 79.0% | 82.7% | 83.7% | 88.5% | 90.2%  |
| Cash flow/total debt (1)                | 7.1%                        | 8.3%  | 10.1% | 6.7%  | 11.1% | 6.7%  | (2.1%) |
| Cash flow/capital expenditures (2)      | 0.51                        | 0.69  | 0.84  | 0.70  | 1.48  | 0.89  | (0.28) |
| Debt/EBITDA                             | 8.2                         | 7.4   | 6.3   | 7.3   | 5.5   | 7.4   | 21.2   |

**Coverage Ratios (3)**

|                             |      |      |      |      |      |      |      |
|-----------------------------|------|------|------|------|------|------|------|
| EBIT interest coverage      | 1.19 | 1.40 | 1.68 | 1.17 | 1.76 | 1.21 | 0.05 |
| EBITDA interest coverage    | 2.02 | 2.18 | 2.47 | 1.83 | 2.41 | 1.85 | 0.65 |
| Cash flow interest coverage | 2.18 | 2.35 | 2.57 | 1.90 | 2.47 | 1.91 | 0.72 |

**Earnings Quality/Operating Efficiency**

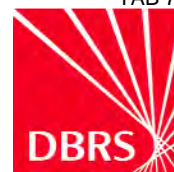
|  |       |       |       |       |       |       |         |
|--|-------|-------|-------|-------|-------|-------|---------|
| Purchased power/revenues               | 6.6%  | 10.1% | 7.9%  | 12.6% | 6.0%  | 8.0%  | 40.7%   |
| Operating margin                       | 28.7% | 34.3% | 38.3% | 31.6% | 43.6% | 34.8% | (1.4%)  |
| Net margin (before extras.)            | 9.4%  | 13.8% | 18.6% | 6.9%  | 21.3% | 8.3%  | (31.0%) |
| Return on avg. equity (before extras.) | 7.6%  | 13.6% | 21.4% | 9.1%  | 38.5% | 17.0% | (45.8%) |
| Customers/employee                     | 86    | 88    | 90    | 93    | 92    | 92    | 93      |
| Growth in electricity customer base    | 0.9%  | 1.1%  | 0.9%  | 1.4%  | 0.8%  | 0.8%  | 0.8%    |
| GWh sold/employee                      | 5.1   | 5.2   | 5.5   | 5.4   | 6.1   | 5.3   | 4.4     |

(1) Debt net of sinking fund assets.

(2) Capital expenditures net of customer contributions.

(3) Before capitalized interest, AFUDC





## The Manitoba Hydro-Electric Board

**Report Date:**  
November 10, 2010

## Ratings

| Debt                   | Rating Action | Trend  |
|------------------------|---------------|--------|
| Short-Term Obligations | R-1 (middle)  | Stable |
| Long-Term Obligations  | A (high)      | Stable |

Note: These Obligations are based on the implicit support of the Province of Manitoba and the unconditional guarantee provided by the Province on Manitoba Hydro's third-party debt, and thus reflect the Province's debt ratings.

## Rating History

|                        | Current      | 2009         | 2008         | 2007         | 2006         | 2005      |
|------------------------|--------------|--------------|--------------|--------------|--------------|-----------|
| Short-Term Obligations | R-1 (middle) | R-1 (middle) | R-1 (middle) | R-1 (middle) | R-1 (middle) | R-1 (low) |
| Long-Term Obligations  | A (high)     | A (high )    | A (high )    | A (high)     | A (high)     | A (high)  |

Note: These Obligations are based on the implicit support of the Province of Manitoba and the unconditional guarantee provided by the Province on Manitoba Hydro's third-party debt, and thus reflect the Province's debt ratings.

## Related Research

- **DBRS Confirms the Province of Manitoba at A (high) and R-1 (middle)**, October 8, 2010.
- **Province of Manitoba Rating Report**, October 8, 2010.

Note:

All figures are in Canadian dollars unless otherwise noted.

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CAC-MSOS/MH (I)-19

QUESTION:

- a) Please provide the most recent Standard and Poor's, Moody's, Dominion Bond Rating Service (DBRS), and Canadian Bond Rating Service (CBRS) reports on Manitoba Hydro bonds.

ANSWER:

Attached are the most recent reports from Standard and Poor's, Moody's and DBRS on Manitoba Hydro bonds. No reports have been received in recent years from CBRS.

The last paragraph of the Standard and Poor's report contains some inaccuracies with respect to Manitoba Hydro's capital expenditure program. Manitoba Hydro has provided Standard and Poor's with corrected information.

## CANADA CONTINUED

CAC-MSOS/MH(I) 19(a)

Attachment

Page 1 of 9

S&amp;P Contact: Paul A. Pannuk (212) 208-1568

# MANITOBA (PROVINCE OF)

## MANITOBA HYDRO-ELECTRIC BOARD

## RATINGS AFFIRMED

## OUTLOOK: STABLE

## OUTSTANDING RATINGS

|                                |      |
|--------------------------------|------|
| Manitoba, Province of          |      |
| Senior debt                    | A+   |
| Manitoba Hydro-Electric Board  |      |
| (gtd. by Province of Manitoba) |      |
| Senior debt                    | A+   |
| Commercial paper               | A-1+ |

Rated debt: C\$8 billion (US\$7 billion)

**RATIONALE** The ratings reflect the province's continued gradual economic diversification, which has been aided by growth in both manufacturing and services, as well as pressures on the government's budgetary performance, and moderately high debt levels. The relative diversity of Manitoba's agro-industrial and manufacturing base balances the sizable agricultural sector, and has helped to reduce the impact on provincial economic performance of swings in weather patterns and the resulting unpredictability of agricultural production. Nonetheless, the province has some vulnerability as a commodity exporter, as low prices, influenced in part by high agricultural subsidies in competitor countries, continue to negatively impact farm incomes. Large fiscal imbalances in the early and mid-1980s have resulted in moderately high net tax-supported debt levels. Manitoba's success in restraining expenditures since 1988, including program limitations and a public sector wage freeze in the current fiscal year, has been more than offset by the implementation of corporate and personal tax cuts and additional revenue shortfalls ensuing from the economic recession over fiscal 1991 (year ended March 31). While budgetary performance was very strong in fiscal 1989 and fiscal 1990, the fiscal position deteriorated last year. As budgeted for this year, the projected deficit will rise to 9.8% of revenue. The province's Fiscal Stabilization Fund, initiated in fiscal 1988, is now providing a cushion, as tax cuts and slowing economic growth rates have reduced revenue inflows since mid-1990. After transfers, this net deficit (including capital expenditures) falls to 6.8% of revenues.

budget planning could help limit the growth of net tax-supported debt in coming years.

**ECONOMY** Manitoba's economy produced an uneven expansion last year, with an overall real GDP growth rate of 2.3%, achieved largely in the first half of the year with the help of relatively strong growth in manufacturing shipments and investment. Agricultural direct output accounts for 5% of GDP, but the sector remains a serious concern of the province. Export prices for grains and oilseeds fell to near record lows and farm incomes declined, due to high output worldwide and declining Canadian cash transfers to farmers. As the recession deepened in Canada and the U.S., Manitoba's growth slowed in the second half of the year; manufacturing production declined on average by 1.8% in 1990, while the drop in agricultural-related industrial production reached 2.5%.

Growth in manufacturing shipments was strongest in the areas of transportation equipment, chemicals, and primary metals, while food and beverages showed the greatest decline, more than offsetting growth in other categories. An encouraging trend in the manufacturing sector is the sustained rise in productivity. While the rate of manufacturing employment in Manitoba has been essentially flat since 1975, there has been strong evidence of sectoral expansion, as value-added manufactured output has expanded substantially. The goods-producing sector accounted for 28% of GDP at year-end 1990, up from 17% in 1975, while the manufacturing subsector—including the fastest growing industry, transportation—produced 11% of GDP last year.

Lower prices for major grains and oilseeds and declining government transfer payments to farmers exerted downward pressure on farm incomes despite record grain production in 1990. A continued rebound from the severe drought of 1987-1989 produced a significant increase in the production and sale of grains and oilseeds. Receipts from crops rose by 15%, to C\$1 billion, and cash receipts from livestock grew by 9% over the previous year's level, to C\$830 million. Offsetting these increases, payments from government decreased by 62%, to C\$169 million, and resulted in an overall decline in total farm cash receipts, to C\$2 billion, a drop of 3.5% over the previous year's level.

Manitoba's total capital investment, including public sector spending, grew in real terms by 4.1% over the 1989 level, when investment growth in Canada averaged only 0.2%. While the bulk of the province's total new investment was public sector funded, nonresidential private sector investment increased by 1.6% last year, compared to a decline for the whole of Canada of 4.6%. New capital investment in transportation increased by 42%; telecommunications-related investment also reg-

| Economic statistics                    | --Year ended Dec. 31-- |       |      |       |      |
|--|------------------------|-------|------|-------|------|
|  | 1990                   | 1989  | 1988 | 1987  | 1986 |
| Real GDP (% chg.)                      | 3.0                    | 2.9   | 1.5  | 2.7   | 2.7  |
| Employment (% chg.)                    | 1.4                    | 0.8   | 0.4  | 1.2   | 2.3  |
| Unemployment (%)                       | 7.2                    | 7.5   | 7.8  | 7.4   | 7.7  |
| Retail sales (% chg.)                  | 2.6                    | 5.0   | 3.2  | 2.3   | 3.5  |
| Total pub. & priv. investment (% chg.) | 4.1                    | (0.8) | 7.6  | (1.9) | 12.0 |
| Consumer price index (% chg.)          | 4.6                    | 4.9   | 4.1  | 4.2   | 4.5  |
| GDP--Gross domestic product.           |                        |       |      |       |      |

Net public-sector and tax-supported debt levels declined as a percentage of gross domestic product (GDP) to 48.5% and 27.1%, respectively, in fiscal 1990, from 59.4% and 34.4% in fiscal 1988, before rising moderately in fiscal 1991. Long-term

**RATING ANALYSES**

istered strong double-digit growth, though from a lower base. Decreases were recorded in trade, finance, and commercial services. Despite falling interest rates in Canada, private investment in housing declined by 7.2% in 1990, and is projected to fall another 3% in 1991.

Smaller wage gains and declining farm incomes reduced growth in retail sales to 2.6% last year, from 5% in 1989, a trend that has been complicated by a rise in cross-border shopping for consumer goods. Last year's unemployment rate maintained its three-year downward trend, falling from 7.5% in 1989 to 7.2%, the fourth lowest rate among the Canadian provinces. The unemployment rate had climbed to 8.4% by February of this year, but is expected to trend downward in the second half. An average rate of 7.8% is projected for the entire year, as the economic recovery gains momentum.

The government of Manitoba is projecting a decline in real GDP of 0.3% in 1991, compared to the Conference Board's projection of negative 1.4% and the Royal Bank of Canada's negative 0.5%. Incomes in the agricultural sector will continue to be depressed by historically low agricultural prices, and transfers to farmers from the Federal government are not expected to increase in real terms. These factors will inhibit retail sales and private sector residential investment. Public sector capital investment, coupled with a projected 1.1% increase in private nonresidential investment, will limit the economic contraction, and the latter factor will facilitate some continued diversification of the Manitoba economy. Nevertheless, average GDP growth is projected to lag behind the Canadian average this year. The 1991 grain harvest is no longer expected to exceed last year's record level, suggesting that a strong increase in demand could positively affect prices.

**FINANCES** The Conservative government, which first took office in 1988 and later gained a majority representation in the legislature after September 1990 elections, remains committed to its long-term tax reduction policies as a means of maintaining or improving Manitoba's appeal to new investors and enhancing the potential for economic growth and diversification. Both corporate

of 8.5% in 1987. The new investment occurred despite high and rising real interest rates that year, which adversely affected private residential investment. In fiscal 1990, tax credits for training costs to business and industry and a reduction in small business taxes were introduced. Tax rate reductions were put on hold in the current fiscal year, as the recession has reduced revenue inflows and fiscal balances. A decision on harmonization with the federal goods and services tax (GST) has been deferred.

Despite tax cuts and slow growth in federal transfer payments in recent years, total budgetary revenues (excluding transfers from the Fiscal Stabilization Fund) have continued to rise through fiscal 1991, albeit at significantly reduced rates since 1989. Revenues expanded by 12.5% in fiscal 1989 while operating expenditures increased by only 4.8%. Partially in response to tax rate cuts in the previous year and declining farm incomes, revenue growth slowed to an average 1.5% in fiscal years 1990 and 1991, while operating expenditures grew, on average, by 6.5% before adjusting for transfers. These revenue and expenditure trends produced an operating surplus in fiscal 1989 equal to 7.5% of revenues. The operating surplus declined to 3.1% of revenues in fiscal 1990, and fell to a deficit equal to 3.0% (before transfer adjustments) in fiscal 1991.

Net budgetary balances, which include capital spending, have also deteriorated, with deficits of 3.1% and 9.0% of revenue in fiscal years 1990 and 1991. Recent budgetary performance has halted improvement in the growth of net tax-supported debt, which until fiscal 1991 had slowed significantly from its trend in the earlier half of the 1980s.

In fiscal 1988, the new Conservative government established a Fiscal Stabilization Fund to retain revenues from better-than-budgeted performance and extraordinary revenues from the privatization of crown corporations. The fund is designed to act as a fiscal "shock-absorber" against revenue shortfalls. In its first two years of existence, a full C\$275 million was transferred to the fund, money which has helped to reduce borrowing needs in the last two fiscal years.

The government is also hoping to limit the growth in net tax-supported debt in coming years with the adoption of a three-year budgeting plan. The new estimates process allows the government to make decisions about taxes and the deficit first, and then make spending decisions within the limits of these targets.

The recession's impact on revenues has grown, and in the current fiscal year, the operating account is budgeted to be in deficit equal to 4.1% of revenues. Own-source revenues are projected to grow by 2.9% in fiscal 1992. In the absence of additional tax cuts in this fiscal year, personal income tax receipts (the single largest category of own-source revenues) are projected to increase by 5.4%. Corporate tax revenues will increase by

**Financial statistics**

|                                | --Year ended March 31-- |       |       |      |       |        |
|--------------------------------|-------------------------|-------|-------|------|-------|--------|
|                                | 1992b                   | 1991  | 1990  | 1989 | 1988  | 1987   |
| Oper. bal./ rev (%)            | (4.1)                   | (3.0) | 3.1   | 7.5  | 0.7   | (9.1)  |
| Net budget bal./rev (%)        | (9.8)                   | (9.0) | (3.1) | 1.3  | (5.6) | (16.5) |
| Oper. rev growth (% chg.)      | 2.4                     | 1.2   | 1.4   | 12.5 | 19.3  | 7.3    |
| Oper. expend. growth (% chg.)  | 3.5                     | 7.6   | 6.2   | 4.8  | 8.5   | 14.0   |
| Net tax supported debt/GDP (%) | N.A.                    | 30.3  | 27.1  | 30.9 | 34.4  | 35.7   |
| Net pub. sector debt/GDP (%)   | N.A.                    | 51.9  | 48.5  | 55.3 | 59.4  | 61.9   |

b--Budgeted. GDP--Gross domestic product. N.A.--Not available.

and income tax rates were reduced in Manitoba in fiscal 1989, and private nonresidential capital investment inflows responded with an 11.7% increase, up from 7.4% growth in 1988 and a decline

**CANADA CONTINUED**

almost 9% after a sharp decline in fiscal 1991; retail sales tax receipts will be flat. Federal transfers are projected to increase by only 1.5% in fiscal 1992, reflecting another decrease in Established Program Financing which will be only slightly more than offset by an increase in equalization transfers.

Operating expenditures are budgeted to increase by 5.1% in the current fiscal year, more than a full percentage point below the rate of inflation but significantly faster than the rate of operating revenue growth. The adoption of a public sector wage freeze facilitated expenditure restraint in the current budget year; a 2% wage adjustment is planned for fiscal 1993. The largest expenditure increase is budgeted for health care (which accounts for fully one third of operating expenditure), at 7.1%, in line with the average rate of increase over the last five years. Growth in education and social services expenditures has been curtailed, from 7.5% in fiscal 1991 to 2.1%, and from 12.3% to 5%, respectively. Economic development and transportation expenditures will register nominal declines in the current year.

Capital expenditure is budgeted to increase by 8.4%, but slower-than-expected execution of projects generally reduces actual expenditures relative to budget. Budgeted capital programs will encourage some job creation and entail about 6% of total budgetary expenditure.

The addition of C\$600 million to cover funding adjustments has and will contribute to the province's borrowing requirement in fiscal years 1991 and 1992, and is a factor which will influence future borrowings. These adjustments represent entries, largely consisting of losses due to exchange rate fluctuations, dating back to fiscal 1979, which were recorded directly on the balance sheet without running through the budgetary accounts, and which were funded over the years out of cash reserves. Notionally transferring these liabilities to the budgetary accounts and counting them as future borrowing requirements represents an attempt by the province to replenish depleted cash reserves. The C\$600 million which was added to borrowing requirements in fiscals 1991 and 1992 represents fully 60% of these previously unfunded liabilities, which totalled C\$997 million.

**DEBT** Progress in reducing or limiting budgetary imbalances since fiscal 1988 slowed public borrowing and the growth of provincial purpose and tax supported debt through fiscal 1990. Net provincial purpose debt at the end of fiscal 1990 equaled 21.2% of GDP, down from 26.5% at the end of fiscal 1988. Net tax-supported debt represented 27.1% of GDP at year-end fiscal 1990, down from 34.4% at the end of fiscal 1988. Larger fiscal deficits last year resulted in a slight increase in debt levels, to 22.3% and 30.3%, respectively, at the end of fiscal 1991. Continued high levels of investment by provincial crown corporations brought net direct and guaranteed debt to 45.6%

of GDP last year, up from 42.3% in fiscal 1990. Manitoba's ratio of net interest payments to operating revenues remains comparatively high by Canadian provincial standards, at a projected 12.5% in fiscal 1992. The province's unfunded pension liability and how it will be addressed remains an uncertainty; funding liabilities in excess of recorded assets will likely add marginally to debt accumulation over the near term.

**MANITOBA HYDRO-ELECTRIC BOARD** Manitoba Hydro supplies electricity to the Province of Manitoba, with the exception of part of its capital city of Winnipeg which is serviced by Winnipeg Hydro. The two systems are fully integrated. The installed capacity of the two systems is 4,924 megawatts (mw), with Manitoba Hydro operating about 95% of the total. About 90% of capacity is hydro-electric, with the remainder supplied by thermal sources. Installed capacity is more than adequate to meet peak load demand. Growth in peak demand has been relatively stable over the last three years, increasing in 1990 to 3,631 mw, from 3,407 mw in 1989.

Manitoba Hydro maintains interconnections with the states of North Dakota and Minnesota in the U.S., as well as with Saskatchewan and Ontario provinces. Power sales to extra-provincial customers have declined in recent years due to lower water flows in 1987-1989, and more recently to excess power availability in the neighboring region. About 10% of 1991 revenues were earned through extra-provincial sales, down from 26% in fiscal 1985.

Intra-provincial sales revenues grew last year by 5.2%, to C\$628 million; total revenues increased by 5.7%, matching the consistent growth pattern of the last five years. Improved water flow conditions in the last two years, and the addition of new hydro generation capacity last year, have reduced Manitoba Hydro's reliance on purchased fuel and substantially reduced costs, especially in fiscal 1991. Purchased power costs declined last year, from C\$33 million in fiscal 1990 to C\$17 million, allowing for the highest net income in the company's history, at C\$48 million. Manitoba Hydro's customer base is well diversified.

Tariff adjustments historically have lagged behind cost increases, resulting in lower profitability and high debt levels. Projected rate increases over the coming five years reflect a policy designed to balance the company's public service objective (providing reliable power at the lowest feasible rates) with improvements in its financial ratios. Under this scenario, reserves, which increased to C\$165 million last year, are projected to reach C\$370 million by fiscal 1995; the company's goal is to achieve a debt to equity ratio of 85/15 by the year 2005. The interest coverage ratio improved last year to 1.11 times (x), up from 1.06x in fiscal 1990.

The utility is in the middle of a C\$2.87 billion capital expansion program, with final expendi-

**RATING ANALYSES**

tures to be budgeted in fiscal 1995. More than half of these expenditures relate to construction of the Conawapa generating station, in conjunction with an agreement with the Northern States Power Company to supply 500 mw of firm energy

for a 12-year period beginning in 1993. Following the completion of this program, significant new capital expenditures are not anticipated before 1998.

**MONTREAL TRUSTCO INC.**  
**(BELL CANADA ENTERPRISES UNIT)**

S&amp;P Contact: Xavier Chavee (212) 208-1122

**RATINGS AFFIRMED****OUTSTANDING RATINGS****OUTLOOK: STABLE**

Senior debt A  
Commercial paper A-1

Rated debt: US\$922 million

**RATIONALE** Montreal Trustco Inc.'s ratings reflect the group's steady profits from diversified sources of income and its good asset quality record. The group is a residential and income property lender, but also is engaged in a wide variety of financial and trust services in Canada. Consolidated assets at March 31 totaled C\$12.7 billion (US\$11.6 billion), with more than C\$45 billion of assets under administration by the trust bank. The group has expanded rapidly, primarily through acquisitions, of which the more important are Credit Foncier, a C\$2 billion Canadian mortgage lender, and RoyNat Inc., a C\$1.2 billion commercial lender. During 1990, the bank decided to quit the real estate brokerage business outside of Quebec. As a result of this shift in business focus and the acquisitions noted above, the proportional contribution to total revenues from trust fees and real estate commissions has decreased in favor of interest income and fees

from mortgage and commercial lending activities. Historically, the Montreal Trustco group has benefited from solid asset quality as low-risk residential mortgages represent nearly 45% of total loans. However, due to the economic downturn in Canada, particularly in Ontario, Montreal Trustco's primary real estate lending market, the company experienced a significant surge in asset quality problems during 1990 and year-to-date 1991. On a relative basis, though, Montreal Trustco's asset quality continues to compare favorably with the major banks in Canada. Montreal Trustco has a stable funding base, primarily composed of guaranteed investment certificates (GICs). Equity is considered adequate in view of the group's relatively moderate risk asset profile. Montreal Trustco is a wholly owned subsidiary of Bell Canada Enterprises (BCE), a large holding company with diverse interests in the telecommunications, energy, and real estate industries: its holdings include 'AA'-rated Bell Telephone Co. of Canada and a 52% stake in 'A+'-rated Northern Telecom Ltd.

**PROFILE** Incorporated at the turn of the century, Montreal Trustco's main business focus historically has been providing trust services to individuals, corporations, and other types of organizations. Over the years, the company has become increasingly involved in mortgage and commercial lending as a means to achieve a better diversification of its income sources, and at present, these types of activities contribute more than half of total revenues. The company remains a leading service provider in the areas of trust, stock transfer and stock registrar, and employee benefits to corporations. In recent years, it also has taken on an greater role as one of the more important income property lenders in Canada.

The company operates primarily through two main operating subsidiaries: Montreal Trust Co., a Quebec chartered trust company, and Montreal Trust Co. of Canada, a federally chartered trust company. It currently maintains 65 retail branches throughout Canada, and has various subsidiaries that provide term commercial loans, leasing, investment counseling, and pension fund management.

**ASSET QUALITY** Because of the relative importance of its low-risk residential mortgage portfolio, Montreal Trustco's overall asset quality his-

**Ratio analysis (%)**

--Year ended Dec. 31--

|                                   | 1990  | 1989  | 1988  | 1987  | 1986  |
|-----------------------------------|-------|-------|-------|-------|-------|
| <b>Profitability</b>              |       |       |       |       |       |
| Net int. income/avg. assets       | 1.52  | 1.57  | 1.55  | 1.51  | 1.33  |
| Net int. income/avg. risk assets  | 1.99  | 2.07  | 2.07  | 2.05  | 1.85  |
| Non-int. income/avg. assets       | 1.32  | 1.36  | 1.39  | 1.53  | 1.82  |
| Non-int. income/revenues          | 46.25 | 46.30 | 47.32 | 50.45 | 57.79 |
| Non-int. expense/avg. assets      | 2.31  | 2.18  | 2.16  | 2.16  | 2.49  |
| Non-int. expense/rev.             | 81.08 | 74.29 | 73.59 | 70.99 | 78.77 |
| Operating profit/avg. assets      | 0.81  | 1.13  | 1.24  | 1.53  | 1.48  |
| Operating profit/avg. risk assets | 1.05  | 1.49  | 1.66  | 2.08  | 2.05  |
| Return on avg. assets             | 0.56  | 0.67  | 0.69  | 0.71  | 0.53  |
| Return on avg. risk assets        | 0.72  | 0.88  | 0.92  | 0.96  | 0.74  |

**Asset quality**

|                                    |       |        |        |        |        |
|------------------------------------|-------|--------|--------|--------|--------|
| Loan loss prov./avg. loans         | 0.22  | 0.07   | 0.01   | 0.00   | 0.14   |
| Loan charge-offs/loans             | 0.04  | 0.09   | 0.11   | 0.07   | 0.00   |
| Loan loss res./loans               | 0.80  | 0.61   | 0.71   | 0.71   | 0.83   |
| Loan loss res./nonperforming loans | 63.41 | 117.09 | 169.45 | 182.55 | 165.76 |

**Leverage**

|                                 |      |      |      |      |      |
|---------------------------------|------|------|------|------|------|
| Tang. common equity/assets      | 2.75 | 3.00 | 2.84 | 3.24 | 3.12 |
| Tang. common equity/risk assets | 3.59 | 3.92 | 3.77 | 4.39 | 4.27 |
| Adj. equity/loans               | 5.73 | 6.13 | 6.27 | 6.38 | 6.05 |

**Liquidity**

|                                       |       |       |       |       |       |
|---------------------------------------|-------|-------|-------|-------|-------|
| Loans/deposits + invest. certificates | 81.26 | 81.11 | 77.70 | 82.80 | 83.22 |
| Loans/assets                          | 76.25 | 75.73 | 72.66 | 71.58 | 73.19 |
| Deposits + invest. certificates/liab. | 98.13 | 97.92 | 98.06 | 90.97 | 92.54 |





# CORPORATE RATINGS

## Manitoba Hydro-Electric Board

### Corporate Credit Rating

None

### Primary Credit Analyst

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### Major Rating Factors

#### Strengths:

- Low-cost hydroelectric generation
- Government ownership and support
- Vertically integrated electricity monopoly
- Diversified customer base
- Supportive regulation

#### Weaknesses:

- Significant hydrology risk exposure and lack of fuel diversification
- Aggressive financial policy
- Merchant risk to uncontracted electricity exports and trading activities

### Rationale

The 'A-1+' rating on Manitoba Hydro-Electric Board's short-term debt reflects the debt service guarantee of its owner, the Province of Manitoba (AA/Stable/A-1+). Standard & Poor's Ratings Services has not assigned a long-term debt or issuer credit rating to Manitoba Hydro.

In our opinion, the ratings on Manitoba reflect the province's gradually falling tax-supported debt burden and strong financial and economic performances. Offsetting these strengths are Manitoba's direct and tax-supported debt burdens, which are average compared with those of its Canadian and international peers; and ongoing increases in the self-supported debt of Manitoba Hydro. (For more information, please see our full analysis on the province, published Dec. 17, 2007, on RatingsDirect.) The ratings on Manitoba capture the company's contribution to the province's business risk and cash flow. This report focuses on the utility's business risk and financial risk profiles.

RatingsDirect  
Publication Date

Nov. 20, 2008



**Manitoba Hydro-Electric Board**

We believe Manitoba Hydro's monopoly, gas and electric franchises, and related regulatory frameworks provide satisfactory cash flow stability. Furthermore, the utility's owner, the province, strongly supports its creditworthiness. In our opinion, exposure to significant hydrology risk and its highly leveraged financial risk profile offset these strengths.

Manitoba Hydro is a vertically integrated electric utility serving about 522,000 customers. The company's monopoly electricity network business serves the entire province. There is no effective competition in electricity generation. Generation facilities include 14 hydroelectric generating stations (5,003 megawatts [MW]), two thermal generating stations (462 MW), and four diesel sites (10 MW), for total capacity of 5,475 MW. The company also owns and operates a monopoly natural gas distribution business serving about 261,000 customers across southern Manitoba. Total debt outstanding as of March 31, 2008, was about C\$7.6 billion, of which about C\$7.1 billion is in the form of advances from Manitoba. Total debt, net of sinking fund assets of C\$700 million, was C\$6.9 billion. Also as of March 31, Manitoba guaranteed C\$352 million of long-term debt issued in the utility's name. The province, however, does not guarantee Manitoba Hydro-Electric Board bonds, totaling C\$104 million and issued for mitigation settlements.

The regulatory framework governing the company's gas operations is shifting to a cost-of-service basis for the distribution business, and continues to provide timely protection from exposure to gas commodity costs. Manitoba Hydro passes the price it pays for gas supply directly to the customer without any markup. It is protected from price risk, as gas rates are adjusted quarterly, subject to regulatory approval. There is no defined regulatory mechanism to mitigate the risk associated with the utility's much larger obligation to supply electricity to the province and the resulting significant exposure to volume risk and volatile costs of electricity imports and fossil fuels. Instead, Manitoba Hydro makes periodic applications to its regulator for rate increases for noncommodity-related gas and all electricity-related costs. The regulator approved a 5% rate increase effective July 1.

We expect a continuing close relationship between Manitoba Hydro and the province, based on the company's strategic nature, the provincial government's energy policy, the government's provision for debt guarantees, and the governance structures in place.

The combined impact on the utility's cash flows of poor hydrology and resulting exposure to fossil fuel and replacement power costs can be quite severe. Hydroelectric generation contributes more than 90% of the utility's typical annual production. Despite benefiting from large and diverse drainage basins (which include most of Saskatchewan, Manitoba, northwestern Ontario, and parts of Alberta and North Dakota), Manitoba Hydro can expect drought conditions on average about once every 10 years. Under these conditions, diminished profits from hydroelectric-based export sales, and the high cost of replacement fossil fuel-based generation and imports required to meet domestic needs, lead to lower and sometimes negative funds from operations (FFO). As of March 31, the utility expected water storage levels and water inflows to be above average for fiscal 2008.

In our opinion, Manitoba Hydro has an aggressive financial risk profile, with adjusted FFO (AFFO) interest coverage typically less than 2.2x and AFFO-to-total debt of less than 10% as of March 31. We expect the utility's financial risk profile to remain under pressure in the long term due to largely debt-financed capital spending. Adjusted total debt-to-total capital was about 77% as of March 31, which was better than 83% and 84% at fiscal year-end 2007 and 2006, respectively, but could weaken without average or better water flows and favorable export prices. We expect Manitoba Hydro's total debt burden to increase about C\$500 million per year in the next several years. We believe the utility

**Manitoba Hydro-Electric Board**

will use the funds to finance the construction of Wuskwatim (200 MW) hydroelectric development, planning costs for Conawapa, and other hydroelectric developments.

**Liquidity**

Standard & Poor's considers Manitoba Hydro's liquidity to be sufficient, given its very supportive relationship with its owner. Manitoba Hydro has a commercial paper program, which the province guarantees, for C\$500 million or US\$500 million, of which C\$165 million was outstanding as of Sept. 30. The program funds the utility's operating cash flow requirements, and is supported by bank credit facilities for up to C\$500 million or US\$500 million, which the province does not guarantee. As of Sept. 30, 2008, the company had access to C\$335 million or US\$335 million through its bank credit facility.

We expect the utility to generate positive FFO of about C\$600 million in fiscal 2008-2009. Maintenance and growth-related capital expenditures will be about C\$1 billion during the same period of which about C\$500 million is related to new generation under construction. We do not expect the utility to pay out a dividend in fiscal 2008-2009.

**Accounting**

Manitoba Hydro prepares its audited annual financial statements (fiscal year end March 31) in accordance with Canadian generally accepted accounting principles and reports in Canadian dollars. In analyzing Manitoba Hydro's financial risk profile, Standard & Poor's considers long-term debt net of sinking funds (see table 1).

Table 1

**Reconciliation Of Manitoba Hydro-Electric Board Reported Amounts With Standard & Poor's Adjusted Amounts (Mil. C\$)**

—Fiscal year ended March 31, 2008—

| <i>Manitoba Hydro-Electric Board reported amounts (mil. C\$)</i> | <i>Shareholders' Debt</i> | <i>equity</i> | <i>Operating income (before D&amp;A)</i> | <i>Operating income (before D&amp;A)</i> | <i>Operating income (after D&amp;A)</i> | <i>Interest expense</i> | <i>Cash flow from operations</i> | <i>Cash flow from operations</i> | <i>Capital expenditures</i> |
|--|---------------------------|---------------|--|--|---|-------------------------|----------------------------------|----------------------------------|-----------------------------|
| Reported   | 6,870.0                   | 2,127.0       | 1,135.0                                  | 1,135.0                                  | 786.0                                   | 473.0                   | 630.0                            | 630.0                            | 827.0                       |
| <b>Standard &amp; Poor's adjustments</b>                         |                           |               |  |  |   |                         |                                  |                                  |                             |
| Postretirement benefit obligations                               | N/A                       | (9.0)         | 10.0                                     | 10.0                                     | 10.0                                    | N/A                     | 7.0                              | 7.0                              | N/A                         |
| Accrued interest not included in reported debt                   | 106.0                     | N/A           | N/A                                      | N/A                                      | N/A                                     | N/A                     | N/A                              | N/A                              | N/A                         |
| Capitalized interest   | N/A                       | N/A           | N/A                                      | N/A                                      | N/A                                     | 44.0                    | (44.0)                           | (44.0)                           | (44.0)                      |
| Reclassification of nonoperating income (expenses)               | N/A                       | N/A           | N/A                                      | N/A                                      | 33.0                                    | N/A                     | N/A                              | N/A                              | N/A                         |
| Total adjustments  | 106.0                     | (9.0)         | 10.0                                     | 10.0                                     | 43.0                                    | 44.0                    | (37.0)                           | (37.0)                           | (44.0)                      |
| <b>Standard &amp; Poor's adjusted amounts</b>                    | <b>Debt</b>               | <b>Equity</b> | <b>Operating income (before D&amp;A)</b> | <b>EBITDA</b>                            | <b>EBIT</b>                             | <b>Interest expense</b> | <b>Cash flow from operations</b> | <b>Funds from operations</b>     | <b>Capital expenditures</b> |
| Adjusted   | 6,976.0                   | 2,118.0       | 1,145.0                                  | 1,145.0                                  | 829.0                                   | 517.0                   | 593.0                            | 593.0                            | 783.0                       |

**Manitoba Hydro-Electric Board**

Table 1

**Reconciliation Of Manitoba Hydro-Electric Board Reported Amounts With Standard & Poor's Adjusted Amounts (Mil. C\$)\* (cont. 'd)**

—Fiscal year ended March 31, 2008—

| <i>Manitoba Hydro-Electric Board reported amounts (mil. C\$)</i> | <i>Shareholders' Debt</i> | <i>equity</i> | <i>Operating income (before D&amp;A)</i> | <i>Operating income (before D&amp;A) (after D&amp;A)</i> | <i>Operating income expens e</i> | <i>Cash flow from operations</i> | <i>Cash flow from operations</i> | <i>Capital expenditures</i> |
|--|---------------------------|---------------|--|--|----------------------------------|----------------------------------|----------------------------------|-----------------------------|
|--|---------------------------|---------------|--|--|----------------------------------|----------------------------------|----------------------------------|-----------------------------|

\*Manitoba Hydro-Electric Board reported amounts shown are taken from the company's financial statements but might include adjustments made by data providers or reclassifications made by Standard & Poor's analysts. Please note that two reported amounts (operating income before D&A and cash flow from operations) are used to derive more than one Standard & Poor's-adjusted amount (operating income before D&A and EBITDA, and cash flow from operations and funds from operations, respectively). Consequently, the first section in some tables may feature duplicate descriptions and amounts. D&A—Depreciation and amortization. N/A—Not applicable.

**Outlook**

The outlook on Manitoba Hydro's owner and debt guarantor, the Province of Manitoba, is stable. There is no outlook on the utility. An upward rating action on the province would not change the 'A-1+' short-term debt rating on the utility.

Table 2

**Manitoba Hydro-Electric Board—Peer Comparison\****Industry Sector: Government-Owned Electric Utility*

—Average of past three fiscal years—

| <i>(Mil. C\$)</i>                     | <i>Manitoba Hydro-Electric Board\$</i> | <i>Newfoundland and Labrador Hydro**</i> | <i>New Brunswick Electric Finance Corp.†††</i> | <i>Hydro-Quebec**</i> | <i>British Columbia Hydro &amp; Power Authority†††</i> |
|---------------------------------------|--|--|--|-----------------------|--|
| Rating as of Nov. 20, 2008¶           | A-1+                                   | A:A-1                                    | NR   | A+:A-1+               | AAA  |
| Revenues                              | 2,263.0                                | 551.3                                    | 1,500.0  | 11,460.3              | 4,454.3  |
| Net income from continuing operations | 294.3                                  | 74.5                                     | 42.0   | 2,621.3               | 347.3  |
| Funds from operations (FFO)           | 570.7                                  | 124.2                                    | 228.2  | 4,213.4               | 799.7  |
| Capital expenditures                  | 618.7                                  | 59.9                                     | 260.4  | 3,083.3               | 746.3  |
| Cash and short-term investments       | 84.3                                   | 16.5                                     | 18.3   | 2,231.3               | 17.7   |
| Debt                                  | 6,861.0                                | 1,428.0                                  | 3,292.6  | 35,921.5              | 7,910.7  |
| Equity                                | 1,601.0                                | 569.8                                    | 52.5   | 18,189.7              | 1,543.7  |
| Debt and equity                       | 8,462.0                                | 1,997.8                                  | 3,345.1  | 54,111.1              | 9,454.4  |
| <b>Adjusted ratios</b>                |  |  |  |                       |  |
| EBIT interest coverage (x)            | 1.5                                    | 1.5                                      | 1.2  | 2.0                   | 1.6  |
| FFO interest coverage (x)             | 2.0                                    | 1.8                                      | 2.0  | 2.4                   | 2.2  |
| FFO/debt (%)                          | 8.3                                    | 8.7                                      | 6.9  | 11.7                  | 10.1   |
| Discretionary cash flow/debt (%)      | (0.7)                                  | 6.2                                      | (1.7)  | (1.3)                 | (3.5)  |
| Net cash flow/capex (%)               | 92.2                                   | 175.0                                    | 84.6   | 84.6                  | 67.3   |
| Total debt/debt plus equity (%)       | 81.1                                   | 71.5                                     | 98.4   | 66.4                  | 83.7   |

**Manitoba Hydro-Electric Board**

Table 2

**Manitoba Hydro-Electric Board—Peer Comparison\* (cont. 'd)**

|  |      |      |      |      |      |
|--|------|------|------|------|------|
| Return on common equity (%)                  | 18.4 | 12.5 | 19.3 | 12.8 | 18.4 |
| Common dividend payout ratio (unadjusted; %) | 0.0  | 26.1 | 21.4 | 70.7 | 80.8 |

\*Fully adjusted (including postretirement obligations). ¶[Guaranteed debt rating.\$For the three years ended March 31, 2008. \*\*For the three years ended Dec. 31, 2007. ¶¶For the three years ended March 31, 2007. NR—Not rated.

Table 3

**Manitoba Hydro-Electric Board—Financial Summary\*****Industry Sector: Government-Owned Electric Utility**

| <b>(Mil. C\$)</b>                     | <b>—Fiscal year ended March 31—</b> |             |             |             |             |
|---------------------------------------|-------------------------------------|-------------|-------------|-------------|-------------|
|                                       | <b>2008</b>                         | <b>2007</b> | <b>2006</b> | <b>2005</b> | <b>2004</b> |
| Rating history¶]                      | A-1+                                | A-1+        | A-1+        | A-1+        | A-1+        |
| Revenues                              | 2,250.0                             | 2,140.0     | 2,399.0     | 2,017.0     | 1,781.0     |
| Net income from continuing operations | 346.0                               | 122.0       | 415.0       | 136.0       | (436.0)     |
| Funds from operations (FFO)           | 593.0                               | 426.0       | 693.0       | 414.0       | (167.0)     |
| Capital expenditures                  | 783.0                               | 608.0       | 465.0       | 470.0       | 463.0       |
| Cash and short-term investments       | 133.0                               | 1.0         | 119.0       | 9.0         | 6.0         |
| Debt                                  | 6,976.0                             | 6,883.0     | 6,724.0     | 6,807.0     | 6,875.0     |
| Equity                                | 2,118.0                             | 1,405.0     | 1,280.0     | 858.0       | 721.0       |
| Debt and equity                       | 9,094.0                             | 8,288.0     | 8,004.0     | 7,665.0     | 7,596.0     |

**Adjusted ratios**

|  |       |       |       |       |        |
|--|-------|-------|-------|-------|--------|
| EBIT interest coverage (x)                   | 1.6   | 1.2   | 1.7   | 1.2   | 0.2    |
| FFO interest coverage (x)                    | 2.2   | 1.7   | 2.1   | 1.7   | 0.7    |
| FFO/debt (%)                                 | 8.5   | 6.2   | 10.3  | 6.1   | (2.4)  |
| Discretionary cash flow/debt (%)             | (2.7) | (2.6) | 3.4   | (0.8) | (9.2)  |
| Net cash flow/capex (%)                      | 75.7  | 70.1  | 149.0 | 88.1  | (36.7) |
| Debt/debt and equity (%)                     | 76.7  | 83.0  | 84.0  | 88.8  | 90.5   |
| Return on common equity (%)                  | 17.1  | 6.3   | 35.5  | 12.6  | (49.5) |
| Common dividend payout ratio (unadjusted; %) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    |

\*Fully adjusted (including postretirement obligations). ¶[Guaranteed debt rating.

***Manitoba Hydro-Electric Board******Ratings Detail (As Of 20-Nov-2008)\*******Manitoba Hydro-Electric Board******Related Entities******Manitoba (Province of)***

|                      |                |
|----------------------|----------------|
| Issuer Credit Rating | AA/Stable/A-1+ |
|----------------------|----------------|

|                  |      |
|------------------|------|
| Commercial Paper | A-1+ |
|------------------|------|

|   |           |
|---|-----------|
| <b><i>Canadian National Scale Commercial Paper Rating</i></b> | A-1(HIGH) |
|---|-----------|

|                              |    |
|------------------------------|----|
| Senior Unsecured (71 Issues) | AA |
|------------------------------|----|

\*Unless otherwise noted, all ratings in this report are global scale ratings. Standard & Poor's credit ratings on the global scale are comparable across countries. Standard & Poor's credit ratings on a national scale are relative to obligors or obligations within that specific country.

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**The McGraw-Hill Companies**

CAC-MSOS/MH (I)-19

QUESTION:

- a) Please provide the most recent Standard and Poor's, Moody's, Dominion Bond Rating Service (DBRS), and Canadian Bond Rating Service (CBRS) reports on Manitoba Hydro bonds.

ANSWER:

Attached are the most recent reports from Standard and Poor's, Moody's and DBRS on Manitoba Hydro bonds. No reports have been received in recent years from CBRS.

The last paragraph of the Standard and Poor's report contains some inaccuracies with respect to Manitoba Hydro's capital expenditure program. Manitoba Hydro has provided Standard and Poor's with corrected information.

SEP 04, '91 16:28 (ET) Barry Thornson  
SENT BY: XEROX Telecopier 7017; 9- 4-91 ; 4:24PM ;

MCI fax SERVICE  
2124063696-

CAC-MSOS/MH(I) 19 (a)<sup>2</sup>  
Attachment  
Page 5 of 9

Moody's Public Finance Department

Rating Desk

# Rating News

Moody's Investors Service

99 Church Street

New York, NY 10007

(212) 553-0533

## MOODY'S CONFIRMS PROVINCE OF MANITOBA'S A1 RATING ON U.S. \$300 MILLION, 8.875% DEBENTURE SALE

New York, New York - September 4, 1991 - Effective today, Moody's Investors Service assigned an A1 rating to the Province of Manitoba U.S. \$300,000,000 8.875% Debentures, due September 15, 2021. After this sale, U.S. \$400,000,000 remains on the province's U.S. shelf.

Contact: William Streeter  
Vice President and Manager, Canadian Ratings  
(212) 553-0823

Daniel Aschenbach  
Assistant Vice President  
(212) 553-0880





## Credit Opinion: **Manitoba, Province of**

Global Credit Research - 25 Jan 2010

Canada

### Ratings

| Category | Moody's Rating |
|----------|----------------|
| Outlook  | Stable         |
| Bonds    | Aa1            |

### Contacts

| Analyst                  | Phone          |
|--------------------------|----------------|
| Jennifer A. Wong/Toronto | 1.416.214.1635 |
| Alex Bellefleur/Toronto  |                |
| David Rubinoff/Toronto   |                |

### Key Indicators

#### Manitoba, Province of (Year Ending 3/31)

|   | 2004  | 2005 | 2006  | 2007 | 2008  | 2009  |
|---|-------|------|-------|------|-------|-------|
| Net Direct and Indirect Debt as a % of Revenues         | 112.0 | 97.6 | 92.1  | 93.7 | 97.1  | 99.4  |
| Net Direct and Indirect Debt as a % of GDP              | 25.2  | 24.6 | 23.7  | 22.7 | 24.8  | 25.3  |
| Cash Financing Surplus (Requirement) as a % of Revenues | (8.0) | 1.5  | (1.7) | 3.3  | (4.5) | (3.4) |
| Consolidated Surplus (Deficit) as a % of Revenues       | (7.2) | 6.0  | 3.5   | 3.9  | 4.6   | 3.6   |
| Interest Expense as a % of Revenues                     | 9.5   | 7.6  | 7.4   | 7.6  | 6.6   | 6.4   |
| Intergovernmental Transfers as a % of Revenue           | 32.2  | 31.4 | 28.9  | 30.4 | 28.9  | 29.9  |
| Real GDP Growth (%) [1]                                 | 2.2   | 2.6  | 3.3   | 3.6  | 2.0   | -0.2  |

[1] Corresponds to calendar year.

### Opinion

#### SUMMARY RATING RATIONALE

The Province of Manitoba's Aa1 rating reflects the province's sound fiscal plan, which has produced balanced fiscal outcomes in recent years. While modest cash requirements have increased the province's stock of debt, additions to debt have been roughly in line with economic and revenue growth, keeping the province's debt burden relatively stable. The province's fiscal flexibility is high and the proportion of revenue consumed by interest payments remains low at an estimated 6.0% in 2009-10. The Aa1 rating is also supported by the province's diversified economy, which tends to underperform the Canadian average

in boom years, but outperform in years of weak economic conditions, providing a measure of stability.

### National and International Peer Comparisons

The Province of Manitoba is rated in the mid-range of Canadian provinces, whose ratings remain in a narrow range of Aaa-Aa2. Manitoba's debt burden, while higher than that of some of its Western Canadian peers, remains below the Canadian median. Moreover, the province's diversified economy presents a source of stability relative to Canadian peers and is considered a credit positive. On an international basis of comparison, Manitoba benefits from a higher degree of fiscal flexibility than many of its international sub-sovereign peers--including the highly-rated Australian states and German Länder--owing to the high degree of fiscal flexibility inherent in the way Canadian provinces operate, supporting the high investment-grade rating.

### Credit Strengths

Credit strengths for Manitoba include:

Well-structured fiscal framework and strong track record of fiscal prudence

Moderate debt burden

Diversified, stable economy

Mature institutional framework providing considerable fiscal policy flexibility

### Credit Challenges

Credit challenges for Manitoba include:

Expense pressures coupled with slowing revenue growth apply pressure to fiscal outcomes in the near term

### Rating Outlook

The outlook is stable.

### What Could Change the Rating - Up

Many years of stronger than expected fiscal performance leading to a material and sustained reduction in the province's debt burden could apply upward pressure on the rating. An upgrade to Aaa is considered unlikely in the near term, given the current economic environment.

### What Could Change the Rating - Down

A loss of fiscal discipline, combined with a prolonged economic downturn that would impair the province's revenue generating capacity on more than a temporary basis and an increase in debt and debt service ratios, could exert downward pressure on the rating.

### DETAILED RATING CONSIDERATIONS

The rating assigned to Manitoba reflects the application of Moody's Joint-Default Analysis (JDA) rating methodology for regional and local governments (RLGs). In accordance with this methodology, Moody's first establishes the baseline credit assessment (BCA) for the jurisdiction and then considers the likelihood of support coming from the federal

government to avoid a default by the jurisdiction, should this extreme situation ever occur.

### **Recent Developments**

In late December 2009, the province released its second quarter (unaudited) financial report. Updated projections for 2009-10 as a whole point to an expected deterioration in fiscal outcomes with both lower revenues (partly due to lower than expected federal transfers) and higher expenses expected compared to budget. A consolidated deficit of \$592 million (roughly 5% of revenues) is now projected, compared to a roughly balanced consolidated outcome previously budgeted.

### **Baseline Credit Assessment**

The Province of Manitoba's BCA of 3 (on a scale of 1 to 21 in which 1 represents the lowest credit risk) reflects the following factors:

#### **Financial Position and Performance**

Manitoba recorded a series of positive consolidated fiscal outcomes in recent years, owing to the province's containment of expense growth below revenue growth in most years. Between 2004-05 and 2007-08, consolidated surpluses averaged 4.5% of revenue, or 1.1% of GDP. As such, Manitoba's record of strong fiscal performance positioned the province well as the Canadian economy entered recession in 2008.

Manitoba's economic outperformance in 2008 relative to Canada (discussed below) was reflected in the province's 2008-09 fiscal results. Year-on-year revenue growth slowed to 3.8%, as strong growth in personal and corporate income tax receipts (7.4% and 5.2% growth respectively) was partially offset by lower net income from government business enterprises. The combination of modest revenue growth and year-on-year expense growth of 4.9%--driven essentially by health care expenses (growth of 8.6%) and partially offset by a lower rate of increase (1.8%) for debt service as well as an absolute decline in education expenses --generated a consolidated surplus of C\$470 million, equivalent to 3.6% of revenue, or 0.9% of GDP. This financial performance is in stark contrast with that of other Canadian provincial governments whose finances were hit harder by the impacts of the global economic downturn. On a cash basis of accounting, the consolidated surplus translated to a financing requirement of C\$440 million, or 3.4% of revenue (0.9% of GDP). This reflects primarily the accrual accounting presentation and the difference between amortization and cash outlays required for capital expenditures.

Updated projections for 2009-10 as a whole point to an expected deterioration in fiscal outcomes with a consolidated deficit of \$592 million (roughly 5% of revenues) now projected.

Manitoba, like other Canadian provinces, has experienced fiscal pressures with the economic downturn; however, the magnitude of the fiscal deterioration in Manitoba is low relative to most other provinces. The Province of Manitoba has a strong track record of fiscal prudence and is expected to continue with these fiscal management practices. This fiscal prudence, combined with the strong provincial economic performance relative to the rest of the country, ensures strong debt servicing ability, supporting the province's high investment-grade rating.

#### **Debt Profile**

While the province's net direct and indirect debt increased from roughly C\$10 billion at March 31, 2005 to approximately C\$13 billion at March 31, 2009, absolute increases in the stock of debt were roughly matched, proportionally, by growth in nominal GDP and provincial revenues. As a percentage of GDP, net direct and indirect debt remained stable at roughly 25% between 2004-05 and 2009-10, while this measure of debt as a percentage

of revenue remained in the 100% range over this period. These debt ratios are considered manageable for Manitoba given the high degree of fiscal flexibility inherent in the institutional framework governing the way Canadian provinces operate.

In 2007-08, the province debt-financed C\$1.5 billion of the Teachers' Retirement Allowance Fund (TRAF) unfunded liability. Investments held for the TRAF and the Civil Service Superannuation Fund (CSSF), which totaled C\$2.2 billion in 2007-08, were reclassified and irrevocably restricted for pension purposes in 2008-09. As a result of the debt-funding of pension liabilities, the province's unfunded pension obligations declined to C\$2.0 billion at the end of 2008-09 (15.7% of revenue), from C\$3.3 billion at March 31, 2004 (32.9% of revenue). The government expects to continue this policy of debt-funding pension liabilities. Moody's considers unfunded pension liabilities as debt-like and takes them into account when establishing a government's credit profile. As such, Moody's views Manitoba's debt-funding of unfunded pension liabilities as credit-neutral.

#### Governance and Management Factors

Manitoba, over the past several years, has relied on multi-year fiscal planning, prudent economic and revenue assumptions and ongoing expense restraint to maintain a strong financial profile. Overall, Manitoba displays strong governance and management factors. Fiscal management measures are supported by comprehensive and transparent financial reporting that is typical of governments in advanced industrial economies.

#### Economic Fundamentals

The Manitoba economy is highly diversified, which helps to reduce economic volatility associated with business cycles and certain specific local industries. The service sector--including finance and insurance, real estate, public administration and transportation--accounts for an estimated 72% of real economic output, contributing to the province's overall economic diversity.

The Manitoba economy tends to underperform the Canadian economy in times of rapid economic growth and to outperform in economic slowdowns. The province's high degree of economic diversity--which implies the absence of a dominant sector that could act as a catalyst for growth in boom years and a drag on the provincial economy in recessions--is one factor that could explain these trends. The province's economic diversity represents a major source of credit strength, ensuring a broad and productive tax base for the government.

The province's real GDP is expected to contract slightly in 2009 (-0.2% compared to -2.4% for the country as a whole), again outperforming the national average. Manitoba's labour market remains tight as the 2008 unemployment rate of 4.2% was one of the lowest in the country and well below the national average of 6.1%. As of late 2009, the provincial unemployment rate was estimated to have climbed moderately to 5.2%, remaining among the lowest in the country.

#### Operating Environment

The national operating environment in which Manitoba operates is typical of advanced industrial economies, characterized by high GDP per capita, low GDP volatility and a high ranking on the World Bank's Government Effectiveness Index, all of which suggest a minimal level of systemic economic, financial and political risk. As evidenced by Canada's record of continued economic expansion and political stability, the macroeconomic environment is robust and federal government institutions are responsive. Accordingly, the conditions that have historically preceded national crises associated with widespread defaults of regional and local governments are not present in Canada.

#### Institutional Framework

The Province of Manitoba, like all Canadian provinces, enjoys significant flexibility in its financial management. Compared to their counterparts in other countries, such as the German Länder and the Australian states, Canadian provinces enjoy far greater autonomy in terms of both the spending and revenue sides of their budgets. Unfettered access to a broad range of tax bases and the ability to alter expenditure programs provide Canadian provinces with substantial flexibility to meet fiscal challenges. As such, Canadian provinces benefit from a high degree of fiscal policy flexibility that is more akin to that of sovereign governments than to many of their international sub-sovereign peers. These positive institutional factors increase Canadian provinces' ability to manage through economic downturns and handle relatively high debt burdens. In conjunction with the high degree of fiscal flexibility, a system of fiscal transfers from the federal government, which seeks to reduce the fiscal disparities across the country, also provides support to Canadian provinces' creditworthiness.

### **Extraordinary Support Considerations**

Moody's assigns a very high likelihood that the federal government would act to prevent a default by Manitoba, reflecting our assessment of the incentive provided by the risk to the federal government's reputation if Manitoba were to default. It also reflects indications of a moderately positive national government policy stance, as illustrated by the flexibility inherent in the system of federal-provincial transfers.

Moody's rating committee also assigns a high default dependence level reflecting the significant overlap of the economies and revenue bases of the province and federal government.

### **Output of the Baseline Credit Assessment Scorecard**

In the case of Manitoba, the BCA scorecard (presented below) generates an estimated BCA of 3, in line with the BCA of 3 assigned by the rating committee.

The BCA scorecard, which generates estimated baseline credit assessments from a set of qualitative and quantitative credit metrics, is a tool used by the rating committee in assessing regional and local government credit quality. The credit metrics captured by the scorecard provide a good statistical gauge of stand-alone credit strength; however, the estimated BCAs generated by the scorecard do not substitute for rating committee judgments regarding individual baseline credit assessments, nor is the scorecard a matrix for automatically assigning or changing these assessments. Concomitantly, scorecard results have limitations in that they are backward-looking, using historical data, while the assessments are forward-looking opinions of credit strength. Moreover, the limited number of variables included in the scorecard cannot fully capture the breadth and depth of our analysis. Nevertheless, the performance statistics captured in the scorecard are important and, in general, higher ratings can be expected among issuers with the highest rankings from the scorecard.

### **ABOUT MOODY'S SUB-SOVEREIGN RATINGS**

#### **National and Global Scale Ratings**

Moody's assigns national scale ratings in certain local capital markets in which investors have found the global rating scale provides inadequate differentiation among credits or is inconsistent with a rating scale already in common use in the country. Moody's National Scale Ratings are opinions of the relative creditworthiness of issuers and issues within a particular country. While loss expectation will be an important differentiating factor in the ultimate rating assignment, it should be noted that loss expectation associated with National Scale Ratings can be expected to be significantly higher than apparently similar rating levels on Moody's global scale. Moody's National Scale Ratings rank issuers and issues in order of relative creditworthiness: higher ratings are associated with lower

expected credit loss.

National Scale Ratings can be understood as a relative ranking of creditworthiness (including relevant external support) within a particular country. National Scale Ratings are not designed to be compared among countries; rather, they address relative credit risk within a given country. Use of National Scale Ratings by investors is only appropriate within that portion of a portfolio that is exposed to a given country's local market, taking into consideration the various risks implied by that country's foreign and local currency ratings.

The Moody's Global Scale rating for issuers and issues in local currency allows investors to compare the issuer's/issue's creditworthiness to all others in the world, rather than merely in one country. It incorporates all risks relating to that country, including the potential volatility of the national economy.

#### Country Ceilings for Foreign Currency Obligations

Moody's assigns a ceiling for foreign-currency bonds and notes to every country (or separate monetary area) in which there are rated obligors. The ceiling generally indicates the highest rating that can be assigned to a foreign-currency denominated security issued by an entity subject to the monetary sovereignty of that country or area. In most cases, the ceiling will be equivalent to the rating that is (or would be) assigned to foreign-currency denominated bonds of the government. Ratings that pierce the country ceiling may be permitted, however, for foreign-currency denominated securities benefiting from special characteristics that are judged to give them a lower risk of default than is indicated by the ceiling. Such characteristics may be intrinsic to the issuer and/or related to Moody's view regarding the government's likely policy actions during a foreign currency crisis.

#### Baseline Credit Assessment

Moody's baseline credit assessment incorporates the government's intrinsic credit strength and accounts for ongoing operating subsidies and transfers from the supporting government. In effect, the baseline credit assessment reflects the likelihood that a local government would require extraordinary support.

#### Extraordinary Support

Extraordinary support is defined as action taken by a supporting government to prevent a default by a regional or local government (RLG) and could take different forms, ranging from a formal guarantee to direct cash infusions to facilitating negotiations with lenders to enhance access to needed financing. Extraordinary support is described as either low (0% - 30%), moderate (31% - 50%), high (51% - 70%), very high (71% - 95%) or fully supported (96% - 100%).

#### Default Dependence

Default dependence reflects the likelihood that the credit profiles of two obligors may be imperfectly correlated. Such imperfect correlation, if present, has important diversifying effects which can change the joint-default outcome. Intuitively, if two obligors' default risks are imperfectly correlated, the risk that they would simultaneously default is smaller than the risk of either defaulting on its own.

In the application of joint-default analysis to RLGs, default dependence reflects the tendency of the RLG and the supporting government to be jointly susceptible to adverse circumstances leading to defaults. Since the capacity of the higher-tier government to provide extraordinary support and prevent a default by an RLG is conditional on the solvency of both entities, the more highly dependent -- or correlated -- the two obligors' baseline default risks, the lower the benefits achieved from joint support. In most cases, the close economic links and/or overlapping tax bases and/or close intergovernmental fiscal

arrangements between different levels of government result in a moderate to very high degree of default dependence.

Default dependence is described as either low (0% - 30%), moderate (31% - 50%), high (51% - 70%) or very high (71% - 100%).

## Rating Factors

### Manitoba, Province of

| Baseline Credit Assessment                     |        |       |                      |                  |                  |       |
|--|--------|-------|----------------------|------------------|------------------|-------|
| Scorecard - 2008                               | Value  | Score | Sub-Factor Weighting | Sub-Factor Total | Factor Weighting | Total |
| Factor 1: Operating Environment                |        |       |                      |                  |                  |       |
| National GDP per capita (PPP basis, \$US)      | 38,638 | 1     | 50.0%                | 1.00             | 50.0%            | 0.50  |
| National GDP Volatility (%)                    | 2.0    | 1     | 25.0%                |                  |                  |       |
| National Govt Effectiveness Index (World Bank) | 1.93   | 1     | 25.0%                |                  |                  |       |
| Factor 2: Institutional Framework              |        |       |                      |                  |                  |       |
| Predictability, Stability, Responsiveness      | 1      | 1     | 50.0%                | 2.08             | 10.0%            | 0.21  |
| Fiscal Flexibility (A): Own-Source Revenues    | 1      | 1     | 16.7%                |                  |                  |       |
| Fiscal Flexibility (B): Spending               | 1      | 1     | 16.7%                |                  |                  |       |
| Fiscal Flexibility (C): Extent of Borrowing    | 7.5    | 7.5   | 16.6%                |                  |                  |       |
| Factor 3: Financial Position & Performance     |        |       |                      |                  |                  |       |
| Interest Payments/Operating Revenue (%)        | 6.6    | 9     | 25.0%                | 10.50            | 10.0%            | 1.05  |
| Cash Financing Surplus(Req)/Total Revenue (%)  | -2.8   | 9     | 25.0%                |                  |                  |       |
| Gross Operating Balance/Operating Revenue (%)  | 6.8    | 9     | 25.0%                |                  |                  |       |
| Net Working Capital/Total Expenditures         | -22.5  | 15    | 25.0%                |                  |                  |       |
| Factor 4: Debt Profile                         |        |       |                      |                  |                  |       |
| Net Direct and Indirect Debt/Operating Revenue | 99.4   | 6     | 50.0%                | 6.00             | 10.0%            | 0.60  |
| Short-Term Direct Debt/Direct Debt (%)         | 14.4   | 3     | 25.0%                |                  |                  |       |
| Net Debt/Operating Revenue Trend               | 2.8    | 9     | 25.0%                |                  |                  |       |
| Factor 5: Governance & Management              |        |       |                      |                  |                  |       |
| Fiscal Management                              | 1      | 1     | 40.0%                | 1.00             | 10.0%            | 0.10  |
| Investment & Debt Management                   | 1      | 1     | 20.0%                |                  |                  |       |
| Transparency & Disclosure (A)                  | 1      | 1     | 15.0%                |                  |                  |       |
| Transparency & Disclosure (B)                  | 1      | 1     | 15.0%                |                  |                  |       |
| Institutional Capacity                         | 1      | 1     | 10.0%                |                  |                  |       |
| Factor 6: Economic Fundamentals                |        |       |                      |                  |                  |       |
| Regional or Local GDP pc PPP -                 | 33,671 | 1     | 100.0%               | 1.00             | 10.0%            | 0.10  |

|                  |  |  |  |  |  |   |
|------------------|--|--|--|--|--|---|
| estimated (\$US) |  |  |  |  |  |   |
| Estimated BCA    |  |  |  |  |  | 3 |



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# Manitoba, Province of

Canada

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## Summary Rating Rationale

The Province of Manitoba's Aa1 rating reflects the province's sound fiscal plan, which has produced generally balanced fiscal outcomes in recent years. While moderate cash requirements have increased the province's stock of debt, additions to debt have been broadly in line with economic and revenue growth, keeping the province's debt burden relatively stable. The province's fiscal flexibility is high and the proportion of revenue consumed by interest payments remains low at an estimated 5.9% in 2009-10. The Aa1 rating is also supported by the province's diversified economy, which tends to underperform the Canadian average in boom years, but outperform in years of weak economic conditions, providing a measure of stability.

## National and International Peer Comparisons

The Province of Manitoba is rated in the mid-range of Canadian provinces, whose ratings remain in a narrow range of Aaa-Aa2. Manitoba's debt burden, while higher than that of some of its Western Canadian peers, remains below the Canadian median. Moreover, the province's diversified economy and resulting stability positions the province well relative to Canadian peers. On an international basis of comparison, Manitoba benefits from a higher degree of fiscal flexibility than many of its international sub-sovereign peers—including the highly-rated Australian states and German Länder—owing to the institutional framework within which Canadian provinces operate, supporting the high investment-grade rating.

## Rating Outlook

The outlook is stable.

## Key Rating Considerations

### Financial Position and Performance

#### Strong and Stable Fiscal Results in Recent Years

Manitoba recorded a series of positive consolidated fiscal outcomes in recent years, owing to the province's containment of expense growth below revenue growth in most years. Between 2004-05 and 2008-09, consolidated surpluses averaged 4.3% of revenue, or 1.1% of GDP. As such, Manitoba's record of strong fiscal performance positioned the province well as the Canadian economy entered the recent downturn.

Manitoba's economic outperformance in 2008 relative to Canada was reflected in the province's 2008-09 fiscal results. While both revenue and expense growth slowed to 3.8% and 4.9% respectively, the province recorded a consolidated surplus of C\$470 million, equivalent to 3.6% of revenue or 0.9% of GDP. This is in contrast to other provinces, whose finances were hit harder by the impacts of the downturn. On a cash basis of accounting, the consolidated surplus in 2008-09 translated into a financing requirement of C\$440 million, or 3.4% of revenue (0.9% of GDP). This reflects primarily the accrual accounting presentation and the difference between amortization and cash outlays required for capital expenditures.

#### Some Deterioration but Expected to Return to Balance by 2014-15

The Manitoba economy recorded a small contraction in 2009 and in the fiscal year 2009-10, revenues were estimated to have contracted by 3.2% over the previous year, owing primarily to declines in tax receipts. Total expenses were estimated to have risen by 4.9%, resulting in a projected consolidated deficit of C\$555 million in 2009-10, equivalent to about 4.4% of revenues or 1.1% of GDP.

The 2010-11 Budget projected a slight narrowing of the deficit to C\$545 million in 2010-11 as revenues start to recover along with the economy. The Budget also outlined the province's plan to return to balance by 2014-15. Concomitantly, the provincial government has made amendments to its balanced budget legislation in order to extend the period required to get back to balance to five years.<sup>1</sup> Revenue growth over the projection period is forecast to average 2.9%, while expenses are projected to grow by 1.8% over the same period. Expense growth restraint appears ambitious in light of recent experience as expenses grew at an estimated average annual growth rate of 6.2% from 2007-08 to 2009-10.<sup>2</sup> While the province has stated that expense restraint measures will include managing salary costs, reducing discretionary spending and prioritization of expenditures, specific measures have not yet been clearly outlined, and we will continue to monitor the province's progress in its consolidation plans. Nonetheless, Manitoba has a strong track record of fiscal prudence and is expected to continue with these fiscal management practices.

<sup>1</sup> The amendments to the *Balanced Budget, Fiscal Management and Taxpayer Accountability Act* specify an "economic recovery period" from April 1, 2010 to March 31, 2014 at the latest, after which the legal requirement to have balanced budgets is retained.

<sup>2</sup> This figure adjusts for the consolidation of school boards in 2007-08.

## Debt Profile

### Debt Ratios Rising Moderately but Still Manageable

While the province's net direct and indirect debt is estimated to have risen to approximately C\$14 billion at March 31, 2010 from roughly C\$10 billion at March 31, 2005, this has roughly matched the growth in nominal GDP and provincial revenues. As a percentage of GDP, net direct and indirect debt remained relatively stable, hovering around 25% between 2004-05 to 2009-10, while this measure of debt as a percentage of revenue grew marginally over this period. Though debt has increased somewhat recently and is expected to increase over the near term, these debt ratios are considered manageable for Manitoba given the high degree of fiscal policy flexibility inherent in the institutional framework governing the way Canadian provinces operate.

The province's debt affordability remains high, as evidenced by the declining proportion of revenues consumed by interest costs, which declined to 5.9% in 2009-10 from 7.6% in 2004-05, largely as a result of lower interest rates. In the early years of the current decade, this ratio measured over 12%. This improvement in debt affordability illustrates the province's heightened shock-absorption capacity.

Foreign currency exposure has been eliminated on the province's debt portfolio for all but debt associated with Manitoba Hydro (discussed below). Manitoba Hydro, by virtue of its exports of hydroelectric power to the United States, has a natural hedge against USD-CAD currency fluctuations. Floating rate exposure, excluding short-term instruments and current maturities, was roughly 10% at March 31, 2010.

### Significant Borrowing for Manitoba Hydro, but Self-Supported

Roughly one third of the province's total direct and indirect debt is attributed to Manitoba Hydro and is considered to be self-supporting. This Crown Corporation's ability to meet its own financial obligations without recourse to provincial subsidies is a positive credit attribute for the province. In our view, the likelihood that the contingent liability represented by Manitoba Hydro's debt would materialize remains relatively remote.

Manitoba Hydro is currently planning for significant future capital expenditures with a view to increasing its generation and transmission capacity to meet domestic demand as well as to exploit export opportunities over the next 25-30 years. These projects include the 200MW Wuskwatim Generating Station, which has an estimated total capital cost of C\$1.6 billion (including the generation and transmission components) and is scheduled to come into service in December 2011. Other projects include the larger Keeyask (695MW) and Conawapa (1,485 MW) generating stations, with in-service dates estimated at 2018 (earliest) and 2022 respectively, as well as the construction of a third high voltage direct current line (Bipole III), targeted to be in service in 2017/18. The Bipole III line would allow power to be carried from new generation stations to southern parts of the province and to export markets. Manitoba Hydro intends to cover base capital expenditures with internally-generated funds from operations and to use external debt financing to fund expansion projects, requiring significant new debt financing over the next decade. We will continue to monitor developments with Manitoba Hydro's capital plan to ensure that our conclusion regarding the self-supporting status of the utility's debt remains appropriate.

### Province Addressing Pension Liabilities

In 2007-08, the province debt-financed C\$1.5 billion of the Teachers' Retirement Allowance Fund (TRAF) unfunded liability. Investments held for the TRAF and the Civil Service Superannuation Fund (CSSF), which totaled C\$2.2 billion in 2007-08, were reclassified and irrevocably restricted for pension purposes in 2008-09. As a result of the debt-funding of pension liabilities, the province's unfunded pension obligations declined to an estimated C\$1.8 billion at the end of 2009-10 (14.5% of revenue), from C\$3.3 billion at March 31, 2004 (32.9% of revenue). The government expects to continue this policy of debt-funding pension liabilities. We consider unfunded pension liabilities as debt-like and take them into account when establishing a government's credit profile. As such, we view Manitoba's debt-funding of unfunded pension liabilities as credit-neutral.

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### Governance and Management Factors

Manitoba, over the past several years, has relied on multi-year fiscal planning, prudent economic and revenue assumptions and ongoing expense restraint to maintain a strong financial profile. Overall, Manitoba displays strong governance and management factors. Fiscal management measures are supported by comprehensive and transparent financial reporting that is typical of governments in advanced industrial economies.

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### Economic Fundamentals

#### Diverse Economy and Stable Growth Strengthen Credit Profile

The Manitoba economy is highly diversified, which helps to reduce economic volatility associated with business cycles and certain specific local industries. The service sector—including finance and insurance, real estate, public administration and transportation—accounts for over 70% of real economic output, contributing to the province's overall economic diversity.

Manufacturing accounts for the largest share of the goods-producing sector, representing 11% of real GDP. The recent economic slowdown proved a considerable challenge for the Canadian manufacturing industry, with manufacturing output declining by about 12% in 2009. Manitoba's manufacturing sector, however, fared slightly better than the national average, recording a contraction of around 9%. The nature of Manitoba's manufacturing sector, which includes niche areas such as aerospace and transit buses, and its high level of diversification have helped it face difficult external conditions.

After underperforming the national average through the first part of the last decade (which saw relatively strong economic growth in Canada), real GDP declined 0.9% in 2009, outperforming the national average (contraction of 2.5%). Manitoba is less exposed to the US economy than most Canadian provinces; the province's exports to the United States account for approximately 67% of its foreign exports, compared to approximately 75% for the Canadian economy as a whole. As a result, the province was less affected by the recent US slowdown than Ontario or Quebec, which are more exposed to the health of the US economy. In further contrast to other provinces, Manitoba was one of only three provinces to record gains in employment, albeit modest, in 2009.

The Manitoba economy tends to underperform the Canadian economy in times of rapid economic growth and to outperform in economic slowdowns. The province's high degree of economic diversity—which implies the absence of a dominant sector that could act as a catalyst for growth in boom years and represent a drag on the provincial economy in recessions—is one factor that could

explain these trends. The province's economic diversity represents a major source of credit strength, ensuring a broad and productive tax base for the government.

As with the other provinces and the Canadian economy as a whole, Manitoba's economy is expected to resume growth in 2010 (provincial forecasts project growth of 2.5%). Though unemployment ticked up in 2009, Manitoba's labour market remains relatively tight as the 2009 unemployment rate of 5.2% was one of the lowest in the country and well below the national average of 8.3%. The population and labour force also continue to expand through net in-migration, particularly international immigration.

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### Operating Environment

The national operating environment in which Manitoba operates is typical of advanced industrial economies, characterized by high GDP per capita, low GDP volatility and a high ranking on the World Bank's Government Effectiveness Index, all of which suggest a minimal level of systemic economic, financial and political risk. As evidenced by Canada's record of continued economic expansion and political stability, the macroeconomic environment is robust and federal government institutions are responsive. Accordingly, the conditions that have historically preceded national crises associated with widespread defaults of regional and local governments are not present in Canada.

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### Institutional Framework

The Province of Manitoba, like all Canadian provinces, enjoys significant flexibility in its financial management. Compared to their counterparts in other countries, such as the German Länder and the Australian states, Canadian provinces enjoy far greater autonomy in terms of both the spending and revenue sides of their budgets. Unfettered access to a broad range of tax bases and the ability to alter expenditure programs provide Canadian provinces with substantial flexibility to meet fiscal challenges. As such, Canadian provinces benefit from a high degree of fiscal policy flexibility that is more akin to that of sovereign governments than to many of their international sub-sovereign peers. These positive institutional factors increase Canadian provinces' ability to manage through economic downturns and handle relatively high debt burdens. In conjunction with the high degree of fiscal flexibility, a system of fiscal transfers from the federal government, which seeks to reduce the fiscal disparities across the country, also provides support to Canadian provinces' creditworthiness.

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### Application of Joint-Default Analysis

The Aa1 rating assigned to Manitoba reflects the application of Moody's joint-default analysis methodology for regional and local governments. The province's rating is composed of two principal inputs: a baseline credit assessment of 3 (on a scale of 1-21, in which 1 represents the lowest level of credit risk) and a very high likelihood of extraordinary support from the federal government (rated Aaa, stable) to prevent a default by Manitoba, or any province. The very high likelihood of support reflects Moody's assessment of the incentive provided by the risk to the federal government's reputation if Manitoba, or any province, were to default, as well as indications of a moderately positive national government policy stance, as illustrated by the flexibility inherent in the system of federal provincial transfers.

Rating History

| Province of Manitoba |        |
|----------------------|--------|
| DATE                 | RATING |
| November 2006        | Aa1    |
| January 2003         | Aa2    |
| September 1998       | Aa3    |
| May 1985             | A1     |
| September 1975       | Aa     |
| October 1968         | A      |



## Annual Statistics

| <b>Province of Manitoba</b>                          |               |               |               |               |               |
|--|---------------|---------------|---------------|---------------|---------------|
| <b>DEBT STATEMENT (C\$ MILLIONS, AS AT 3/31)</b>     | <b>2006</b>   | <b>2007</b>   | <b>2008</b>   | <b>2009</b>   | <b>2010F</b>  |
| Treasury Bills and Promissory Notes                  | 325           | 325           | 850           | 1,185         | 1,500         |
| Canada Pension Plan                                  | 756           | 606           | 597           | 492           | 480           |
| Direct Debentures                                    | 18,237        | 18,923        | 20,252        | 20,906        | 22,314        |
| Other  | 1,021         | 1,047         | 756           | 742           | 358           |
| <b>Total Direct Debt</b>                             | <b>20,339</b> | <b>20,901</b> | <b>22,455</b> | <b>23,325</b> | <b>24,652</b> |
| <b>Guaranteed Debt</b>                               |               |               |               |               |               |
| Manitoba HydroBonds and Promissory Notes             | 485           | 670           | 347           | 398           | 251           |
| Other Guarantees                                     | 83            | 87            | 94            | 92            | 102           |
| <b>Total Direct and Indirect Debt</b>                | <b>20,907</b> | <b>21,658</b> | <b>22,896</b> | <b>23,815</b> | <b>25,005</b> |
| Less:  |               |               |               |               |               |
| Manitoba Hydro                                       | 6,625         | 6,640         | 7,142         | 7,836         | 8,289         |
| Manitoba HydroBonds and Promissory Notes             | 485           | 670           | 347           | 398           | 251           |
| Direct Debt Sinking Fund                             | 3,918         | 4,118         | 3,334         | 2,741         | 2,582         |
| <b>Net Direct and Indirect Debt</b>                  | <b>9,879</b>  | <b>10,230</b> | <b>12,073</b> | <b>12,840</b> | <b>13,883</b> |
| <b>DEBT TRENDS (AS AT 3/31)</b>                      |               |               |               |               |               |
| Net Direct and Indirect Debt (C\$ millions)          | 9,879         | 10,230        | 12,073        | 12,840        | 13,883        |
| As % GDP   | 23.7          | 22.7          | 24.8          | 25.3          | 27.7          |
| As % Personal Income                                 | 29.3          | 28.7          | 31.8          | 32.0          | 34.2          |
| Per Capita (C\$)                                     | 8,384         | 8,640         | 10,116        | 10,647        | 11,361        |
| As % Total Revenues                                  | 92.1          | 93.7          | 97.1          | 99.4          | 111.0         |
| Total Direct and Indirect Debt                       | 20,907        | 21,658        | 22,896        | 23,815        | 25,005        |
| % Hydro Debt   | 31.7          | 30.7          | 31.2          | 32.9          | 33.1          |
| Total Foreign Currency Debt (Before Hedges)          | 5,672         | 6,286         | 5,890         | 6,178         | 5,158         |
| As % Total Direct and Indirect Debt                  | 27.1          | 29.0          | 25.7          | 25.9          | 20.6          |
| Foreign Currency Debt Net of Hedges (C\$ Millions)   | 2,838         | 2,804         | 2,706         | 3,005         | 2,426         |
| As % Total Direct and Indirect Debt                  | 13.6          | 12.9          | 11.8          | 12.6          | 9.7           |
| Short-Term Debt                                      | 2247.0        | 1941.0        | 3118.0        | 3364.0        | 3141.0        |
| As % of Total Direct and Indirect Debt               | 10.7          | 9.0           | 13.6          | 14.1          | 12.6          |
| Actuarial Pension Liability (Surplus) (C\$ millions) | 3,430         | 3,460         | 2,300         | 2,003         | 1,813         |
| As % of GDP  | 8.2           | 7.7           | 4.7           | 3.9           | 3.6           |
| As % of Revenue                                      | 32.0          | 31.7          | 18.5          | 15.5          | 14.5          |
| Total Employer Cash Contributions [1]                | 319           | 426           | 1,976         | 155           | 466           |
| As % of Revenue                                      | 3.0           | 3.9           | 15.9          | 1.5           | 3.7           |

[1] In 2008 this includes a special contribution of C\$1.5 billion, which was borrowed in the capital markets by the province to fund pension plans.



| <b>Province of Manitoba</b>  |               |               |               |               |                |
|--|---------------|---------------|---------------|---------------|----------------|
| <b>CONSOLIDATED REVENUES AND EXPENSES<br/>(C\$ MILLIONS, YEAR ENDING 3/31)</b> | <b>2007</b>   | <b>2008</b>   | <b>2009</b>   | <b>2010F</b>  | <b>2011B</b>   |
| <b>Revenues</b>  |               |               |               |               |                |
| Personal Income Tax  | 2,130         | 2,285         | 2,455         | 2,654         | 2,421          |
| Corporate Income Tax   | 311           | 367           | 386           |               | 247            |
| Payroll Tax (Health and Education)   | 318           | 341           | 357           |               | 282            |
| Retail Sales Tax   | 1,277         | 1,391         | 1,486         |               | 1,669          |
| Net Income of Government Business Enterprises                                  | 627           | 946           | 807           | 687           | 699            |
| Federal Transfers  | 3,317         | 3,597         | 3,866         | 4,072         | 4,126          |
| Other  | 2,940         | 3,510         | 3,558         | 5,089         | 3,278          |
| <b>Total Revenues</b>  | <b>10,920</b> | <b>12,437</b> | <b>12,915</b> | <b>12,502</b> | <b>12,720</b>  |
| <b>Expenses</b>  |               |               |               |               |                |
| Health   | 4,005         | 4,224         | 4,586         | 4,851         | 5,085          |
| Family Services and Housing  | 1,142         | 1,224         | 1,321         | 1,321         | 1,326          |
| Education  | 2,397         | 3,218         | 3,154         | 3,240         | 3,419          |
| Community, Economic and Resource Development                                   | 1,280         | 1,406         | 1,582         | 1,834         | 1,819          |
| Debt Service   | 835           | 815           | 830           | 739           | 767            |
| Other  | 831           | 974           | 972           | 1,072         | 848            |
| <b>Total Expenses</b>  | <b>10,490</b> | <b>11,861</b> | <b>12,445</b> | <b>13,057</b> | <b>13,264</b>  |
| <b>Consolidated Surplus/(Deficit)</b>  | <b>430</b>    | <b>576</b>    | <b>470</b>    | <b>(555)</b>  | <b>(545)</b>   |
| <b>Cash Financing Surplus/(Requirement)</b>                                    | <b>365</b>    | <b>(560)</b>  | <b>(440)</b>  | <b>(913)</b>  | <b>(1,317)</b> |
| <b>FINANCIAL TRENDS (YEAR ENDING 3/31)</b>                                     |               |               |               |               |                |
| <b>2006</b>  | <b>2007</b>   | <b>2008</b>   | <b>2009</b>   | <b>2010F</b>  |                |
| % Change in Revenue  | 6.8           | 1.8           | 13.9          | 3.8           | (3.2)          |
| As a % of Revenue  |               |               |               |               |                |
| Consolidated Surplus (Deficit)   | 3.5           | 3.9           | 4.6           | 3.6           | (4.4)          |
| Cash Financing Surplus (Requirement)   | (1.7)         | 3.3           | (4.5)         | (3.4)         | (7.3)          |
| Interest Expense   | 7.4           | 7.6           | 6.6           | 6.4           | 5.9            |
| Intergovernmental Transfers  | 28.9          | 30.4          | 28.9          | 29.9          | 32.6           |
| % Change in Expenses   | 9.6           | 1.4           | 13.1          | 4.9           | 4.9            |
| As a % of Expenses   |               |               |               |               |                |
| Health   | 37.2          | 38.2          | 35.6          | 36.9          | 37.2           |
| Education  | 22.9          | 22.9          | 27.1          | 25.3          | 24.8           |
| Interest Expense   | 7.6           | 8.0           | 6.9           | 6.7           | 5.7            |
| As a % of GDP  |               |               |               |               |                |
| Revenues   | 25.8          | 24.3          | 25.5          | 25.7          | 24.9           |
| Expenses   | 24.9          | 23.3          | 24.3          | 24.7          | 26.0           |
| Consolidated Surplus (Deficit)   | 0.9           | 1.0           | 1.2           | 0.9           | (1.1)          |
| Cash Financing Surplus (Requirement)   | (0.4)         | 0.8           | (1.1)         | (0.9)         | (1.8)          |
| Health Expenses  | 9.3           | 8.9           | 8.7           | 9.1           | 9.7            |
| Expenses Per Capita (C\$)  | 8,784         | 8,860         | 9,938         | 10,319        | 10,685         |

**Province of Manitoba**

| <b>ECONOMIC TRENDS (YEAR ENDING 12/31)</b> | <b>2005</b> | <b>2006</b> | <b>2007</b> | <b>2008</b> | <b>2009</b> |
|--|-------------|-------------|-------------|-------------|-------------|
| Population in 1000s                        | 1,178       | 1,184       | 1,194       | 1,206       | 1,222       |
| Real GDP (2002 C\$ millions)               | 38,603      | 39,880      | 41,394      | 42,079      | 41,685      |
| % Growth                                   | 2.0         | 3.3         | 3.8         | 1.7         | -0.9        |
| Nominal GDP (C\$ millions)                 | 41,512      | 44,957      | 48,727      | 50,324      | 50,200      |
| % Growth                                   | 4.4         | 8.3         | 8.4         | 3.3         | -0.2        |
| Personal Income (C\$ millions)             | 33,705      | 35,600      | 38,024      | 40,198      | 40,597      |
| Per Capita (C\$)                           | 28,605      | 30,067      | 31,859      | 33,332      | 33,222      |
| As % Canadian Average                      | 89.2        | 88.5        | 89.3        | 90.7        | 91.2        |
| Personal Disposable Income (C\$)           | 26,386      | 28,028      | 29,841      | 31,911      | 32,393      |
| As % Personal Income                       | 78.3        | 78.7        | 78.5        | 79.4        | 79.8        |
| Employment Growth (%)                      | 0.6         | 1.2         | 1.6         | 1.7         | 0.0         |
| Participation Rate                         | 68.6        | 68.8        | 69.4        | 69.6        | 69.4        |
| Unemployment Rate                          | 4.8         | 4.3         | 4.4         | 4.2         | 5.2         |
| Manufacturing Shipments (C\$ millions)     | 13,688      | 14,862      | 16,168      | 16,378      | 14,568      |
| Housing Starts (units)                     | 4,731       | 5,028       | 5,738       | 5,537       | 4,174       |
| Retail Sales (C\$ millions)                | 12,372      | 12,874      | 14,016      | 14,980      | 14,915      |
| Per Capita (C\$)                           | 10,500      | 10,873      | 11,743      | 12,421      | 12,205      |
| CPI, All Items                             | 106.6       | 108.7       | 110.9       | 113.4       | 114.1       |
| Inflation Based on CPI % Change            | 2.7         | 2.0         | 2.0         | 2.3         | 0.6         |

## Moody's Related Research

### Credit Opinion:

- » [Canada, May 2010](#)

### Special Comments:

- » [Canadian Provinces: Conditions Remain Challenging, February 2010 \(122837\)](#)
- » [Moody's 2010 Outlook for Sub-Sovereigns, January 2010 \(121563\)](#)

### Statistical Handbook:

- » [Non-U.S. Regional and Local Governments, June 2010 \(125279\)](#)

### Rating Methodologies:

- » [Regional and Local Governments Outside the US, May 2008 \(107844\)](#)
- » [The Application of Joint-Default Analysis to Regional and Local Governments, December 2008 \(99025\)](#)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not

Report Number: 126909

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CAC-MSOS/MH (I)-19QUESTION:

- a) Please provide the most recent Standard and Poor's, Moody's, Dominion Bond Rating Service (DBRS), and Canadian Bond Rating Service (CBRS) reports on Manitoba Hydro bonds.

ANSWER:

Attached are the most recent reports from Standard and Poor's, Moody's and DBRS on Manitoba Hydro bonds. No reports have been received in recent years from CBRS.

The last paragraph of the Standard and Poor's report contains some inaccuracies with respect to Manitoba Hydro's capital expenditure program. Manitoba Hydro has provided Standard and Poor's with corrected information.

January 31, 1991

**BOND RATINGS****DBRS**

Report #10990

Rating "A"

Province of Manitoba

**Summary** Although the Province had two good years in containing budgetary deficits (it actually had a small surplus in 1989) and even managed to reduce tax rates in the process, we expect deficits to grow, exceeding \$300 million in 1991, and growing even greater than this in 1992 due to: (1) A weakening economy. (2) Slowing transfer payments from the Federal Government. (3) Growing health and social assistance payments. However, the commitment to control government expenditure levels is there, and we expect that the size of the deficits through 1993 will largely be established by success in expenditure controls in a difficult economic environment.

**Trends** Manitoba, in the 1982-1987 period, had very high deficits, rising from \$251 million to \$560 million during this period. This changed in 1988 and 1989 for several main reasons: (1) A sharp rise in equalization payments from the Federal Government helped by the Ontario economy, and rising tax rates in Ontario (almost half the weighting in the equalization formula is based on the tax revenue collected in Ontario), together with some changes in the basic equalization formula. (2) A substantial rise in mining taxes collected, with most of these taxes coming from Inco's nickel operation in Manitoba. About 60% of revenue of mining companies in Manitoba comes from Inco's operations with these operations benefiting from very high nickel prices. (3) A strong economy, plus tax increases in the 1987 budget, contributed to higher personal income tax and retail sales taxes in the year following this budget. (4) A change in attitude in respect to expenditure, as much more severe controls on government expenditures were initiated. (5) The change in government in 1988 resulted in tax reductions in such areas as personal income taxes and larger exemption limits on the payroll tax. The Province actually experienced a surplus in 1989, but problems are beginning to develop which will result in rising deficits in fiscal 1991 and 1992: (1) The economy is slowing - this means a reduction in revenue collected, and higher social assistance, and other expenditure. (2) Health costs in particular are rising by 10% per year and every province in Canada, including Manitoba, is having difficulty containing these. (3) Social assistance expenditure is growing about 10% annually, particularly as the economy weakens. (4) Debt charges are continuing to grow and are estimated to amount to \$537 million in fiscal 1991. These debt charges are directly related to the very large government deficits which were accumulated in the 1982 - 1987 period, with interest costs now amounting to about 11% of government expenditure. The Province is also a 'high tax' province, currently having among the highest personal and corporate (we consider the payroll tax as a corporate tax) tax rates in Canada and its capacity to raise tax rates, if it wishes to remain tax competitive, is limited. Thus, expenditure controls will be the key to the containment of future deficits. Also, at 35% of total revenue, transfer payments from the Federal Government constitute one of the highest in Canada outside the Maritime Provinces. The Federal Government, with its large deficits, has limited capacity to continue to make high transfer payments at the growth rates existing in the past and we expect a slowing here.

**Budget - 1991** The Government was late in presenting its 1990 budget due to an extended 1989 legislative session, various problems associated with a minority government, a September election and the subsequent change to a majority government. The budget, presented in Oct. 1990, showed minimal tax changes or new programs. Key changes in expenditure growth were increases in health and social assistance programs, with good controls initiated over all segments of government expenditure. The lack of a budget froze expenditure at levels prevailing the previous year, and acted as a form of expenditure constraint. The fact that the estimated deficit is near \$366 million for fiscal 1991, despite the natural expenditure constraints, shows how difficult it is for Manitoba to contain its deficit when the economy weakens. The very high interest costs, near \$537 million, directly result from high government deficits between 1982 - 1987.

**Other Factors** (1) The economy of Manitoba is quite diversified and it usually does not experience the highs and lows of other provinces. (2) The expansion of companies such as Boeing and the transportation industry are examples of successes in the Province.

|            |   |     |
|------------|---|-----|
| Debt Rated | All long term liabilities issued or guaranteed by the Province of Manitoba. | "A" |
|            | All long term liabilities issued by:  |     |
|            | The Manitoba Hydro-Electric Board   | "A" |
|            | The Manitoba Telephone System   | "A" |

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Attachment

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RS

## Province of Manitoba

| B | Summary                        | (\$ millions) | Budget<br>1991 | Preliminary<br>1990 | Budget<br>1990 | 1989  | 1988  | 1987  |
|---|--------------------------------|---------------|----------------|---------------------|----------------|-------|-------|-------|
|   | Expenditure                    |               | 5,081          | 4,802               | 4,766          | 4,484 | 4,263 | 3,946 |
|   | Revenue                        |               | 4,715          | 4,658               | 4,629          | 4,543 | 4,039 | 3,387 |
|   | Net deficit bef. extra. items  |               | 366            | 144                 | 137            | (59)  | 224   | 559   |
|   | Extraordinary items            |               | 0              | 0                   | 77             | 0     | (75)  | 0     |
|   | Net deficit (surplus)          |               | 366            | 144                 | 60             | (59)  | 299   | 559   |
|   | Less: Capital expenditure      |               | 311            | 286                 | 298            | 281   | 253   | 249   |
|   | Net def.(surp.) bef. cap.exp.  |               | 55             | (142)               | (238)          | (340) | 46    | 310   |
|   | Revenue                        |               |                |                     |                |       |       |       |
|   | Personal income tax            |               | 1,128          | 1,031               | 1,039          | 1,030 | 989   | 760   |
|   | Retail sales tax               |               | 630            | 621                 | 625            | 595   | 567   | 463   |
|   | Corporate income tax           |               | 173            | 152                 | 167            | 201   | 167   | 119   |
|   | Corporate capital tax          |               | 77             | 73                  | 62             | 60    | 58    | 41    |
|   | Insurance corporation tax      |               | 24             | 23                  | 23             | 22    | 21    | 19    |
|   | Payroll tax                    |               | 180            | 191                 | 181            | 199   | 188   | 127   |
|   | Gasoline & motive fuel tax     |               | 189            | 191                 | 193            | 187   | 191   | 173   |
|   | Liquor control commission      |               | 140            | 145                 | 153            | 150   | 152   | 142   |
|   | Lottery revenues               |               | 66             | 52                  | 0              | 0     | 0     | 0     |
|   | Tobacco taxes                  |               | 113            | 117                 | 112            | 99    | 94    | 92    |
|   | Lottery rev.& pari mutuel tax  |               | 7              | 5                   | 5              | 15    | 5     | 5     |
|   | Energy tax & recip. tax agree. |               | 62             | 63                  | 65             | 62    | 59    | 46    |
|   | Oil & mineral taxes            |               | 57             | 128                 | 191            | 162   | 42    | 61    |
|   | Other natural resource taxes   |               | 51             | 44                  | 47             | 40    | 47    | 45    |
|   | Permit & licenses              |               | 168            | 150                 | 155            | 140   | 135   | 122   |
|   | of goods & serv. & other       |               | 21             | 15                  | 16             | 13    | 11    | 11    |
|   | Total own source revenue       |               | 3,086          | 3,001               | 3,034          | 2,975 | 2,726 | 2,226 |
|   | Equalization payment           |               | 896            | 909                 | 853            | 863   | 621   | 508   |
|   | Other federal sources          |               | 733            | 748                 | 742            | 705   | 692   | 653   |
|   | Total federal revenue          |               | 1,629          | 1,657               | 1,595          | 1,568 | 1,313 | 1,161 |
|   | Total revenue                  |               | 4,715          | 4,658               | 4,629          | 4,543 | 4,039 | 3,387 |
|   | Expenditures                   |               |                |                     |                |       |       |       |
|   | Health                         |               | 1,671          | 1,524               | 1,557          | 1,429 | 1,337 | 1,238 |
|   | Social welfare                 |               | 605            | 561                 | 543            | 507   | 499   | 440   |
|   | Education                      |               | 935            | 89                  | 857            | 808   | 757   | 696   |
|   | Agriculture                    |               | 112            | 61                  | 88             | 94    | 71    | 67    |
|   | Highway and transportation     |               | 235            | 230                 | 225            | 217   | 201   | 197   |
|   | Natural resources              |               | 110            | 150                 | 99             | 111   | 92    | 83    |
|   | Other econ. & resource devel.  |               | 102            | 89                  | 119            | 111   | 154   | 160   |
|   | Direct local gov. assistance   |               | 137            | 131                 | 135            | 120   | 103   | 96    |
|   | Manitoba property tax credit   |               | 251            | 248                 | 249            | 236   | 210   | 205   |
|   | Hydro rate stabilization       |               | 0              | 0                   | 0              | 44    | 53    | 70    |
|   | Allowance for losses           |               | 6              | 5                   | 3              | 22    | 14    | 0     |
|   | Justice, admin. & other        |               | 440            | 413                 | 389            | 344   | 281   | 283   |
|   | Debt charges                   |               | 537            | 486                 | 552            | 441   | 491   | 411   |
|   | Year end lapse                 |               | (60)           | 0                   | (50)           | 0     | 0     | 0     |
|   | Total exp. before extra. items |               | 5,081          | 4,802               | 4,766          | 4,484 | 4,263 | 3,946 |
|   | Extraordinary items            |               | 0              | 0                   | 0              | 0     | 75    | 0     |
|   | Total expenditures             |               | 5,081          | 4,802               | 4,766          | 4,484 | 4,338 | 3,946 |
|   | Capital expenditures           |               | 311            | 286                 | 298            | 281   | 253   | 249   |
|   | Operating expenditures         |               | 4,770          | 4,516               | 4,468          | 4,203 | 4,085 | 3,697 |
|   | Total expenditures             |               | 5,081          | 4,802               | 4,766          | 4,484 | 4,338 | 3,946 |

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Attachment  
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# Province of Manitoba

| Sheet (\$ millions) March 31     | 1989   | 1988  | 1987  | Liabilities                            | 1989   | 1988  | 1987  |
|----------------------------------|--------|-------|-------|--|--------|-------|-------|
| <b>Assets</b>                    |        |       |       | <b>Amount owing to Trust Fund</b>      | 1,162  | 842   | 570   |
| Cash and investments             | 1,368  | 848   | 625   | <b>Bk. overdraft &amp; Prom. Notes</b> |        | 0     | 0     |
| Accounts receivable              | 179    | 175   | 137   | <b>Accts. pble., accr. charges,</b>    |        |       |       |
| Advances and other receiv.       | 4,143  | 3,595 | 2,986 | <b>and funds subj. to call</b>         | 359    | 346   | 368   |
| Gov't of Cda and oth.            | 67     | 76    | 94    | <b>Prov. for currency fluctuat.</b>    |        |       |       |
| Long term investments            | 170    | 174   | 158   | <b>Manitoba Hydro debt</b>             | 286    | 153   | 239   |
|                                  | 5,927  | 4,868 | 4,000 | <b>Total</b>                           | 1,807  | 1,341 | 1,177 |
| <b>Less valuation allowances</b> | 214    | 206   | 58    | <b>Long term debt</b>                  | 10,107 | 9,743 | 8,583 |
| <b>Total</b>                     | 5,713  | 4,662 | 3,942 | <b>Less: Sinking Funds</b>             | 1,502  | 1,295 | 1,055 |
|                                  |        |       |       | <b>Net debt</b>                        | 8,605  | 8,448 | 7,528 |
| <b>Cummulative deficit</b>       | 4,588  | 4,461 | 3,804 | <b>Provision for unrealized</b>        |        |       |       |
|                                  |        |       |       | <b>foreign currency losses</b>         | (111)  | (666) | (959) |
|                                  | 10,301 | 9,123 | 7,746 |  | 10,301 | 9,123 | 7,746 |

| Public Sector Debt (\$ millions) March 31  | 1990   | 1989   | 1988   | 1987   | 1986  | 1985  |
|--|--------|--------|--------|--------|-------|-------|
| General provincial programs  | 4,278  | 5,116  | 5,014  | 4,459  | 3,685 | 2,959 |
| Crown corp. & Government agenc.  | 1,137  | 890    | 904    | 884    | 833   | 668   |
| Municipalities   | 617    | 561    | 523    | 505    | 448   | 448   |
| Schools and universities   | 291    | 279    | 259    | 228    | 224   | 230   |
| Hospitals  | 463    | 429    | 404    | 361    | 298   | 302   |
| Non self support. debt   | 6,786  | 7,275  | 7,104  | 6,437  | 5,488 | 4,607 |
| Self sustaining debt):   |        |        |        |        |       |       |
| Manitoba Hydro   | 3,912  | 3,935  | 3,715  | 3,418  | 3,264 | 2,921 |
| Manitoba Telephone   | 701    | 710    | 737    | 702    | 638   | 532   |
| <b>Total public sector debt</b>  | 11,399 | 11,920 | 11,556 | 10,557 | 9,390 | 8,060 |
| <b>Total Public Sector Debt</b>  | 10,506 | 10,996 | 10,710 | 9,857  | 8,825 | 7,640 |
| Per Capita   | 49.7%  | 55.8%  | 59.0%  | 57.2%  | 53.0% | 48.8% |
| As a % of G.D.P.   |        |        |        |        |       |       |
| <b>Total Non Self Supporting Debt</b>  | 6,254  | 6,711  | 6,584  | 6,010  | 5,158 | 4,367 |
| Per Capita   | 29.6%  | 34.1%  | 36.3%  | 34.9%  | 31.0% | 27.9% |
| As a % of G.D.P.   |        |        |        |        |       |       |
| <b>Total Non Self Supporting Debt (Incl. pes. Liabil.)</b>                               | 7,452  | 7,910  | 7,788  | 7,223  | 6,379 | 5,598 |
| Per Capita   | 35.3%  | 40.3%  | 43.0%  | 42.0%  | 38.5% | 35.9% |
| As a % of G.D.P.   |        |        |        |        |       |       |
| <b>Total Non Self Supporting Debt Excluding Municipalities</b>                           | 5,686  | 6,194  | 6,099  | 5,539  | 4,737 | 3,942 |
| Per Capita   | 26.9%  | 31.5%  | 33.6%  | 32.1%  | 28.5% | 25.2% |
| As a % of G.D.P.   |        |        |        |        |       |       |
| <b>Total Non Self Supporting Debt and Pension Liabilities (Excluding Municipalities)</b> | 6,883  | 7,392  | 7,303  | 6,752  | 5,958 | 5,173 |
| Per Capita   | 32.7%  | 37.7%  | 40.3%  | 39.3%  | 35.9% | 33.2% |
| As a % of G.D.P.   |        |        |        |        |       |       |

Pension fund liabilities are estimated for some years.

| Unfunded Pension Liabilities (\$ millions) | Latest Valuation  |
|--|-------------------|
| Service                                    | Dec. 31, 1988 393 |
| ers  | Dec. 31, 1988 597 |
| Manitoba Hydro                             | Mar. 31, 1990 219 |
| Manitoba Telephone                         | Dec. 31, 1989 116 |
| <b>Total</b>                               | <b>1,325</b>      |



CAC-MSOS/MH(I) 19(a)

Attachment

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**DBRS**

## Province of Manitoba

## Per Capita (\$)

|                             | Budget<br>1991 | Preliminary<br>1990 | Budget<br>1990 | 1989  | 1988  | 1987  |
|-----------------------------|----------------|---------------------|----------------|-------|-------|-------|
| Total tax revenue           | 2,472          | 2,422               | 2,438          | 2,408 | 2,196 | 1,779 |
| Own source revenue          | 2,831          | 2,766               | 2,796          | 2,744 | 2,526 | 2,078 |
| Federal government payments | 1,494          | 1,527               | 1,470          | 1,446 | 1,217 | 1,084 |
| Total revenue               | 4,326          | 4,293               | 4,266          | 4,191 | 3,743 | 3,162 |
| Total expenditure           | 4,661          | 4,426               | 4,393          | 4,137 | 3,951 | 3,684 |

## As a % of G.D.P.

|                             | 1991  | 1990  | 1990  | 1989  | 1988  | 1987  |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Total tax revenue           | 11.2% | 11.5% | 11.5% | 12.2% | 12.1% | 10.3% |
| Own source revenue          | 12.9% | 13.1% | 13.2% | 13.9% | 13.9% | 12.1% |
| Federal government payments | 6.8%  | 7.2%  | 7.0%  | 7.3%  | 6.7%  | 6.3%  |
| Total revenue               | 19.6% | 20.3% | 20.2% | 21.3% | 20.6% | 18.3% |
| Total expenditure           | 21.2% | 20.9% | 20.8% | 21.0% | 21.8% | 21.4% |

## Expenditure Ratios

|                                  | 1991  | 1990  | 1990  | 1989  | 1988  | 1987  |
|----------------------------------|-------|-------|-------|-------|-------|-------|
| Health exp./Total exp.           | 32.9% | 31.7% | 32.7% | 31.9% | 31.4% | 31.4% |
| Social services exp./Total exp.  | 11.9% | 11.7% | 11.4% | 11.3% | 11.7% | 11.2% |
| Education exp./Total exp.        | 18.4% | 18.7% | 18.0% | 18.0% | 17.8% | 17.6% |
| Health servicing exp./Total exp. | 10.6% | 10.1% | 11.6% | 9.8%  | 11.5% | 10.4% |
| Other exp./Total exp.            | 6.1%  | 6.0%  | 6.3%  | 6.3%  | 5.8%  | 6.3%  |

## Revenue Ratios

|                                  | 1991  | 1990  | 1990  | 1989  | 1988  | 1987  |
|----------------------------------|-------|-------|-------|-------|-------|-------|
| Total tax rev./Total rev.        | 57.2% | 56.4% | 57.1% | 57.5% | 58.7% | 56.2% |
| Corporate tax rev./Total rev.    | 9.6%  | 9.4%  | 9.4%  | 10.6% | 10.7% | 9.0%  |
| Personal tax rev./Total rev.     | 23.9% | 22.1% | 22.4% | 22.7% | 24.5% | 22.4% |
| Retail sales tax rev./Total rev. | 13.4% | 13.3% | 13.5% | 13.1% | 14.0% | 13.7% |

## General Ratios

|                               | 1991  | 1990  | 1990  | 1989   | 1988  | 1987  |
|-------------------------------|-------|-------|-------|--------|-------|-------|
| Revenues/Expenditures         | 92.8% | 97.0% | 97.1% | 101.3% | 94.7% | 85.8% |
| Health expenditure/Revenue    | 35.4% | 32.7% | 33.6% | 31.5%  | 33.1% | 36.6% |
| Education expenditure/Revenue | 19.8% | 19.3% | 18.5% | 17.8%  | 18.7% | 20.5% |
| Int. costs/Own source revenue | 17.4% | 16.2% | 18.2% | 14.8%  | 18.0% | 18.5% |
| Interest costs/Revenue        | 11.4% | 10.4% | 11.9% | 9.7%   | 12.2% | 12.1% |
| Net budget deficit/G.D.P.     | 1.5%  | 0.6%  | 0.6%  | -0.3%  | 1.1%  | 3.0%  |
| Net budget deficit per capita | 336   | 133   | 126   | (54)   | 208   | 522   |

## Economic Statistics

Year ended on or closest to March 31

|                               | 1991   | 1990   | 1989   | 1988   | 1987   | 1986   |
|-------------------------------|--------|--------|--------|--------|--------|--------|
| Population (000's)            | 1,090  | 1,085  | 1,084  | 1,079  | 1,071  | 1,064  |
| Personal income (\$ millions) | n/a    | 20,407 | 18,944 | 17,710 | 16,515 | 15,664 |
| GDP (\$ millions)             | 24,000 | 22,947 | 21,347 | 19,597 | 18,468 | 17,706 |
| Consumer price index          | n/a    | 4.7%   | 4.2%   | 4.2%   | 4.5%   | 4.2%   |
| Housing starts                | n/a    | 4,084  | 5,455  | 8,174  | 7,699  | 6,557  |



Insight beyond the rating.

## Rating Report

### Report Date:

September 25, 2009

### Previous Report:

December 15, 2008

# Province of Manitoba

## Analysts

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## The Province

Manitoba is located in Central Canada and ranks fifth among Canadian provinces by population and ranks sixth in terms of GDP. The Province is home to significant renewable energy resources with almost all power generated from water.

## Recent Actions

December 15, 2008

Confirmed

## Rating

| Debt             | Rating       | Rating Action | Trend  |
|------------------|--------------|---------------|--------|
| Short-Term Debt* | R-1 (middle) | Confirmed     | Stable |
| Long-Term Debt*  | A (high)     | Confirmed     | Stable |

\* Issued / guaranteed by the Province, including Manitoba Hydro-Electric Board

## Rating Update

DBRS has confirmed the Long- and Short-Term Debt ratings of the Province of Manitoba (Manitoba or the Province) at A (high) and R-1 (middle), respectively. The trend on both ratings remains Stable, although DBRS notes that the Province is weathering the recession better than most of its peers. Manitoba's continued spending discipline and its resilient economy has helped to limit fiscal erosion and debt growth, leaving the Province well positioned to further improve its already sound credit profile when the economic recovery gains momentum.

Manitoba is one of only two provinces that have planned for a fiscal surplus in 2009-10, budgeted at \$48 million. While this translates into a DBRS-adjusted deficit of \$573 million, or 1.1% of GDP, it nonetheless represents a sound outlook in relation to the challenging global economic environment and the difficulties experienced by provincial peers. Only a modest decline in revenues is expected, while expenditure growth will be limited at 4.2%, driven by health, education and capital spending initiatives. This follows a better-than-expected result in 2008-09, when a DBRS-adjusted surplus of \$129 million was posted, demonstrating the Province's commitment to prudent fiscal management. The current plan points to another DBRS-adjusted deficit of around \$600 million for 2010-11, after which DBRS expects the Province to return to balance, provided the economic recovery takes hold as suggested by private sector forecasts. (Continued on page 2.)

## Rating Considerations

### Strengths

- (1) Resilient and well-diversified economy
- (2) Manageable debt burden
- (3) Prudent fiscal management practices
- (4) Abundant low-cost hydro electricity

### Challenges

- (1) Containing growth in health care costs
- (2) High reliance on federal transfers
- (3) Revenue volatility introduced by Manitoba Hydro

## Financial Information

| (all financial figures DBRS adjusted) | For the year ended March 31 |         |         |         |         |
|---------------------------------------|-----------------------------|---------|---------|---------|---------|
|                                       | 2009-10B                    | 2008-09 | 2007-08 | 2006-07 | 2005-06 |
| Debt* (\$ millions)                   | 15,558                      | 14,503  | 14,234  | 13,907  | 13,518  |
| Debt*/GDP                             | 31.2%                       | 28.5%   | 29.3%   | 31.0%   | 32.6%   |
| Surplus (deficit) (\$ millions)       | (573)                       | 129     | (192)   | 240     | 308     |
| Surplus (deficit)/GDP                 | (1.1%)                      | 0.3%    | (0.4%)  | 0.5%    | 0.7%    |
| Interest costs/total revenue          | 2.9%                        | 2.5%    | 2.9%    | 3.1%    | 3.1%    |
| Federal transfers/total revenue       | 29.7%                       | 28.1%   | 28.0%   | 27.5%   | 27.2%   |
| Nominal GDP (\$ millions)             | 49,919                      | 50,886  | 48,549  | 44,911  | 41,517  |
| Real GDP growth rate                  | (0.2%)                      | 2.4%    | 3.3%    | 4.0%    | 2.4%    |
| Unemployment rate                     | 5.4%                        | 4.2%    | 4.4%    | 4.3%    | 4.8%    |

\* DBRS-defined: tax-supported debt + unfunded pension liabilities. B = Budget; P = Projected.

Source: Province of Manitoba, Statistics Canada, and DBRS calculations.


**Province of  
Manitoba**

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**Rating Update** (Continued from page 1.)

After falling to 28.5% of GDP in 2008-09, the fourteenth straight year of decline, Manitoba's debt-to-GDP ratio is expected to rise to 31.2% in 2009-10. This is a relatively modest deterioration when compared with the pace of debt accumulation in most other provinces and is consistent with DBRS's expectation that the Province could weather the downturn without considerable erosion to its debt profile. Debt will continue growing in 2010-11 but, assuming a modest economic recovery, the debt-to-GDP ratio should peak at 32% before fiscal balance is restored. This is a significant improvement from the last recession in 1991, when the Province experienced deficits approaching 3.0% of GDP and added 10% to its debt-to-GDP ratio.

Following solid real GDP growth of 2.4% in 2008, the second best performance of all provinces, Manitoba is again expected to outperform most provinces in 2009, as the private sector consensus points to only a 0.4% contraction in real GDP, demonstrating the resilience of the provincial economy. A growing service sector and a fairly diverse manufacturing base will support economic activity, aided by the Province's four-year, \$4.7 billion capital plan. For 2010, the private sector consensus points to real GDP growth of 2.0%, although DBRS believes there is still considerable uncertainty with respect to the timing and pace of the recovery. DBRS also notes that after ten years in power, Premier Gary Doer recently announced his intention to resign this fall. Policy continuity appears likely, however, especially since no election is due before 2011, although the upcoming change in leadership adds an element of uncertainty to the outlook. DBRS remains of the view that stabilizing economic conditions, continued fiscal prudence and an improving debt outlook could have positive implications for the Long-Term Debt rating at the next review.

**Rating Considerations Details**
**Strengths**

(1) Manitoba's economy has proven very resilient over the years and has generated steady growth. With a fairly diversified manufacturing base and meaningful finance, insurance, health care, government and transportation sectors, the provincial economy shows less volatility than its manufacturing and resource-reliant neighbours. The Province has one of the lowest unemployment rates in the country and a below-average reliance on international exports.

(2) The Province's debt burden has been on a steady declining trend for the past 14 years and stood at 28.5% of GDP at March 31, 2009, the fourth lowest among all provinces. While this trend is expected to reverse temporarily in the current year, the erosion should be relatively limited, keeping Manitoba's debt burden manageable. A relatively smooth maturity profile and predominantly Canadian dollar denominated fixed rate debt help to mitigate interest and foreign exchange rate risk.

(3) Through transparent financial reporting practices and enhanced quarterly updates, Manitoba exhibits prudent stewardship of its fiscal resources which has resulted in DBRS-adjusted surpluses in four of the last five years, a performance matched by few other provinces.

(4) Manitoba benefits from an abundance of low-cost hydro electricity resulting in some of the lowest electricity rates in North America. This gives the Province a distinct advantage when competing for new business investment.

**Challenges**

(1) Limiting the rate of growth in health care costs remains a challenge for all provinces, including Manitoba. Over the past five years, health care expenditures have risen by an average of 6.8% and the Province aims to keep spending growth contained to 2.6% in 2009-10, which could prove challenging in light of salary and wage increases historically needed to retain and attract health care professionals.

(2) Federal transfers comprised over 28% of total revenues in 2008-09, highlighting Manitoba's vulnerability to changes in transfer programs. In particular, changes announced last fall to limit growth in the equalization program will result in no increase in equalization entitlement for 2009-10.



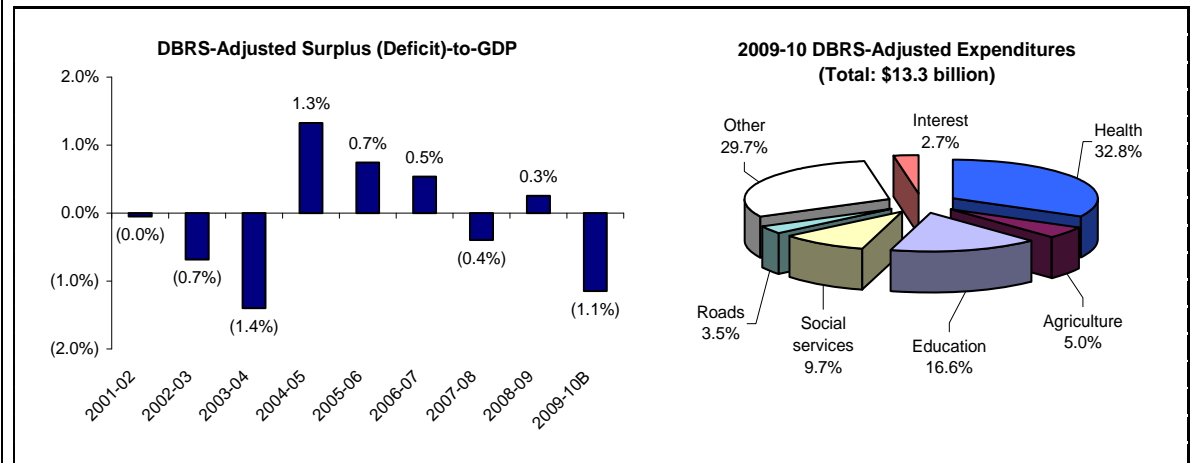
## Province of Manitoba

### Report Date:

September 25, 2009

(3) Manitoba Hydro's financial results exhibit considerable volatility due to the significant dependence on water flows. While this renewable, low-cost energy source is a boon to the Province, it adds an element of volatility to Manitoba's fiscal results and is difficult to forecast.

## 2009-10 Budget



Manitoba's resilience and prudent fiscal management is evident in its 2009 budget, which calls for a surplus of \$48 million. This translates into a deficit of \$573 million or 1.1% of GDP on a DBRS-adjusted basis (recognizing capital expenditures on a pay-as-you-go basis rather than as amortized), but is, nonetheless, a sound performance given the significant fiscal challenges affecting all provinces. Total revenues are forecast to fall by a modest 1.3%. Own-source revenues are expected to fall by 3.5% owing to lower personal and corporate income tax collections as well as reduced mining taxes. Providing an offset to lower tax receipts, federal transfers are budgeted to rise by 4.4%, supported by statutory increases in health and social transfers and additional funds for infrastructure renewal. As a result of the federal government's decision to limit growth in the size of the equalization program, Manitoba's equalization payments will remain flat, at \$2.1 billion, in 2009-10.

DBRS-adjusted total expenditures are budgeted to grow by 4.2% as the Province provides targeted increases for education and infrastructure programs. Additional funds will be allocated for health care to address demand pressures and cost inflation. Upcoming labour negotiations with nurses could add to salary pressures while spending reductions in other program areas will provide a partial offset. Following through on a capital plan announced in November 2008, the Province plans to invest \$4.7 billion over four years in capital renewal projects. This includes \$1.1 billion in capital projects for the current year, up 16.6% from \$978 million in 2008-09.

### Outlook

The first quarter update (at June 30, 2009) points to a better-than expected performance thus far, with weaker revenues (down by \$77 million) more than offset by lower spending (down by \$132 million). However, this is largely attributed to timing differences rather than an improving forecast. The Province plans to provide an updated year-end projection in its second quarter report later this fall and DBRS expects that costs associated with the Red River flood earlier this spring and H1N1 preparedness could cause a deterioration in fiscal results.

According to the medium-term outlook, as presented in the budget, the Province plans for another small surplus in 2010-11 of \$34 million. This is likely to result in a DBRS-adjusted deficit of around \$600 million based on another strong year of capital spending. The 2009-10 budget only presents a two-year fiscal outlook, unlike the four-year outlook presented in past budgets. Nevertheless, DBRS expects Manitoba to continue to exhibit disciplined fiscal management. Combined with the somewhat favourable economic outlook of the Province, this should reduce the risk of a prolonged period of weak fiscal results typical of recessionary times.



Province of  
Manitoba

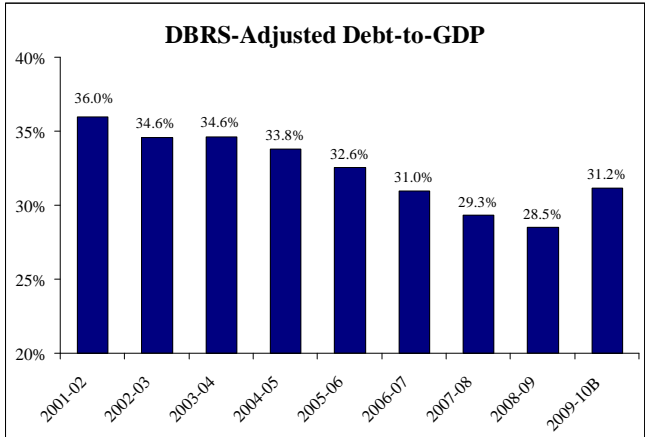
Report Date:  
September 25, 2009

2008-09 Results

Year-end results indicate the Province posted a small DBRS-adjusted surplus of \$129 million, or 0.3% of GDP, in 2008-09. This was notably better than the \$365 million deficit originally expected and was a result of healthy Manitoba Hydro earnings and personal and corporate taxation, which helped drive total revenues up 6.6% over the prior year. Federal transfers also provided a boost to revenue as equalization payments rose 13.0% year-over-year.

Total expenditures grew by 3.9% over the prior year. Health, education and social services accounted for the bulk of the increase, although most other program areas also experienced growth. Capital spending fell by 4.3% compared to 2007-08 as some planned projects experienced weather-related delays.

Debt Profile



Manitoba’s financial profile continued on its gradually improving trend in 2008-09. DBRS-adjusted debt, defined as tax-supported debt plus unfunded pension liabilities, grew by \$269 million, or 2%, in 2008-09. Capital funding needs accounted for the bulk of new debt. Growth in nominal GDP more than offset growth in debt, resulting in the fourteenth straight decline in Manitoba’s debt-to-GDP to 28.5% from a high of 47.8% in 1994-95.

For 2009-10, the pace of debt growth is expected to accelerate to 7.3%, representing an increase of \$1.1 billion from the previous year. Weaker fiscal conditions and borrowing needs

for hospitals and crown corporations will account for the increase. Additional debt, along with a contraction in nominal GDP, will result in a debt-to-GDP ratio of 31.2%, marking the first increase in fifteen years. Consolidated borrowing requirements are estimated at \$3.3 billion for the year, of which \$1.6 billion had already been fulfilled at the time of this report. Roughly \$1.5 billion will be required for refinancing needs with the remainder being used to finance capital spending, pension contributions and the debt needs of Manitoba Hydro. The Province maintains a relatively smooth maturing profile, modest floating rate debt and no foreign currency debt; all of which help to provide stability to debt servicing obligations.

Outlook

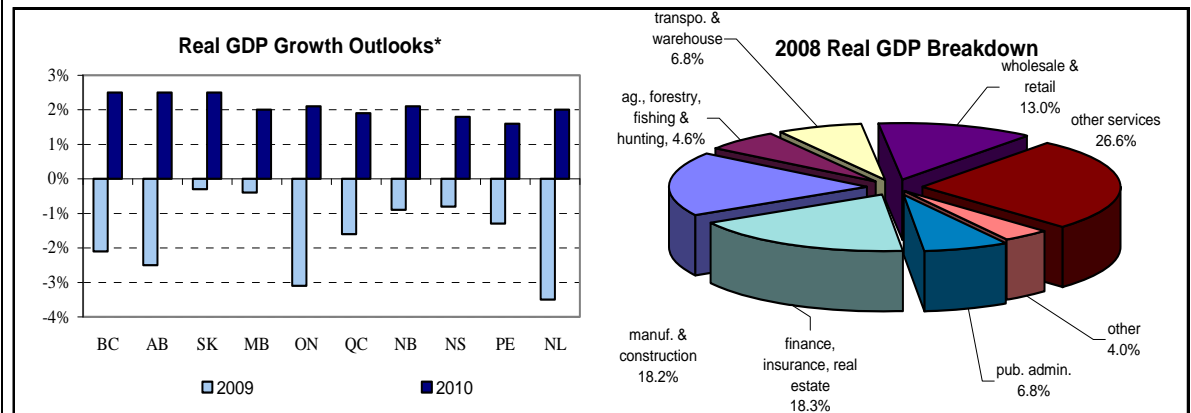
DBRS notes that while the increase in debt interrupts a trend of gradually improving debt metrics, it nonetheless is a relatively solid performance in relation to other provinces where debt is growing at faster rates. This is in part due to a more resilient economy and sound fiscal management, and positions the Province well to return to an improving debt trend following a recovery in economic conditions. Although a further deficit of roughly \$600 million in 2010-11 will drive debt growth, assuming a modest economic recovery, debt-to-GDP should peak at 32% before fiscal balance is restored and a downward trend is resumed.



## Province of Manitoba

**Report Date:**  
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## Economy



\* Based on the Conference Board's and major Canadian banks' forecasts at the time of this report.

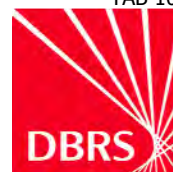
In 2008, Manitoba experienced real growth of 2.4%, a solid performance in light of deteriorating economic conditions across the country. Manitoba's resilience has been evident over the last ten years, having achieved the lowest standard deviation in real GDP growth of all provinces. Thanks in part to a relatively diversified manufacturing base that produces a wide range of products, including transit buses, aerospace components, farm and rail equipment, the economic downturn has not been as severe as in other manufacturing-intensive provinces. Finance, agriculture and mining sectors also play an important role in the provincial economy, though results were mixed in 2008. A growing population and steady employment growth led to relatively solid housing starts, only down 3.5% in 2008 compared to a decline of 7.6% nationally, and strong growth in retail sales of 7.2%, the third-highest among all provinces.

### Outlook

For 2009, the private sector consensus calls for a contraction in real GDP of 0.4%, which is slightly weaker than the budget planning assumption of -0.2%. This is the second best growth outlook among provinces and implies only a mild recession in Manitoba. On a seasonally-adjusted basis, Manitoba boasted the second lowest provincial unemployment rate in August 2009, at 5.7%, while retail trade had seen a relatively small decline of 0.2% as of July 2009, compared with a 4.9% decline nationally. As a result of the Province's four-year \$4.7 billion capital plan, investment will remain strong in the current year. Based on the July 28, 2009 Capital Expenditures Survey, non-residential construction and machinery and equipment spending intentions are expected to fall 2.4%, which compares favourably with a 10.4% decline nationally. DBRS notes, however, that there could be some downside risks to the current outlook as the financial impact of the Red River flood earlier this year and the H1N1 virus outbreak have yet to be quantified.

The 2010 private sector consensus points to real growth of 2.0%, although DBRS notes that considerable uncertainty remains with respect to the timing and pace of the global economic recovery. Manitoba is expected to continue building on its strengths with a growing service sector, including a regional distribution hub, and supportive manufacturing and agricultural industries. The Province has proven its resilience through this downturn, which provides considerable support to the credit profile.




**Province of  
Manitoba**
**Report Date:**

September 25, 2009

**Economic Statistics**

For the year ended December 31

|                                 | 2010P  | 2009P  | 2008   | 2007   | 2006   | 2005   | 2004   |
|---------------------------------|--------|--------|--------|--------|--------|--------|--------|
| Nominal GDP (\$ millions)       | 51,716 | 49,919 | 50,886 | 48,549 | 44,911 | 41,517 | 39,748 |
| Nominal GDP growth              | 3.6%   | -1.9%  | 4.8%   | 8.1%   | 8.2%   | 4.5%   | 6.1%   |
| Real GDP growth                 | 2.0%   | -0.2%  | 2.4%   | 3.3%   | 4.0%   | 2.4%   | 2.2%   |
| Population (thousands)          | 1,226  | 1,217  | 1,208  | 1,194  | 1,184  | 1,178  | 1,174  |
| Population growth               | 0.7%   | 0.8%   | 1.2%   | 0.8%   | 0.5%   | 0.4%   | 0.8%   |
| Employment (thousands)          | 607    | 604    | 607    | 597    | 587    | 580    | 577    |
| Unemployment rate               | 6.0%   | 5.4%   | 4.2%   | 4.4%   | 4.3%   | 4.8%   | 5.3%   |
| Housing starts (units)          | 4,250  | 3,950  | 5,537  | 5,738  | 5,028  | 4,731  | 4,440  |
| Retail sales (\$ millions)      | n/a    | n/a    | 15,017 | 14,008 | 12,870 | 12,381 | 11,692 |
| Inflation rate (CPI)            | 2.0%   | 0.6%   | 2.3%   | 2.0%   | 2.0%   | 2.7%   | 2.0%   |
| Personal income per capita (\$) | n/a    | n/a    | 33,330 | 32,106 | 30,179 | 28,722 | 27,834 |

Sources: Statistics Canada (actuals), Manitoba Finance, CMHC, and DBRS estimates. P= Projected. n.a. = not available.

**Province of Manitoba**

|   | <u>Budget</u> |         | <u>Budget</u> |         | <u>Budget</u> |         |
|---|---------------|---------|---------------|---------|---------------|---------|
|   | 2009-10       | 2008-09 | 2008-09       | 2007-08 | 2006-07       | 2005-06 |
| <b>Budget Summary*</b> (\$ millions)              |               |         |               |         |               |         |
| Revenue   | 12,728        | 12,891  | 12,303        | 12,093  | 11,363        | 10,711  |
| Program expenditure                               | 12,938        | 12,445  | 12,300        | 11,939  | 10,774        | 10,067  |
| Program surplus (deficit)                         | (210)         | 446     | 3             | 154     | 589           | 644     |
| Interest expense                                  | (363)         | (317)   | (368)         | (346)   | (349)         | (336)   |
| <b>DBRS-Adjusted Surplus (Deficit)</b>            | (573)         | 129     | (365)         | (192)   | 240           | 308     |
| DBRS adjustments:                                 |               |         |               |         |               |         |
| Capital expenditures less amortization            | 621           | 341     | 461           | 376     | 245           | 85      |
| Other non-recurring items, incl. assets sales     | 0             | 0       | 0             | 374     | 0             | 0       |
| Surplus (deficit), as reported                    | 48            | 470     | 96            | 558     | 485           | 394     |
| Tax-supported debt + unfunded pension liabilities | 15,558        | 14,503  | 14,690        | 14,234  | 13,907        | 13,518  |
| Gross borrowing requirements (all entities)       | 3,253         | 3,322   | 2,783         | 3,104   | 2,708         | 2,868   |
| Gross capital expenditure                         | 1,140         | 978     | 865           | 1,022   | 771           | 575     |

Note: Historical DBRS-adjusted results have been revised to improve comparability with other provinces.

\* DBRS adjusts reported figures to exclude certain non-recurring items (e.g. asset sales). DBRS also recognizes capital expenditures as incurred, rather than as amortized, to improve inter-provincial comparability.

**Selected Financial Indicators (DBRS-Adjusted)**

|  |        |       |        |        |       |       |
|--|--------|-------|--------|--------|-------|-------|
| Debt*/GDP                              | 31.2%  | 28.5% | 28.9%  | 29.3%  | 31.0% | 32.6% |
| Surplus (deficit)/GDP                  | (1.1%) | 0.3%  | (0.7%) | (0.4%) | 0.5%  | 0.7%  |
| Surplus (deficit)/total revenue        | (4.5%) | 1.0%  | (3.0%) | (1.6%) | 2.1%  | 2.9%  |
| Interest costs/total revenue           | 2.9%   | 2.5%  | 3.0%   | 2.9%   | 3.1%  | 3.1%  |
| Total tax revenues/total revenue       | 41.9%  | 42.9% | 42.9%  | 43.8%  | 43.4% | 43.0% |
| Federal transfers/total revenue        | 29.7%  | 28.1% | 29.4%  | 28.0%  | 27.5% | 27.2% |
| Program expenditures/total revenue     | 101.6% | 96.5% | 100.0% | 98.7%  | 94.8% | 94.0% |
| Health expenditures/total expenditures | 32.8%  | 33.3% | 33.7%  | 31.8%  | 32.9% | 33.1% |
| Program expenditure growth             | 4.0%   | 4.2%  | 3.0%   | 10.8%  | 7.0%  | 8.4%  |
| Total expenditure growth               | 4.2%   | 3.9%  | 3.1%   | 10.4%  | 6.9%  | 8.3%  |
| Total revenue growth                   | (1.3%) | 6.6%  | 1.7%   | 6.4%   | 6.1%  | 5.7%  |

\* DBRS-defined: tax-supported debt + unfunded pension liabilities.

**Background Political Information**

Party in power: New Democratic Party

Legislature seats:

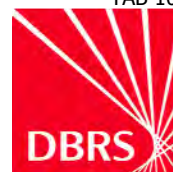
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Premier: Gary Doer\*

Election to be held by:

October 2011

\*Announced plans to resign as of fall 2009.


**Province of  
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**Province of Manitoba**

|  | <u>Budget</u>  |                | <u>Budget</u>  |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|----------------|
|  | <u>2009-10</u> | <u>2008-09</u> | <u>2008-09</u> | <u>2007-08</u> | <u>2006-07</u> | <u>2005-06</u> |
| <b>Revenue</b> (\$ millions)                   |                |                |                |                |                |                |
| Personal income tax                            | 2,343          | 2,455          | 2,312          | 2,285          | 2,130          | 1,949          |
| Retail sales tax                               | 1,595          | 1,569          | 1,549          | 1,473          | 1,357          | 1,280          |
| Corporate taxes                                | 910            | 979            | 830            | 939            | 846            | 870            |
| Gasoline & motive fuel tax                     | 221            | 229            | 227            | 248            | 241            | 236            |
| Tobacco taxes                                  | 194            | 190            | 170            | 191            | 202            | 192            |
| Energy, mining, and other taxes                | 65             | 110            | 189            | 158            | 152            | 81             |
| Total tax revenue                              | 5,327          | 5,532          | 5,278          | 5,294          | 4,927          | 4,607          |
| Lottery income                                 | 312            | 305            | 301            | 297            | 283            | 277            |
| Liquor control commission                      | 236            | 229            | 227            | 219            | 208            | 196            |
| Manitoba Hydro (4)                             | 265            | 314            | 160            | 346            | 122            | 415            |
| Natural resource levies                        | 162            | 146            | 139            | 150            | 139            | 154            |
| Fees, permits, licences, & other               | 315            | 335            | 294            | 289            | 270            | 277            |
| <b>Total Own-Source Revenue</b>                | <b>6,617</b>   | <b>6,860</b>   | <b>6,400</b>   | <b>6,594</b>   | <b>5,948</b>   | <b>5,927</b>   |
| Equalization payments                          | 2,063          | 2,063          | 2,063          | 1,826          | 1,709          | 1,601          |
| Canada health & social transfer                | 1,296          | 1,263          | 1,224          | 1,206          | 1,109          | 1,058          |
| Other federal transfers                        | 423            | 298            | 325            | 351            | 305            | 255            |
| <b>Total Federal Transfers</b>                 | <b>3,782</b>   | <b>3,624</b>   | <b>3,612</b>   | <b>3,383</b>   | <b>3,122</b>   | <b>2,914</b>   |
| Consolidation adjustments (1)                  | 2,329          | 2,407          | 2,291          | 2,116          | 2,292          | 1,870          |
| <b>DBRS-Adjusted Revenue</b>                   | <b>12,728</b>  | <b>12,891</b>  | <b>12,303</b>  | <b>12,093</b>  | <b>11,363</b>  | <b>10,711</b>  |
| <b>Expenditures</b> (\$ millions)              |                |                |                |                |                |                |
| Health   | 4,362          | 4,253          | 4,268          | 3,912          | 3,658          | 3,441          |
| Education and training                         | 2,207          | 2,067          | 2,092          | 1,960          | 1,847          | 1,728          |
| Social services                                | 1,285          | 1,259          | 1,279          | 1,160          | 1,077          | 1,018          |
| Justice  | 386            | 368            | 374            | 334            | 309            | 292            |
| Transportation & government services           | 464            | 442            | 456            | 418            | 390            | 368            |
| Agriculture, economic, & resource dev.         | 668            | 577            | 629            | 570            | 517            | 572            |
| Manitoba property & other tax credits          | 44             | 45             | 45             | 48             | 50             | 50             |
| Intergovernmental affairs                      | 232            | 333            | 336            | 251            | 225            | 200            |
| Other general government                       | 275            | 329            | 287            | 363            | 283            | 265            |
| Capital expenditures less amortization (2)     | 621            | 341            | 461            | 376            | 245            | 85             |
| Consolidation adjustment (1)                   | 2,460          | 2,431          | 2,136          | 2,546          | 2,172          | 2,047          |
| Other  | (65)           | -              | (65)           | -              | -              | -              |
| <b>DBRS-Adjusted Program Expenditures</b>      | <b>12,938</b>  | <b>12,445</b>  | <b>12,300</b>  | <b>11,939</b>  | <b>10,774</b>  | <b>10,067</b>  |
| <b>DBRS-Adjusted Program Surplus (Deficit)</b> | <b>(210)</b>   | <b>446</b>     | <b>3</b>       | <b>154</b>     | <b>589</b>     | <b>644</b>     |
| Net interest expense (3)                       | (363)          | (317)          | (368)          | (346)          | (349)          | (336)          |
| <b>DBRS-adjusted Expenditures</b>              | <b>13,301</b>  | <b>12,762</b>  | <b>12,668</b>  | <b>12,285</b>  | <b>11,123</b>  | <b>10,403</b>  |
| <b>DBRS-Adjusted Surplus (Deficit)</b>         | <b>(573)</b>   | <b>129</b>     | <b>(365)</b>   | <b>(192)</b>   | <b>240</b>     | <b>308</b>     |
| DBRS adjustments:                              |                |                |                |                |                |                |
| Capital expenditures less amortization (2)     | 621            | 341            | 461            | 376            | 245            | 85             |
| Non-recurring revenue (expenditure) (4)        | -              | -              | -              | 374            | -              | -              |
| Surplus (deficit), as reported                 | <b>48</b>      | <b>470</b>     | <b>96</b>      | <b>558</b>     | <b>485</b>     | <b>394</b>     |

Note: Expenditure categories may not be strictly comparable from year to year due to departmental reorganizations.

(1) 2006-07 and later years include school divisions which were previously excluded from public accounts.

(2) This adjustment converts capital expenditures to a pay-as-you-go basis.

(3) Interest expense is net of interest income generated by the Fiscal Stabilization and Debt Retirement Funds.

(4) Hydro net income excludes one-time impact of accounting change for recognition of FX gains and losses in prior years.

FX gains and losses are not included in budget figures but will impact actual results going forward.




**Province of  
Manitoba**
**Report Date:**

September 25, 2009

**Province of Manitoba**
**Balance Sheet (Consolidated Statement)**

| (\$ millions)                 | As at March 31 |        |        |                              | As at March 31 |         |         |
|-------------------------------|----------------|--------|--------|------------------------------|----------------|---------|---------|
|                               | 2009           | 2008   | 2007   | Liabilities                  | 2009           | 2008    | 2007    |
| <b>Financial Assets</b>       |                |        |        |                              |                |         |         |
| Cash and cash equivalents     | 2,657          | 2,694  | 2,704  | A/P and accrued charges      | 3,576          | 3,308   | 2,733   |
| Amounts receivable            | 1,110          | 1,177  | 1,103  | Debt (1)                     | 22,733         | 21,944  | 19,288  |
| Loans & advances (1)          | 8,603          | 7,887  | 7,411  | Unamortized for. exch. fluc. | (61)           | (67)    | (73)    |
| Equity in gov't enterprises   | 2,189          | 2,697  | 1,933  | Unfunded pension liability   | 2,003          | 4,470   | 4,190   |
| Net tangible capital assets   | 6,520          | 5,934  | 5,299  | Other liabilities            | -              | -       | -       |
| Other assets                  | 2,268          | 4,673  | 2,584  | <b>Total Liabilities</b>     | 28,251         | 29,655  | 26,138  |
| <b>Total Financial Assets</b> | 23,347         | 25,062 | 21,034 | <b>Accumulated Deficit</b>   | (4,904)        | (4,593) | (5,104) |
|                               |                |        |        | <b>Total Liabilities</b>     | 23,347         | 25,062  | 21,034  |

**Net Public Sector Debt\***

| (\$ millions)                           | As at March 31 |        |        |        |        |        |        |        |
|---|----------------|--------|--------|--------|--------|--------|--------|--------|
|   | 2010B          | 2009   | 2008   | 2007   | 2006   | 2005   | 2004   | 2003   |
| Net general purpose debt                | 10,415         | 9,660  | 9,059  | 7,463  | 7,210  | 7,130  | 7,049  | 6,650  |
| Crown corporation & gov't agencies      | 1,451          | 1,164  | 1,269  | 1,279  | 1,272  | 1,340  | 1,187  | 1,116  |
| Schools and universities                | 384            | 384    | 387    | 360    | 306    | 300    | 272    | 441    |
| Hospitals                               | 1,054          | 831    | 833    | 790    | 767    | 739    | 615    | 640    |
| Municipalities (2)                      | 476            | 476    | 476    | 524    | 502    | 550    | 544    | 539    |
| <b>Net Tax-Supported Debt</b>           | 13,780         | 12,516 | 12,025 | 10,416 | 10,057 | 10,059 | 9,667  | 9,386  |
| Self-supporting debt:                   |                |        |        |        |        |        |        |        |
| Manitoba Hydro                          | 8,247          | 7,575  | 6,796  | 6,636  | 6,524  | 6,615  | 6,649  | 6,344  |
| <b>Total net public sector debt</b>     | 22,027         | 20,091 | 18,821 | 17,052 | 16,581 | 16,674 | 16,316 | 15,729 |
| <b>Unfunded Pension Liabilities (3)</b> | 1,778          | 1,987  | 2,209  | 3,491  | 3,461  | 3,379  | 3,304  | 3,260  |

**Per Capita (CAD) (3)**

|   |        |        |        |        |        |        |        |        |
|---|--------|--------|--------|--------|--------|--------|--------|--------|
| Tax-supp. debt + unf. pension liabilities | 12,783 | 12,006 | 11,926 | 11,746 | 11,473 | 11,451 | 11,145 | 10,933 |
| <b>Total public sector debt</b>           | 18,097 | 16,632 | 15,769 | 14,402 | 14,072 | 14,208 | 14,019 | 13,599 |

**As a % of GDP (3)**

|   |       |       |       |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Tax-supp. debt + unf. pension liabilities | 31.2% | 28.5% | 29.3% | 31.0% | 32.6% | 33.8% | 34.6% | 34.6% |
| <b>Total public sector debt</b>           | 44.1% | 39.5% | 38.8% | 38.0% | 39.9% | 41.9% | 43.6% | 43.0% |

**Debt Breakdown by Currency (4)**

|             |     |      |      |      |      |      |      |     |
|-------------|-----|------|------|------|------|------|------|-----|
| Cdn\$ pay   | n/a | 100% | 100% | 100% | 100% | 100% | 100% | 97% |
| Non-CAD pay | n/a | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 3%  |

**Fixed/Floating Rate Debt Breakdown (4)**

|               |     |     |     |     |     |     |     |     |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Fixed rate    | n/a | 80% | 81% | 82% | 81% | 80% | 73% | 74% |
| Floating rate | n/a | 20% | 19% | 18% | 19% | 20% | 27% | 26% |

**Unfunded Pension Liabilities (Tax-Supported)**

| (CAD millions)                             | Valuation Date                             | Mar. 31, 2009 |
|--|--|---------------|
| Civil service (5)                          | Dec. 31, 2007                              | 1,197         |
| Teachers (5)                               | Jan. 1, 2006                               | 725           |
| Other plans (includes MLAs, judges, other) | Various                                    | 65            |
|  | Total liabilities:                         | 1,987         |
|  | Less pension assets: (incl. above)         |               |
|  | <b>Total Unfunded Pension Liabilities:</b> | 1,987         |

**Gross Debt Maturity Profile**

| Public Sector Debt |               |       |
|--------------------|---------------|-------|
|                    | (\$ millions) | %     |
| 2009-10            | 2,194         | 9.4%  |
| 2010-11            | 2,046         | 8.7%  |
| 2011-12            | 2,004         | 8.6%  |
| 2012-13            | 1,615         | 6.9%  |
| 2013-14            | 1,476         | 6.3%  |
| 2014-15 to 2018-19 | 5,633         | 24.0% |
| 2019-20+           | 8,461         | 36.1% |
| Total              | 23,429        | 100%  |

\* Net of sinking fund and Debt Retirement Fund assets. P = Projected; B = Budget; n/a = not applicable.

(1) Includes asset and liability items related to debt of The Manitoba Hydro-Electric Board and Manitoba Lotteries Corporation.

(2) Not guaranteed by the Province. DBRS estimate for 2009P; 2010B.

(3) Excludes pension liabilities of self-supporting Crown corporations.

(4) Net of hedges (if any).

(5) Civil Service includes amounts for indexation and unamortized pension adjustment; Teachers includes amount for indexation.


**Province of  
Manitoba**
**Report Date:**

September 25, 2009

**Rating**

| Debt             | Rating       | Rating Action | Trend  |
|------------------|--------------|---------------|--------|
| Short-Term Debt* | R-1 (middle) | Confirmed     | Stable |
| Long-Term Debt*  | A (high)     | Confirmed     | Stable |

\* Issued/guaranteed by the Province, including Manitoba Hydro-Electric Board

**Rating History**

|                 | Current         | 2008            | 2007            | 2006            | 2005      | 2004      |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------|-----------|
| Short-Term Debt | R-1<br>(middle) | R-1<br>(middle) | R-1<br>(middle) | R-1<br>(middle) | R-1 (low) | R-1 (low) |
| Long-Term Debt  | A (high)        | A (high)        | A (high)        | A (high)        | A (high)  | A (high)  |

**Related Research**

- [Canadian Provincial Government Fact Sheet](#), July 31, 2009.

**Note:**

All figures are in Canadian dollars unless otherwise noted.

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Insight beyond the rating.

## Rating Report

### Report Date:

October 8, 2010

### Previous Report:

September 25, 2009

# Province of Manitoba

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## The Province

Manitoba is located in Central Canada and ranks fifth among Canadian provinces by population and sixth in terms of GDP. The Province is home to significant renewable energy resources, with almost all power generated from water.

## Recent Actions

September 25, 2009

Confirmed

## Rating

| Debt             | Rating       | Rating Action | Trend  |
|------------------|--------------|---------------|--------|
| Short-Term Debt* | R-1 (middle) | Confirmed     | Stable |
| Long-Term Debt*  | A (high)     | Confirmed     | Stable |

\* Issued/guaranteed by the Province, including The Manitoba Hydro-Electric Board.

## Rating Update

DBRS has confirmed the long- and short-term debt ratings of the Province of Manitoba (Manitoba or the Province) at A (high) and R-1 (middle), respectively. The trend on both ratings remains Stable. A relatively resilient and diversified economy has resulted in only a modest deterioration in fiscal performance. While Manitoba's debt burden continues to grow, unwinding some of the positive momentum of recent years, the Province maintains considerable flexibility within its ratings and is well positioned to withstand a potentially prolonged period of slow economic growth.

In 2009-10, the Province recorded a deficit of \$201 million, weaker than the small surplus originally budgeted. This translates into a DBRS-adjusted deficit of \$685 million, or 1.4% of GDP – still a favourable result in relation to provincial peers. For the current fiscal year, the budget points to a deficit of \$545 million, or \$1.2 billion on a DBRS-adjusted basis. Despite improving economic conditions, total revenues are only budgeted to grow by a modest 0.6% in the current fiscal year, slower than the 4.4% increase in spending. Health care will account for the bulk of new spending as the Province aims to tightly manage growth in program costs and pursue labour agreements with no increases, which DBRS views as an ambitious target. The Province anticipates a return to balance by 2014-15, which equates to DBRS-adjusted deficits ranging from 2.0% to less than 1.0% of GDP.

DBRS-adjusted debt grew by \$1.4 billion in 2009-10, which pushed the debt-to-GDP ratio up to 31.6% from 28.9% a year earlier. Debt is expected to grow by a further \$1.4 billion in 2010-11, or 9.0%, taking the debt-to-GDP ratio to slightly above 33.0% and eroding some of the progress of recent years. (Continued on page 2.)

## Rating Considerations

### Strengths

- (1) Resilient and well-diversified economy
- (2) Manageable debt burden
- (3) Prudent fiscal management practices
- (4) Abundant low-cost hydro electricity

### Challenges

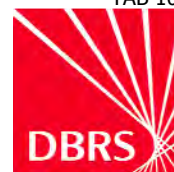
- (1) Containing growth in health-care costs
- (2) High reliance on federal transfers
- (3) Revenue volatility introduced by Manitoba Hydro

## Financial Information

| (all financial figures DBRS adjusted) | For the year ended March 31 |         |         |         |         |
|---------------------------------------|-----------------------------|---------|---------|---------|---------|
|                                       | 2010-11B                    | 2009-10 | 2008-09 | 2007-08 | 2006-07 |
| Debt* (\$ millions)                   | 17,486                      | 16,046  | 14,684  | 14,234  | 13,907  |
| Debt*/GDP                             | 33.1%                       | 31.6%   | 28.9%   | 29.2%   | 30.9%   |
| Surplus (deficit) (\$ millions)       | (1,194)                     | (685)   | 110     | (192)   | 240     |
| Surplus (deficit)/GDP                 | (2.3%)                      | (1.4%)  | 0.2%    | (0.4%)  | 0.5%    |
| Interest costs/total revenue          | 3.1%                        | 2.7%    | 2.6%    | 2.9%    | 3.1%    |
| Federal transfers/total revenue       | 29.5%                       | 29.1%   | 28.4%   | 28.0%   | 27.5%   |
| Nominal GDP (\$ millions)             | 52,762                      | 50,732  | 50,834  | 48,718  | 45,029  |
| Real GDP growth rate                  | 2.5%                        | (0.2%)  | 2.0%    | 3.6%    | 3.3%    |
| Unemployment rate                     | 5.7%                        | 5.2%    | 4.2%    | 4.4%    | 4.3%    |

\* DBRS-defined: tax-supported debt + unfunded pension liabilities. B = Budget.

Source: Province of Manitoba, Statistics Canada, and DBRS calculations.


**Province of  
Manitoba**

**Report Date:**  
October 8, 2010

**Rating Update** (Continued from page 1.)

An improving fiscal picture and gradual decline in capital needs is expected to result in debt-to-GDP peaking at around 34% in 2012-13. This represents a somewhat higher peak than what was assumed at the time of last year's review but is nonetheless very manageable within the rating.

After experiencing only a minor contraction in 2009, the Province is anticipating a modest recovery with real growth of 2.5% in 2010. Lower non-residential investment in the Province and reduced agricultural output due to a wet summer are likely to dampen growth prospects. However, improving demand for non-renewable resources and sound domestic demand, supported by a growing population, should provide an offset. For 2011, the Province has assumed growth of 3.0%, consistent with the current private sector average, which DBRS believes carries some downside risks related to the uncertain pace of global economic recovery, and the impact of a strong Canadian dollar on exports. Overall, soft fiscal results and recent debt accumulation have lessened some of the positive momentum of recent years, but DBRS believes that Manitoba's above-average economic and fiscal performance through the recent downturn leaves it well positioned to withstand a potentially uneven economic recovery.

**Rating Considerations Details**
**Strengths**

(1) Manitoba's economy has proven very resilient over the last decade and this was evident again in 2009 as real GDP fell by a mild 0.2% compared with a 2.6% decline nationally. With a fairly diversified manufacturing base and meaningful finance, health care, government and transportation sectors, the provincial economy shows less volatility than its manufacturing and resource-dependent neighbours. The Province has one of the lowest unemployment rates in the country and a below-average reliance on international exports.

(2) Manitoba's debt burden ended the 2009-10 fiscal year at 31.6% of GDP. This positions Manitoba with the fifth lowest debt burden among Canadian provinces and is a level that is very manageable within the rating. The Province maintains a relatively smooth maturity profile, no unhedged foreign currency debt and a moderate level of floating-rate debt, which adds stability to debt servicing costs.

(3) Through transparent financial reporting practices and regular quarterly updates, Manitoba exhibits prudent stewardship of its fiscal resources. This is evident in the Province's fiscal results, which exhibited a fairly stable and consistent performance for several years prior to the downturn and only mild erosion since.

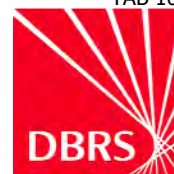
(4) Manitoba benefits from an abundance of low-cost hydro electricity, resulting in some of the lowest electricity rates in North America. This gives the Province a distinct advantage when competing for new business investment. Work on the \$1.6 billion Wuskwatim dam project is currently underway and will further add to Manitoba's supply of hydro electricity.

**Challenges**

(1) Growth in health-care spending remains one of the primary challenges for all provinces, including Manitoba. Over the last five years, spending on health has grown by 6.7% on average, including an estimated 5.8% in 2009-10. Going forward, health-care spending will continue to crowd out demands in other program areas as it accounts for the bulk of expenditure growth in the Province's medium-term plan.

(2) Federal transfers accounted for 29.1% of total revenues in 2009-10, highlighting Manitoba's vulnerability to changes in transfer programs. For the 2010-11 year, the federal government provided protection to ensure that major federal transfers to provinces did not decline year-over-year. However, Manitoba could experience a decline in equalization entitlements in the coming years, due to program growth limits introduced in 2008 and because of above-average fiscal performance through the recent downturn.

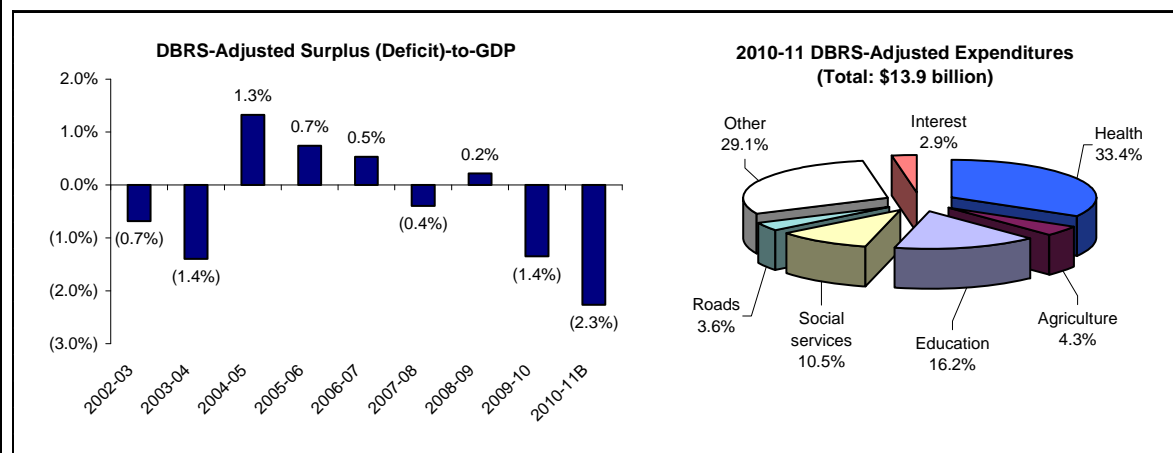
(3) Manitoba Hydro's financial results exhibit considerable volatility due to the significant dependence on water flows. While this renewable, low-cost energy source is a boon to the Province, it adds an element of volatility to Manitoba's fiscal results and is difficult to forecast.



## Province of Manitoba

Report Date:  
October 8, 2010

## 2010-11 Budget



For 2010-11, the Province is forecasting a deficit of \$545 million, which translates into a DBRS-adjusted deficit of \$1.2 billion, or 2.3% of GDP. If achieved, this is likely to be one of the smallest fiscal shortfalls among Canadian provinces. Total revenues are only projected to grow by 0.6%, supported by a recovery in tax revenues. Retail sales tax proceeds are expected to grow by 6.3%, owing to improving economic conditions along with 4.4% growth in tobacco taxes due to a two-cent increase per cigarette. This is expected to be partially offset by a decline in corporate tax receipts as prior-year losses are carried forward. Federal transfers, which are expected to account for almost 30% of total revenues in the current fiscal year, will see slower growth. Manitoba benefited from the federal government's decision to protect provinces and ensure that no province experienced a decline in overall major federal transfers (equalization, health and social transfers), but could be at risk of lower federal transfers in the coming years.

Total expenditures are forecast to grow by 4.4% in 2010-11 as the Province embarks on a plan to manage growth in program costs through reductions in discretionary spending, delaying new initiatives and controlling wage and salary growth. Health care will consume the bulk of new funds and is forecast to grow by 4.0%, which is below the five-year average growth rate of 6.7%. Aside from a modest increase for education (3.2%), most other program areas will see little to no growth. An important component of Manitoba's expenditure management plan is a goal to limit the increase in wages and salaries by pursuing labour agreements with no increases. DBRS views this as an ambitious target but notes that a recent agreement with Manitoba nurses involved two years of zero increases, which indicates that there is support for the government's plan. In addition, DBRS notes that the size of the civil service could be reduced through attrition, potentially providing some relief to overall wage and salary costs.

### Outlook

The first quarter update, released on September 27, 2010, points to a somewhat stronger-than-expected performance through the early part of the year, with revenues tracking \$65 million ahead of plan while spending is \$80 million under budget. The Province attributes this variance largely to timing differences rather than to a significant deviation from plan and notes that unanticipated costs related to flooding and forest fire fighting earlier in the year will add some pressure. An updated year-end fiscal forecast will be provided in the Province's second quarter update later this fall.

The Province has returned to a five-year fiscal planning cycle, after opting for a shorter outlook in last year's budget due to heightened economic uncertainty. This year's plan forecasts gradually declining deficits with a return to a small surplus forecasted in 2014-15. On a DBRS-adjusted basis, this would imply deficits ranging from 2.0% to less than 1.0% of GDP over the period. DBRS believes this is a realistic and achievable plan and notes that it may be possible for the Province to return to balance earlier than forecast if the economic recovery gains traction. Alternatively, a weaker-than-expected recovery would likely require enhanced spending restraint as the Province is unable to increase major taxes without a referendum.



Province of  
Manitoba

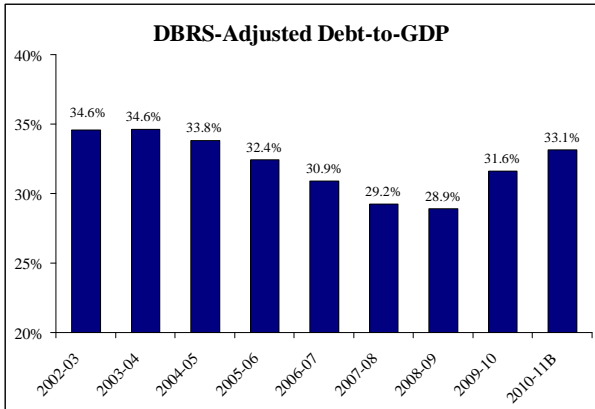
Report Date:  
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2009-10 Results

Based on the recently released Public Accounts, Manitoba recorded a deficit of \$201 million in 2009-10 (compared with a \$48 million surplus originally budgeted), reflecting revenues that were somewhat below budget expectations and increased spending on disaster assistance and H1N1 preparations. On a DBRS-adjusted basis, this translates into a deficit of \$685 million, or 1.4% of GDP – still a favourable result in relation to most other provinces. Year-over-year, total revenues shrank by close to 1.0%, largely due to lower corporate and personal income tax receipts and weaker results at Manitoba Hydro. Higher federal transfers helped to provide a partial offset.

Total spending grew by 5.5% over the prior year and faster than budgeted. Social services were a key driver of year-over-year spending growth while health and education also witnessed meaningful increases. Gross capital spending increased by 25% and emergency costs for H1N1 preparedness and spring flooding also contributed to spending growth.

Debt Profile



DBRS-adjusted debt, defined as tax-supported debt plus unfunded pension liabilities, grew by \$1.4 billion, or 9.3%, in 2009-10. This increase was somewhat larger than expected and was largely driven by weak fiscal results and capital spending needs. After falling for fourteen straight years to 28.9% in 2008-09, Manitoba’s debt-to-GDP ratio climbed to 31.6% as of March 31, 2010.

Outlook

Another deficit and sizeable capital program will contribute to debt growth of \$1.4 billion, or 9.0%, in 2010-11. Crown corporations and hospitals will account for \$324 million of debt needs. As a result,

the debt-to-GDP ratio is forecast to rise to 33.1%, which would be the fourth lowest among all provinces. Gross borrowing requirements are estimated at \$3.4 billion for the year, of which almost \$900 million is needed for refinancing needs, with the remainder being used to fund the fiscal shortfall, capital needs, pension contributions and the needs of Manitoba Hydro. At the time of writing, \$2.1 billion in borrowing requirements had been fulfilled. The Province aims for a smooth maturity profile; as of March 31, 2010, it had only modest floating rate debt and, excluding Manitoba Hydro, no foreign currency debt, which helps provide stability to debt servicing obligations.

Based on the Province’s medium-term outlook, and DBRS’s expectation that capital needs will be gradually reduced as stimulus initiatives expire, the debt-to-GDP ratio is projected to peak around 34% in 2012-13 and start declining thereafter. This represents a somewhat higher peak than what was assumed at the time of last year’s review but is nonetheless very manageable within the rating.

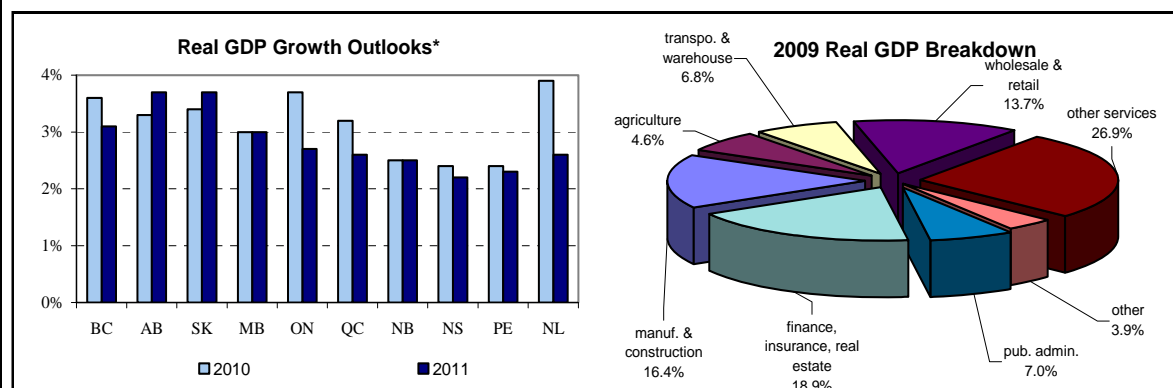




## Province of Manitoba

**Report Date:**  
October 8, 2010

## Economy



\* Based on major Canadian banks' forecasts at the time of this report.

In 2009, Manitoba experienced its first contraction in real GDP since 1991, although the decline of 0.2% was mild in relation to the 2.6% drop that occurred nationally. The Province's resilience is, in part, due to a relatively diversified manufacturing base that provides a wide range of products, including transit buses, aerospace components, and farm and rail equipment. Nonetheless, the value of manufacturing sales fell by 11.1%, compared with a significant 17.4% for Canada as a whole. Manitoba was one of only three provinces to register a gain in employment in 2009, although labour force growth boosted the unemployment rate to 5.2%, up from 4.2% the prior year. Population growth was also sound and exceeded the national average for the first time since 1985. However, this was insufficient to support the housing market and retail sales. Housing starts contracted by 25% and Manitoba experienced its first decline in retail trade since the early nineties.

### Outlook

A modest recovery is assumed by the Province for 2010, including real growth of 2.5%, which is somewhat below the private sector consensus. Due to excessive moisture in parts of the Province early in the growing season, agricultural output is likely to dampen growth prospects although favourable demand in the mining sector does provide an offset. Based on Statistics Canada's survey of investment intentions, Manitoba is the only province expected to see a decline in non-residential investment. This is evident in the value of building permits, which, as of July 2010, were down by 8.3% (seasonally adjusted) year-over-year compared with a Canada-wide increase of 33.0%. Slowing, but still-solid population growth of 1.0% should help support domestic demand. Mainly through its provincial nominee program, the Province is targeting 20,000 new immigrants annually by 2016, up from 13,500 in 2009.

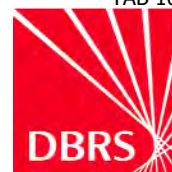
For 2011, the budget assumes real growth of 3.0%, consistent with the private sector average. DBRS notes that provincial growth forecasts have been revised downward of late, highlighting the uncertain pace of economic recovery, particularly in the United States, and also the impact of a strong Canadian dollar on exports, both of which continue to pose downside risks.

### Economic Statistics

|                                 | For the year ended December 31 |        |        |        |        |        |
|---------------------------------|--------------------------------|--------|--------|--------|--------|--------|
|                                 | 2011P                          | 2010P  | 2009   | 2008   | 2007   | 2006   |
| Nominal GDP (\$ millions)       | 55,189                         | 52,762 | 50,732 | 50,834 | 48,718 | 45,029 |
| Nominal GDP growth              | 4.6%                           | 4.0%   | (0.2%) | 4.3%   | 8.2%   | 8.0%   |
| Real GDP growth (1)             | 3.0%                           | 2.5%   | (0.2%) | 2.0%   | 3.6%   | 3.3%   |
| Population (thousands)          | 1,247                          | 1,235  | 1,220  | 1,206  | 1,194  | 1,184  |
| Population growth               | 0.9%                           | 1.3%   | 1.2%   | 1.0%   | 0.8%   | 0.5%   |
| Employment (thousands)          | 622                            | 612    | 607    | 607    | 597    | 587    |
| Unemployment rate               | 5.3%                           | 5.7%   | 5.2%   | 4.2%   | 4.4%   | 4.3%   |
| Housing starts (units)          | 4,950                          | 5,125  | 4,174  | 5,537  | 5,738  | 5,028  |
| Retail sales (\$ millions)      | n.a.                           | n.a.   | 14,915 | 14,980 | 14,016 | 12,874 |
| Inflation rate (CPI)            | 1.9%                           | 1.5%   | 0.6%   | 2.3%   | 2.0%   | 2.0%   |
| Personal income per capita (\$) | n.a.                           | n.a.   | 33,233 | 33,330 | 32,106 | 30,179 |

Sources: Statistics Canada (actuals), Manitoba Finance, CMHC, and DBRS estimates. P= Projected. n.a. = not available.

(1) Real GDP at basic prices for 2009; real GDP at market prices for all other years.


**Province of  
Manitoba**

**Report Date:**  
October 8, 2010

**Province of Manitoba**

|   | <u>Budget</u>  |                | <u>Budget</u>  |                |                |                |
|---|----------------|----------------|----------------|----------------|----------------|----------------|
|   | <u>2010-11</u> | <u>2009-10</u> | <u>2009-10</u> | <u>2008-09</u> | <u>2007-08</u> | <u>2006-07</u> |
| <b>Budget Summary*</b> (\$ millions)              |                |                |                |                |                |                |
| Revenue   | 12,720         | 12,646         | 12,728         | 12,745         | 12,093         | 11,363         |
| Program expenditure                               | 13,516         | 12,988         | 12,937         | 12,304         | 11,939         | 10,774         |
| Program surplus (deficit)                         | (797)          | (342)          | (209)          | 441            | 154            | 589            |
| Interest expense                                  | (397)          | (343)          | (363)          | (330)          | (346)          | (349)          |
| <b>DBRS-Adjusted Surplus (Deficit)</b>            | (1,194)        | (685)          | (572)          | 110            | (192)          | 240            |
| DBRS adjustments:                                 |                |                |                |                |                |                |
| Capital expenditures less amortization            | 649            | 484            | 620            | 341            | 376            | 245            |
| Other non-recurring items, incl. assets sales     | -              | -              | -              | -              | 374            | -              |
| Surplus (deficit), as reported                    | (545)          | (201)          | 48             | 451            | 558            | 485            |
| Tax-supported debt + unfunded pension liabilities | 17,486         | 16,046         | 15,558         | 14,684         | 14,234         | 13,907         |
| Gross borrowing requirements (all entities)       | 3,406          | 4,684          | 3,253          | 3,322          | 3,104          | 2,708          |
| Gross capital expenditure                         | 1,600          | 1,227          | 1,140          | 978            | 1,022          | 771            |

\* DBRS adjusts reported figures to exclude certain non-recurring items (e.g. asset sales). DBRS also recognizes capital expenditures as incurred, rather than as amortized, to improve inter-provincial comparability.

**Selected Financial Indicators (DBRS-Adjusted)**

|  |        |        |        |       |        |       |
|--|--------|--------|--------|-------|--------|-------|
| Debt*/GDP                              | 33.1%  | 31.6%  | 30.7%  | 28.9% | 29.2%  | 30.9% |
| Surplus (deficit)/GDP                  | (2.3%) | (1.4%) | (1.1%) | 0.2%  | (0.4%) | 0.5%  |
| Surplus (deficit)/total revenue        | (9.4%) | (5.4%) | (4.5%) | 0.9%  | (1.6%) | 2.1%  |
| Interest costs/total revenue           | 3.1%   | 2.7%   | 2.9%   | 2.6%  | 2.9%   | 3.1%  |
| Total tax revenues/total revenue       | 42.7%  | 42.3%  | 41.9%  | 43.4% | 43.8%  | 43.4% |
| Federal transfers/total revenue        | 29.5%  | 29.1%  | 29.7%  | 28.4% | 28.0%  | 27.5% |
| Program expenditures/total revenue     | 106.3% | 102.7% | 101.6% | 96.5% | 98.7%  | 94.8% |
| Health expenditures/total expenditures | 33.4%  | 33.5%  | 32.5%  | 33.4% | 31.8%  | 32.9% |
| Program expenditure growth             | 4.1%   | 5.6%   | 5.1%   | 3.1%  | 10.8%  | 7.0%  |
| Total expenditure growth               | 4.4%   | 5.5%   | 5.3%   | 2.8%  | 10.4%  | 6.9%  |
| Total revenue growth                   | 0.6%   | (0.8%) | (0.1%) | 5.4%  | 6.4%   | 6.1%  |

\* DBRS-defined: tax-supported debt + unfunded pension liabilities.

**Background Political Information**

|                 |                      |                         |              |
|-----------------|----------------------|-------------------------|--------------|
| Party in power: | New Democratic Party | Legislature seats:      | 36 of 57     |
| Premier:        | Greg Selinger        | Election to be held by: | October 2011 |




**Province of  
Manitoba**

**Report Date:**  
October 8, 2010

**Province of Manitoba**

|  | <u>Budget</u>  |                | <u>Budget</u>  |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|----------------|
|  | <u>2010-11</u> | <u>2009-10</u> | <u>2009-10</u> | <u>2008-09</u> | <u>2007-08</u> | <u>2006-07</u> |
| <b>Revenue</b> (\$ millions)                   |                |                |                |                |                |                |
| Personal income tax                            | 2,421          | 2,401          | 2,343          | 2,455          | 2,285          | 2,130          |
| Retail sales tax                               | 1,669          | 1,570          | 1,595          | 1,569          | 1,473          | 1,357          |
| Corporate taxes                                | 821            | 855            | 910            | 979            | 939            | 846            |
| Gasoline & motive fuel tax                     | 230            | 230            | 221            | 229            | 248            | 241            |
| Tobacco taxes                                  | 225            | 216            | 194            | 190            | 191            | 202            |
| Energy, mining, and other taxes                | 68             | 75             | 65             | 110            | 158            | 152            |
| Total tax revenue                              | 5,433          | 5,347          | 5,327          | 5,532          | 5,294          | 4,927          |
| Lottery income                                 | 313            | 307            | 312            | 305            | 297            | 283            |
| Liquor control commission                      | 247            | 234            | 236            | 229            | 219            | 208            |
| Manitoba Hydro (4)                             | 113            | 129            | 265            | 314            | 346            | 122            |
| Natural resource levies                        | 152            | 149            | 162            | 146            | 150            | 139            |
| Fees, permits, licences, & other               | 322            | 354            | 315            | 335            | 289            | 270            |
| <b>Total Own-Source Revenue</b>                | <b>6,580</b>   | <b>6,520</b>   | <b>6,617</b>   | <b>6,860</b>   | <b>6,594</b>   | <b>5,948</b>   |
| Equalization payments                          | 2,002          | 2,063          | 2,063          | 2,063          | 1,826          | 1,709          |
| Canada health & social transfer                | 1,358          | 1,290          | 1,296          | 1,263          | 1,206          | 1,109          |
| Other federal transfers                        | 391            | 323            | 423            | 298            | 351            | 305            |
| <b>Total Federal Transfers</b>                 | <b>3,751</b>   | <b>3,676</b>   | <b>3,782</b>   | <b>3,624</b>   | <b>3,383</b>   | <b>3,122</b>   |
| Consolidation adjustments (1)                  | 2,389          | 2,450          | 2,329          | 2,261          | 2,116          | 2,292          |
| <b>DBRS-Adjusted Revenue</b>                   | <b>12,720</b>  | <b>12,646</b>  | <b>12,728</b>  | <b>12,745</b>  | <b>12,093</b>  | <b>11,363</b>  |
| <b>Expenditures</b> (\$ millions)              |                |                |                |                |                |                |
| Health   | 4,650          | 4,471          | 4,328          | 4,225          | 3,912          | 3,658          |
| Education and training                         | 2,253          | 2,184          | 2,198          | 2,069          | 1,960          | 1,847          |
| Social services                                | 1,465          | 1,444          | 1,365          | 1,344          | 1,160          | 1,077          |
| Justice  | 401            | 410            | 385            | 377            | 334            | 309            |
| Transportation & government services           | 497            | 491            | 478            | 451            | 418            | 390            |
| Agriculture, economic, & resource dev.         | 595            | 702            | 645            | 582            | 570            | 517            |
| Manitoba property & other tax credits          | 44             | 42             | 44             | 41             | 48             | 50             |
| Intergovernmental affairs                      | 256            | 248            | 222            | 327            | 251            | 225            |
| Other general government                       | 261            | 232            | 257            | 249            | 363            | 283            |
| Capital expenditures less amortization (2)     | 649            | 484            | 620            | 341            | 376            | 245            |
| Consolidation adjustment (1)                   | 2,510          | 2,280          | 2,460          | 2,299          | 2,546          | 2,172          |
| Other  | (65)           | -              | (65)           | -              | -              | -              |
| <b>DBRS-Adjusted Program Expenditures</b>      | <b>13,516</b>  | <b>12,988</b>  | <b>12,937</b>  | <b>12,304</b>  | <b>11,939</b>  | <b>10,774</b>  |
| <b>DBRS-Adjusted Program Surplus (Deficit)</b> | <b>(797)</b>   | <b>(342)</b>   | <b>(209)</b>   | <b>441</b>     | <b>154</b>     | <b>589</b>     |
| Net interest expense (3)                       | (397)          | (343)          | (363)          | (330)          | (346)          | (349)          |
| <b>DBRS-adjusted Expenditures</b>              | <b>13,914</b>  | <b>13,331</b>  | <b>13,301</b>  | <b>12,635</b>  | <b>12,285</b>  | <b>11,123</b>  |
| <b>DBRS-Adjusted Surplus (Deficit)</b>         | <b>(1,194)</b> | <b>(685)</b>   | <b>(572)</b>   | <b>110</b>     | <b>(192)</b>   | <b>240</b>     |
| DBRS adjustments:                              |                |                |                |                |                |                |
| Capital expenditures less amortization (2)     | 649            | 484            | 620            | 341            | 376            | 245            |
| Non-recurring revenue (expenditure) (4)        | -              | -              | -              | -              | 374            | -              |
| <b>Surplus (deficit), as reported</b>          | <b>(545)</b>   | <b>(201)</b>   | <b>48</b>      | <b>451</b>     | <b>558</b>     | <b>485</b>     |

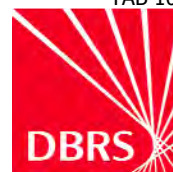
Note: Expenditure categories may not be strictly comparable from year to year due to departmental reorganizations.

(1) 2006-07 and later years include school divisions which were previously excluded from public accounts.

(2) This adjustment converts capital expenditures to a pay-as-you-go basis.

(3) Interest expense is net of interest income generated by the Fiscal Stabilization and Debt Retirement Funds.

(4) In 2007-08, hydro net income excludes one-time impact of accounting change for recognition of FX gains and losses in prior years. FX gains and losses are not included in budget figures but will impact actual results going forward.


**Province of  
Manitoba**

**Report Date:**  
October 8, 2010

**Province of Manitoba**
**Balance Sheet (Consolidated Statement)**

(\$ millions)

|                               | As at March 31 |        |        |                              | As at March 31 |         |         |
|-------------------------------|----------------|--------|--------|------------------------------|----------------|---------|---------|
|                               | 2010           | 2009   | 2008   |                              | 2010           | 2009    | 2008    |
| <b>Financial Assets</b>       |                |        |        | <b>Liabilities</b>           |                |         |         |
| Cash and cash equivalents     | 1,939          | 2,106  | 2,694  | A/P and accrued charges      | 3,513          | 3,528   | 3,308   |
| Amounts receivable            | 1,263          | 1,143  | 1,177  | Debt (1)                     | 24,456         | 22,788  | 21,944  |
| Loans & advances (1)          | 9,075          | 8,603  | 7,887  | Unamortized for. exch. fluc. | (56)           | (61)    | (67)    |
| Equity in gov't enterprises   | 3,068          | 2,127  | 2,697  | Unfunded pension liability   | 1,800          | 1,991   | 4,470   |
| Net tangible capital assets   | 7,315          | 6,518  | 5,934  | Other liabilities            | -              | -       | -       |
| Other assets                  | 2,685          | 2,873  | 4,673  | <b>Total Liabilities</b>     | 29,713         | 28,246  | 29,655  |
| <b>Total Financial Assets</b> | 25,345         | 23,370 | 25,062 | <b>Accumulated Deficit</b>   | (4,368)        | (4,876) | (4,593) |
|                               |                |        |        | <b>Total Liabilities</b>     | 25,345         | 23,370  | 25,062  |

**Net Public Sector Debt\***

(\$ millions)

|   | As at March 31 |        |        |        |        |        |        |        |
|---|----------------|--------|--------|--------|--------|--------|--------|--------|
|   | 2011B          | 2010   | 2009   | 2008   | 2007   | 2006   | 2005   | 2004   |
| Net general purpose debt                | 12,077         | 10,911 | 9,660  | 9,059  | 7,463  | 7,210  | 7,130  | 7,049  |
| Crown corporation & gov't agencies      | 1,587          | 1,478  | 1,341  | 1,269  | 1,279  | 1,272  | 1,340  | 1,187  |
| Schools and universities                | 466            | 432    | 384    | 387    | 360    | 306    | 300    | 272    |
| Hospitals                               | 1,092          | 949    | 831    | 833    | 790    | 767    | 739    | 615    |
| Municipalities (2)                      | 476            | 476    | 476    | 476    | 524    | 502    | 550    | 544    |
| <b>Net Tax-Supported Debt</b>           | 15,698         | 14,246 | 12,693 | 12,025 | 10,416 | 10,057 | 10,059 | 9,667  |
| Self-supporting debt:                   |                |        |        |        |        |        |        |        |
| Manitoba Hydro                          | 8,574          | 7,730  | 7,575  | 6,796  | 6,636  | 6,524  | 6,615  | 6,649  |
| <b>Total net public sector debt</b>     | 24,272         | 21,976 | 20,268 | 18,821 | 17,052 | 16,581 | 16,674 | 16,316 |
| <b>Unfunded Pension Liabilities (3)</b> | 1,788          | 1,800  | 1,991  | 2,209  | 3,491  | 3,461  | 3,379  | 3,304  |

**Per Capita (CAD) (3)**

|   |        |        |        |        |        |        |        |        |
|---|--------|--------|--------|--------|--------|--------|--------|--------|
| Tax-supp. debt + unf. pension liabilities | 14,154 | 13,158 | 12,181 | 11,926 | 11,746 | 11,473 | 11,451 | 11,145 |
| <b>Total public sector debt</b>           | 19,647 | 18,020 | 16,813 | 15,769 | 14,402 | 14,072 | 14,208 | 14,019 |

**As a % of GDP (3)**

|   |       |       |       |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Tax-supp. debt + unf. pension liabilities | 33.1% | 31.6% | 28.9% | 29.2% | 30.9% | 32.4% | 33.8% | 34.6% |
| <b>Total public sector debt</b>           | 46.0% | 43.3% | 39.9% | 38.6% | 37.9% | 39.8% | 41.9% | 43.6% |

**Debt Breakdown by Currency (4)**

|             |     |      |      |      |      |      |      |      |
|-------------|-----|------|------|------|------|------|------|------|
| Cdn\$ pay   | n/a | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Non-CAD pay | n/a | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   |

**Fixed/Floating Rate Debt Breakdown (4)**

|               |     |     |     |     |     |     |     |     |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Fixed rate    | n/a | 82% | 80% | 81% | 82% | 81% | 80% | 73% |
| Floating rate | n/a | 18% | 20% | 19% | 18% | 19% | 20% | 27% |

**Unfunded Pension Liabilities (Tax-Supported)**

(CAD millions)

|  | Valuation Date                             | Mar. 31, 2010 |
|--|--|---------------|
| Civil service (5)                          | Dec. 2007                                  | 2,119         |
| Teachers (5)                               | Jan. 2009                                  | 2,612         |
| Other plans (includes MLAs, judges, other) | Various                                    | 1,661         |
|  | <b>Total liabilities:</b>                  | <b>6,392</b>  |
|  | <b>Less pension assets:</b>                | <b>4,592</b>  |
|  | <b>Total Unfunded Pension Liabilities:</b> | <b>1,800</b>  |

**Gross Debt Maturity Profile**

Public Sector Debt

|                    | (\$ millions) | %           |
|--------------------|---------------|-------------|
| 2010-11            | 2,035         | 8.3%        |
| 2011-12            | 1,992         | 8.1%        |
| 2012-13            | 2,113         | 8.6%        |
| 2013-14            | 2,690         | 10.9%       |
| 2014-15            | 1,641         | 6.7%        |
| 2015-16 to 2019-20 | 5,290         | 21.5%       |
| 2020-21+           | 8,882         | 36.0%       |
| <b>Total</b>       | <b>24,643</b> | <b>100%</b> |

\* Net of sinking fund and Debt Retirement Fund assets. P = Projected; B = Budget; n/a = not applicable.

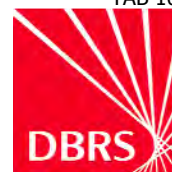
(1) Includes asset and liability items related to debt of The Manitoba Hydro-Electric Board and Manitoba Lotteries Corporation.

(2) Not guaranteed by the Province. DBRS estimate for 2010P; 2011B.

(3) Excludes pension liabilities of self-supporting Crown corporations.

(4) Net of hedges (if any).

(5) Civil Service includes amounts for indexation and unamortized pension adjustment; Teachers includes amount for indexation.


**Province of  
Manitoba**
**Report Date:**  
October 8, 2010

**Rating**

| Debt             | Rating       | Rating Action | Trend  |
|------------------|--------------|---------------|--------|
| Short-Term Debt* | R-1 (middle) | Confirmed     | Stable |
| Long-Term Debt*  | A (high)     | Confirmed     | Stable |

\* Issued/guaranteed by the Province, including The Manitoba Hydro-Electric Board.

**Rating History**

|                 | Current      | 2009         | 2008         | 2007         | 2006         | 2005      |
|-----------------|--------------|--------------|--------------|--------------|--------------|-----------|
| Short-Term Debt | R-1 (middle) | R-1 (middle) | R-1 (middle) | R-1 (middle) | R-1 (middle) | R-1 (low) |
| Long-Term Debt  | A (high)     | A (high)     | A (high)     | A (high)     | A (high)     | A (high)  |

**Related Research**

- [Restoring Fiscal Balance – Easier Said Than Done: 2009 Canadian Federal and Provincial Governments Overview](#), December 21, 2009.
- [Canadian Provincial Government Fact Sheet](#), October 8, 2010.

**Note:**

All figures are in Canadian dollars unless otherwise noted.

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MIPUG Final Argument  
Manitoba Hydro 2008 General Rate Application  
Issue 34: Sinking Funds

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**TOPIC: Sinking Funds**

**ISSUE:**

34. Should the Board recommend to Hydro and/or the Government of Manitoba that the requirement for Hydro to set aside sinking funds on its debt be eliminated?

**MIPUG POSITION:**

The Board should direct that Manitoba Hydro seek relief from the Government of Manitoba with respect to all sinking fund requirements as soon as possible. The Board should recommend to the Minister of Finance that the sinking fund requirement for Hydro's debt be eliminated.

**DISCUSSION AND SUPPORT:**

The potential to eliminate Hydro's sinking funds was canvassed in interrogatories and cross-examination. Interrogatories noted in particular that the elimination of the sinking fund requirement would, all other things being equal, be expected to enhance Hydro's net income over the period of the IFF by \$93 million<sup>1</sup> (and consequently reduce net debt by the same amount)<sup>2</sup>. Hydro has indicated that it does not believe eliminating the sinking fund requirements would have any adverse effect on the borrowing rates it is able to secure;<sup>3</sup> its ability to access capital markets;<sup>4</sup> the range of borrowing instruments available to it;<sup>5</sup> or the debt ratings for Manitoba and related contributions of Manitoba Hydro to the provincial debt rating.<sup>6</sup>

In transcript Hydro further noted that "the access to capital is so much greater now that the sinking fund isn't as necessary as it used to be"<sup>7</sup> and that with respect to the opportunity to request the government remove Hydro's obligation to maintain a sinking fund "we've been looking at that for some time"<sup>8</sup> as "the sinking fund doesn't play as

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<sup>1</sup> MIPUG/MH-I-13 (a).

<sup>2</sup> MIPUG/MH II-13 (d).

<sup>3</sup> MIPUG/MH II-13 (h) i.

<sup>4</sup> MIPUG/MH II-13 (h) ii.

<sup>5</sup> MIPUG/MH II-13 (h) iii.

<sup>6</sup> MIPUG/MH II-13 (h) iv.

<sup>7</sup> Transcript page 1323, lines 22-24.

<sup>8</sup> Transcript page 603, line 18.

MIPUG Final Argument  
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Issue 34: Sinking Funds

large a role as it did in the past in terms of the hedging program”<sup>9</sup> for the exposure management program.

The evidence of Bowman and McLaren also noted the potential for “further financial benefits from reducing the exposure to interest rate spreads between the earnings of the sinking funds as compared to the interest costs on the underlying debt, and by allowing a more flexible approach to maintaining bullet payment debt.”<sup>10</sup>

It is also of note that the BC government removed the requirement for BC Hydro to maintain sinking funds as of 2005.<sup>11</sup>

MIPUG particularly notes that “Manitoba Hydro obtains the majority of its debt requirements through advances from the Province of Manitoba”<sup>12</sup> and as such, implementing the recommended revision may not require any legislative change, but solely a direction from the Lieutenant Governor in Council under subsection 41(7) of the Manitoba Hydro Act.

With respect to timing, Hydro indicated that they do not view it yet to be an opportune time to pursue elimination of the sinking fund requirement but that they may pursue this change in the next 2 to 3 years.<sup>13</sup> Given the scale of borrowings anticipated over the coming years, including within the next 2-3 years, and in light of the substantial noted benefits (including in terms of costs) of eliminating the sinking fund requirements, a further impetus in the form of a Board directive to pursue this matter without delay is merited.

## REFERENCES:

1. MIPUG/MH I-12 (d)
2. MIPUG/MH II-13(a), (c),(d) and (h)(i)through(iv)
3. Transcript pages 603 to 604
4. Transcript pages 1322 line 22 through 1329 line 23
5. Evidence of Bowman and McLaren pages 20-21

<sup>9</sup> Transcript page 604, lines 11-13.

<sup>10</sup> Evidence of Bowman and McLaren, page 21.

<sup>11</sup> MIPUG/MH I-12 (d).

<sup>12</sup> MIPUG/MH II-13 (h)ii.

<sup>13</sup> Transcript page 1327, lines 1-4.

**MIPUG/MH I-12****Reference: Sinking Funds**

- d) **Please confirm that since December 12, 2005, BC Hydro has had all sinking fund requirements removed from its obligations on all new and outstanding debt.**

**ANSWER:**

It is Manitoba Hydro's understanding that BC Hydro's sinking fund requirements were removed from its obligations on all new and outstanding debt as of December 2005.

**MIPUG/MH II-13**

**Reference: MIPUG/MH-I-12(g) and (h)**

- a) Please confirm that MIPUG/MH-I-12(h) indicates that Hydro's financial situation (level of retained earnings) by the end of the IFF 07-1 period would be improved by \$93 million compared to retaining the obligation to continue to contribute to sinking funds.

**ANSWER:**

Confirmed.



**MIPUG/MH II-13**

**Reference: MIPUG/MH-I-12(g) and (h)**

- c) With respect to part (b) of this response, please indicate the transition provisions that were put in place in BC when they eliminated the requirement for BC Hydro sinking funds in 2005**

**ANSWER:**

Manitoba Hydro's understanding is that no transition provisions were necessary when the requirement for BC Hydro to make payments into its sinking fund was eliminated in 2005.

**MIPUG/MH II-13**

**Reference:** MIPUG/MH-I-12(g) and (h)

- d) Please indicate the impact on Hydro's net long-term debt levels by the end of the IFF period under a scenario in which sinking funds contribution requirements were eliminated, as shown in MIPUG/MH-I-12(h).**

**ANSWER:**

Net debt levels would decline by the same \$93 million by which retained earnings would increase.

**MIPUG/MH II-13**

**Reference: MIPUG/MH-I-12(g) and (h)**

**h) Is it anticipated that, if Manitoba Hydro was relieved of the legislated requirement for sinking funds as BC Hydro was in 2005, there would be any changes in the future borrowings of Manitoba Hydro in respect of each of the following matters:**

**i. The borrowing interest rates Manitoba Hydro is able to secure.**

**ANSWER:**

If Manitoba Hydro was relieved of the legislated requirement for sinking funds, there would be no impact on the borrowing interest rates Manitoba Hydro is able to secure.

**MIPUG/MH II-13**

**Reference: MIPUG/MH-I-12(g) and (h)**

- h) Is it anticipated that, if Manitoba Hydro was relieved of the legislated requirement for sinking funds as BC Hydro was in 2005, there would be any changes in the future borrowings of Manitoba Hydro in respect of each of the following matters:**
- ii. The ability to access capital markets (i.e., would the pool of lenders be diminished, or increased)**

**ANSWER:**

Manitoba Hydro's ability to access capital markets would not be affected by the elimination of the sinking fund. Manitoba Hydro obtains the majority of its debt requirements through advances from the Province of Manitoba.

**MIPUG/MH II-13**

**Reference: MIPUG/MH-I-12(g) and (h)**

**h) Is it anticipated that, if Manitoba Hydro was relieved of the legislated requirement for sinking funds as BC Hydro was in 2005, there would be any changes in the future borrowings of Manitoba Hydro in respect of each of the following matters:**

**iii. The range of borrowing instruments available to Manitoba Hydro, including instruments with different term, covenants, etc.**

**ANSWER:**

The range of borrowing instruments available to Manitoba Hydro would not be affected by the elimination of the sinking fund.

**MIPUG/MH II-13**

**Reference: MIPUG/MH-I-12(g) and (h)**

**h) Is it anticipated that, if Manitoba Hydro was relieved of the legislated requirement for sinking funds as BC Hydro was in 2005, there would be any changes in the future borrowings of Manitoba Hydro in respect of each of the following matters:**

**iv. The debt ratings for Manitoba and related contributions of Manitoba Hydro to the debt rating agencies' view of Manitoba.**

**ANSWER:**

Manitoba Hydro does not believe that the debt ratings for Manitoba and related contributions of Manitoba Hydro would be affected by the elimination of the sinking fund.

Page 602

1 for example?

2                   There'd be 3. -- or \$2.2 billion of  
3 expenditures that wouldn't be necessarily required?

4                   MR. VINCE WARDEN: No, the 2.2 billion  
5 takes us out to 2017/'18. So we -- we'd only look at the  
6 actual expenditures incurred to the end of 2007/'08 in  
7 the case of Conawapa. So it would be the total of,  
8 starting in 2002/'03, going from the .5 million up to and  
9 including 32.6 million under 2007/'08.

10

11                   (BRIEF PAUSE)

12

13                   MR. BOB PETERS: And from Manitoba  
14 Hydro's accounting practice, sir, if a decision was made  
15 to advance one (1) of those over the other, the one (1)  
16 that was not being advanced would end up being  
17 capitalized and kept capitalized until a decision was  
18 made on bringing that plant in-service?

19                   MR. VINCE WARDEN: No, and I -- I just  
20 want to make clear that it's not a necessarily a  
21 tradeoff, one (1) for the other. Both could proceed, in  
22 which case there wouldn't be an accounting issue with  
23 respect to how those costs are handled.

24                   But under the assumption that -- that  
25 you're using -- that Conawapa is the one (1) that doesn't

Page 603

1 proceed, then those costs would be transferred back to  
2 our -- our planning -- what we call planning studies and  
3 amortized over a period of fifteen (15) years.

4 MR. BOB PETERS: They'll be deferred and  
5 amortized?

6 MR. VINCE WARDEN: Exactly.

7 MR. BOB PETERS: All right. Related to  
8 the long-term debt, Mr. Warden, is an obligation on the  
9 Corporation to maintain a -- a sinking fund?

10 MR. VINCE WARDEN: Yes.

11 MR. BOB PETERS: And there's been a  
12 suggestion in these proceedings that there may be some  
13 benefit to having Manitoba Hydro request the government  
14 to remove the obligation to contribute to the sinking  
15 fund?

16 MR. VINCE WARDEN: Well, I think that  
17 suggestion was probably made by us, by Manitoba Hydro.  
18 We -- we've been looking at that for some time.

19 The sinking fund has served a purpose in  
20 the past. And going forward, that purpose is probably  
21 not as -- as useful as it was in the past. And we -- we  
22 would look at the potential for either eliminating or --  
23 or drawing it down to an absolute minimum.

24 MR. BOB PETERS: What was its -- what do  
25 you believe its useful purpose was in the past?



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1 MR. VINCE WARDEN: Well, we did to the  
2 extent that we had a statutory requirement to make a -- a  
3 payment into the sinking fund every year, we used that as  
4 part of our exposure management program for -- for  
5 managing foreign currency risks.

6 MR. BOB PETERS: And that's the -- the  
7 purpose that you don't feel is needed as much going  
8 forward?

9 MR. VINCE WARDEN: No, with the -- with  
10 the changes in the accounting standards that were  
11 effective this year, the -- the sinking fund doesn't play  
12 as large a role as it did in the past in terms of the  
13 hedging program.

14

15 (BRIEF PAUSE)

16

17 MR. BOB PETERS: Mr. Warden, if I recall  
18 correctly, Mr. Page indicated that there was a sinking  
19 fund established relative to the Wuskwatim Power Limited  
20 Partnership debt.

21 Did you understand him to be saying that?

22 MR. VINCE WARDEN: It's not specifically,  
23 related to the Wuskwatim Power Limited Partnership debt.  
24 To the extent that Manitoba Hydro borrows on behalf of  
25 the limited partnership, that just forms part of the

Page 1322

1 right?

2 MR. LLOYD KUCZEK: When we're determining  
3 what our levelized cost is, we're looking at it from our  
4 perspective, yes.

5 MS. TAMARA MCCAFFREY: And, again, based  
6 on the discussion we had earlier about the -- the  
7 marginal costs versus the cost of DSM, if a DSM program,  
8 based on the way you're calculations -- I mean, if a DSM  
9 program is looking like a good deal, it's something that,  
10 naturally, this Utility, with its -- with its aim at  
11 being cost-efficient, is -- is going to be looking at and  
12 pursuing.

13 And I'm -- I'm assuming that there's more  
14 -- there's more of that to be done in future. Am I  
15 correct?

16 MR. LLOYD KUCZEK: Yes, there's still  
17 more to be done.

18 MS. TAMARA MCCAFFREY: I want to thank  
19 you, Mr. Kuczek, for -- for your efforts to -- to clarify  
20 this in terms that I can understand and for the example  
21 you provided. That's very helpful.

22 I want to leave the DSM subject now, and  
23 I'd like to move on to sinking funds. And a lot's been  
24 done about sinking funds, so it won't take me long to go  
25 through this with you.

Page 1323

1                   Just to start our discussion, Mr. Page and  
2 Mr. Derksen, can you just state on the record what  
3 sinking funds are?

4                   MR. IAN PAGE:     Sinking funds are  
5 essentially setting aside an amount every year so that,  
6 over time, the principal of a debt issue can be repaid.

7                   MS. TAMARA MCCAFFREY:     The principal of  
8 a...?

9                   MR. IAN PAGE:     Of -- of a -- of a bond  
10 issue. So if Hydro issues a bond, it expenses the  
11 interest every year and sets aside an amount every year  
12 to put into a sinking fund to provide for the repayment  
13 of the principal.

14                  MS. TAMARA MCCAFFREY:     Now, I -- I  
15 believe that it was discussed with Mr. Peters earlier.  
16 Sinking funds served a useful purpose in the past, but  
17 going forward, they may not be as useful. Does that  
18 sound familiar? I think it was Mr. Warden that -- that I  
19 heard that from.

20                  Would you agree with that?

21                  MR. IAN PAGE:     Yes, I think we would  
22 agree with that. Generally, the -- the access to capital  
23 is so much greater now that the sinking fund isn't as  
24 necessary as it used to be.

25                  MS. TAMARA MCCAFFREY:     Okay. And sure,

Page 1324

1 times change and -- and the environments changes, and  
2 sometimes something -- a tool that's worked well in the  
3 past may no longer be that useful and -- and the Utility  
4 has to adapt to that in changing circumstances, correct?

5 MR. IAN PAGE: The Utility also has to  
6 conform with legislation.

7 MS. TAMARA MCCAFFREY: Absolutely. But  
8 even leaving aside sinking funds, when times change and  
9 something that maybe doesn't work anymore that used to  
10 work before, you have to re-evaluate it. And if it's not  
11 working anymore, it's time to move on. Fair enough?

12 MR. IAN PAGE: As a general principle,  
13 I'd agree with that.

14 MS. TAMARA MCCAFFREY: And the converse  
15 is also true as a general principle. If something  
16 perhaps was tried a number of years ago, didn't work very  
17 well so it's shelved. Times change, circumstances  
18 changes. It might be time to bring a tool out again and  
19 see maybe it would be a better fit for -- for current  
20 times. That -- that's also true as a principle.

21 MR. IAN PAGE: You'd have to have reason  
22 to want to go back and test things that didn't work in  
23 the past.

24 MS. TAMARA MCCAFFREY: Absolutely.  
25 Manitoba Hydro provided responses in -- in

Page 1325

1 MIPUG/MH-2-13(h), that it indicated -- you don't even  
2 need to turn to the interrogatory 'cause I don't think  
3 it's even in dispute, but it indicated that it did not  
4 see any negative impacts on borrowing interest rates or  
5 access to capital markets of removing the sinking fund  
6 requirements. Is that correct?

7 MR. IAN PAGE: Yes, I'd agree with that.

8 MS. TAMARA MCCAFFREY: And I think that  
9 Mr. Warden might have told Mr. Peters earlier that  
10 Manitoba Hydro was also looking at the potential for  
11 either eliminating or drawing down the sinking funds to  
12 an absolute minimum, which would be zero, as I  
13 understand. Is that right?

14 MR. IAN PAGE: Sorry, I didn't quite  
15 catch the question there.

16 MS. TAMARA MCCAFFREY: Manitoba Hydro is  
17 looking at drawing down sinking funds to a minimum, to  
18 zero, or to getting rid of them.

19 MR. IAN PAGE: Manitoba Hydro  
20 periodically has discussions with the government on the  
21 need for that, but right now we're not in any -- in any -  
22 - in any mode to eliminate the sinking funds.

23 MS. TAMARA MCCAFFREY: I believe -- and I  
24 can give you the transcript reference if you need it, but  
25 I don't think you're disagreeing with me, sir. There's

Page 1326

1 an IR, MIPUG/Manitoba Hydro 1-2(g), which states that  
2 Hydro has not sought relief from sinking fund  
3 requirements to-date, but this will be pursued at an  
4 opportune time.

5 Is that in line with -- with your  
6 evidence?

7 MR. IAN PAGE: Yes.

8 MS. TAMARA MCCAFFREY: An opportune time  
9 would mean what?

10 MR. VINCE WARDEN: A date in the future.

11 MS. TAMARA MCCAFFREY: How would you know  
12 if that date was an opportune time?

13 MR. VINCE WARDEN: Well, Ms. McCaffrey,  
14 our evidence is that the sinking fund has served a useful  
15 purpose in the past, and it continues to serve a useful  
16 purpose.

17 The -- effective April the 1st of 2007  
18 there were some accounting changes with respect to  
19 financial instruments that makes this sinking fund not as  
20 valuable to us as it was in the past. We are in a  
21 transitional phase in terms of implementing those new  
22 financial standards, and we will continue to utilize the  
23 sinking fund during that trans -- transitional phase  
24 which will probably be over the next two (2) or three (3)  
25 years.

Page 1327

1                   So, the opportune time in the future would  
2 be within that time frame. Within the next two (2) or  
3 three (3) years we would look at substantially reducing  
4 or possibly eliminating the sinking fund.

5                   MS. TAMARA MCCAFFREY: Has the sinking  
6 fund been drawn down at this point? Are they starting to  
7 be drawn down now while you're in transition?

8                   MR. VINCE WARDEN: The sinking fund has  
9 been drawn down from historical levels. We -- we are  
10 currently at a level which is considerably lower than it  
11 has been in the past.

12

13                   (BRIEF PAUSE)

14

15                   MS. TAMARA MCCAFFREY: And you're aware  
16 that other utilities such as the -- BC Hydro, as a  
17 specific example, had their sinking fund requirement  
18 removed?

19                   MR. VINCE WARDEN: Yes, I'm aware of  
20 that.

21                   MS. TAMARA MCCAFFREY: And just to recap  
22 the cost of the sinking funds, MIPUG/Manitoba Hydro First  
23 Round 12(h) which estimates the cumulative impact through  
24 the IFF period of the sinking funds, and the calculation  
25 there is \$93 million.

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1 Do you recall that evidence?

2 MR. IAN PAGE: Yes, I did that  
3 calculation.

4 MS. TAMARA MCCAFFREY: Can you describe  
5 for the Board how those costs are calculated and why they  
6 arise?

7 MR. IAN PAGE: It was -- it's done as --  
8 because we don't -- we're not -- we don't have the option  
9 right now of eliminating the sinking fund. What we did  
10 was essentially assume that the interest rate spread from  
11 the guarantee fee did -- did not occur.

12 So we essentially added back the interest  
13 rate spread of the guarantee fee back to the sinking fund  
14 earnings and assume that that -- the sinking fund balance  
15 that we have now we're able to earn that -- an amount  
16 equal to the cost of debt rather than earn generally a  
17 little bit less than -- than the cost of debt

18 And that -- that's what the 93 million  
19 represents. It didn't represent an actual elimination of  
20 the sinking fund.

21 MS. TAMARA MCCAFFREY: Thank you for  
22 that, Mr. Page. We're -- we're looking at -- Manitoba  
23 Hydro's looking at accumulating some more debt in order  
24 to builds -- Conawapa or Keeyask, and in the context of  
25 that, how would -- how would that affect the cost related



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1 to maintaining sinking funds?

2 MR. IAN PAGE: The -- the 93 million  
3 calculation incorporated all the -- the debt throughout  
4 the -- throughout the IFF, so the -- Conawapa and  
5 Wuskwatim have been -- been incorporated to the extent  
6 that they're within the IFF period.

7 MS. TAMARA MCCAFFREY: Thank you. But  
8 Keeyask was not?

9 MR. IAN PAGE: No, Keeyask is not in --  
10 in our current IFF either.

11 MS. TAMARA MCCAFFREY: And I think that's  
12 something like 3.7 billion cost, or one (1) of the  
13 numbers that's been tossed around with respect to that.

14 Can you give us a rough idea of how that  
15 might impact the -- the sinking fund expense?

16 MR. IAN PAGE: If -- if there was a 1  
17 percent spread from the guarantee fee on -- on something  
18 like Keeyask then you could take essentially 1 percent of  
19 the -- of the Keeyask capital expenditures in any one (1)  
20 year and that would -- well on an cumulative basis and  
21 then that would be -- that would be the -- essentially  
22 the cost of maintaining the sinking fund.

23 MS. TAMARA MCCAFFREY: Thank you.

24

25 (BRIEF PAUSE)

number of units exported, at the meter), there is a potential to clearly identify that portion of export revenue that is not presently required to cover the fully-allocated costs to serve exports on a unit basis. Under the present situation, absent a priority allocation of this "surplus" export revenue (such as to fund the Uniform Rates policy), this amount is allocated back to all customers via the Cost of Service study in proportion to each class' total allocated costs. In short, the surplus export revenues serve to allow ratepayers today to pay less than the fully allocated costs of serving their class.

There remains a compelling case, in the event an appropriate and protected reserve provision mechanism can be developed using any number of approaches (from third-party investment mechanisms, to internal "trust" approaches, to regulatory liabilities), to apply this identified "surplus" export revenue amount as an initial allocation to begin to build such reserves. Section 4 of this evidence identifies the potential ultimate allocation as being approximately \$131 million.<sup>56</sup> This surplus can only exist to the extent domestic rates are adjusted to remove this allocation (subsidy) from the rate-setting process. It is important to note that these funds only arise to the extent domestic rates are raised to replace this amount of revenue from the appropriate classes of Manitoba customers – this will take time. The eventual outcome of such a transition, where export revenues in excess of their fully allocated costs are prioritized towards building necessary and prudent protected reserves, will help all ratepayers, as these needed funds will be available as of the next drought to help offset or avoid the need for the same level of rate increases that would otherwise be required.

The Board should ensure that any investigation of the potential for protected reserves as noted in the preceding section includes consideration of the implications for long-term rate levels arising from the evolution of net export revenue allocation (what Hydro referred to in the 2006 Cost of Service hearing as "above cost" export revenues) and in particular a revision to ensure these revenues are first allocated to secure ratepayer reserves under the oversight of the Board rather than to the COS analysis.

A breakdown of the PCOSS08 result of \$131 million in "surplus" or "above cost" export revenues can be calculated from MIPUG/MH-I-25(b) and is summarized in Section 4.

### 3.2.2 Sinking Funds

*The Manitoba Hydro Act* requires the Corporation to make annual sinking fund payments to the Minister of Finance of not less than 1% of the debt and 4% of the sinking fund balance at March 31<sup>st</sup> of the previous year<sup>57</sup> except where exempted by the Minister. The Minister invests the sinking fund payments in securities that are authorized by Section 27(2) of *The Financial Administration Act*.<sup>58</sup> Maintaining sinking funds for future debt repayment has been reasonably common longstanding practice among Crown owned utilities, such as Newfoundland and Labrador Hydro, NWT Power and New Brunswick Power.

<sup>56</sup> Per MIPUG/MH-I-25(b), derived from the difference between a fully allocated cost of exports of \$414 million and a forecast export revenue of \$552 million. However, \$7 million of this amount is required as an allocation to the diesel zone and cannot be addressed by the methods noted above.

<sup>57</sup> MIPUG/MH I-12 a).

<sup>58</sup> The authorized securities are detailed in the response to MIPUG/MH I -12 a).

1 Though Manitoba Hydro indicates it does not maintain detailed information on the sinking fund policies of  
 2 other Crown utilities<sup>59</sup>, Hydro has confirmed that B.C. Hydro's sinking fund requirements were removed  
 3 from its obligations on all new and outstanding debt as of December 2005.<sup>60</sup> Hydro also notes that no  
 4 transition provisions were necessary when the sinking fund requirement for B.C. Hydro was eliminated.<sup>61</sup>

5  
 6 Hydro estimates that removing its own sinking fund requirements would result in a benefit to net income  
 7 of approximately \$93 million during the IFF07-1 period<sup>62</sup> (due to reduced finance expense).<sup>63</sup> While  
 8 these savings represent the immediately apparent avoided costs that may arise, there would also seem to  
 9 be a potential for further financial benefits from reducing the exposure to interest rate spreads between  
 10 the earnings on the sinking funds as compared to the interest costs on the underlying debt, and by  
 11 allowing a more flexible approach to maintaining bullet payment debt. Hydro has indicated that it does  
 12 not believe eliminating the sinking fund requirements would have any adverse effect on the borrowing  
 13 rates it is able to secure<sup>64</sup>; its ability to access capital markets<sup>65</sup>; the range of borrowing instruments  
 14 available to it<sup>66</sup>; or the debt ratings for Manitoba and related contributions of Manitoba Hydro to the  
 15 provincial debt rating.<sup>67</sup>

16  
 17 Despite the cost savings that would be available to Hydro, with no apparent adverse effects, Hydro  
 18 indicates that it has not sought relief from sinking fund requirements to date but that it will be pursued at  
 19 an "opportune time".<sup>68</sup> Given the magnitude of Hydro's planned capital program and associated debt  
 20 requirement, as well as Hydro identifying upward pressure on capital project construction costs as a key  
 21 financial risk<sup>69</sup>, it is not clear why this is not an opportune time for such evolution.

22  
 23 While Hydro cannot apparently terminate sinking fund contributions without some form of relief under  
 24 the necessary sections of *The Manitoba Hydro Act*, such relief should be assessed, based on the support  
 25 of Hydro and the Board, as a clear measure to aid in reducing costs to ratepayers.

### 26 3.2.3 Brandon Unit #5

27 IFF07-1 canvasses for the first time the financial impacts that may arise in the event the Brandon Unit #5  
 28 (coal) is prematurely decommissioned; it is estimated that for each year the plant is prematurely shut  
 29 down (prior to 2019), there will be an adverse impact on net income of \$20 million per year.

30  
 31 Hydro provided numerous responses to Information Requests regarding the appropriate management of  
 32 Brandon Unit #5 and the need for the plant, in light of the environmental permits and licences in place

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<sup>59</sup> MIPUG/MH I -12 c)

<sup>60</sup> MIPUG/MH I - 12 d)

<sup>61</sup> MIPUG/MH II-13 c)

<sup>62</sup> MIPUG/MH II-13 a)

<sup>63</sup> MIPUG/MH II-13 e)

<sup>64</sup> MIPUG/MH II-13 h) i

<sup>65</sup> MIPUG/MH II-13 h) ii

<sup>66</sup> MIPUG/MH II-13 h) iii

<sup>67</sup> MIPUG/MH II-13 h) iv

<sup>68</sup> MIPUG/MH I - 12 g)

<sup>69</sup> Page 18 IFF-07-1



**PUB/MH I-25****Subject: Tab 4: Financial Results & Forecast****Reference: Sinking Fund**

- b) Please provide the implication of the removal of sinking fund requirements on revenue requirement and discuss MH's efforts to remove this obligation.

**ANSWER:**

Manitoba Hydro estimates the net impact of removal of the sinking funds to be approximately \$8 million per year. However, this does not take into consideration potential negative impacts that may result from credit rating agency reviews.

The Province of Manitoba is aware of Manitoba Hydro's objective to ultimately eliminate the sinking fund requirements.

**MIPUG/MH II-6****Sinking Funds**

- a) **With reference to the response to PUB/MH I-25 b), please elaborate on the “potential negative impacts that may result from credit rating agency reviews” from removing the sinking fund requirements.**

**ANSWER:**

Liquidity levels provided by a large pool of sinking funds have been noted as a major credit rating strength factor in credit opinions provided by Standard & Poor’s for the Province of Manitoba. It is unknown if the elimination of the sinking fund would negatively impact the credit rating of the Province of Manitoba through time and potentially increase Manitoba Hydro’s credit spreads and borrowing costs.

**ELECTRIC OPERATIONS (MH10)**  
**PROJECTED CASH FLOW STATEMENT**  
(In Millions of Dollars)

*For the year ended March 31*

|  | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>OPERATING ACTIVITIES</b>                        |         |         |         |         |         |         |         |         |         |         |
| Cash Receipts from Customers                       | 1,645   | 1,732   | 1,829   | 1,907   | 1,988   | 2,137   | 2,220   | 2,315   | 2,398   | 2,630   |
| Cash Paid to Suppliers and Employees               | (731)   | (794)   | (805)   | (832)   | (857)   | (882)   | (912)   | (955)   | (986)   | (1,065) |
| Interest Paid                                      | (400)   | (431)   | (485)   | (489)   | (528)   | (565)   | (573)   | (610)   | (681)   | (731)   |
| Interest Received                                  | 25      | 29      | 30      | 26      | 16      | 26      | 39      | 49      | 53      | 47      |
|  | 540     | 536     | 569     | 613     | 618     | 716     | 773     | 799     | 784     | 881     |
| <b>FINANCING ACTIVITIES</b>                        |         |         |         |         |         |         |         |         |         |         |
| Proceeds from Long-Term Debt                       | 970     | 600     | 730     | 1,390   | 1,155   | 1,800   | 1,400   | 2,200   | 2,200   | 1,800   |
| Sinking Fund Withdrawals                           | 651     | 25      | 128     | 463     | -       | 8       | -       | -       | 444     | 167     |
| Retirement of Long-Term Debt                       | (1,024) | (25)    | (119)   | (829)   | (65)    | (312)   | (201)   | (530)   | (857)   | (317)   |
| Other  | (228)   | 18      | (12)    | (7)     | (1)     | (3)     | (2)     | (1)     | (12)    | (3)     |
|  | 369     | 618     | 727     | 1,017   | 1,089   | 1,494   | 1,197   | 1,669   | 1,776   | 1,647   |
| <b>INVESTING ACTIVITIES</b>                        |         |         |         |         |         |         |         |         |         |         |
| Property, Plant and Equipment, net of contribution | (1,134) | (1,046) | (1,105) | (1,431) | (1,569) | (1,907) | (1,813) | (2,197) | (2,276) | (2,179) |
| Sinking Fund Payment                               | (119)   | (99)    | (117)   | (167)   | (111)   | (199)   | (157)   | (239)   | (198)   | (226)   |
| Other  | (21)    | (16)    | (17)    | (16)    | (17)    | (36)    | (46)    | (28)    | (27)    | (27)    |
|  | (1,274) | (1,160) | (1,238) | (1,614) | (1,697) | (2,142) | (2,016) | (2,463) | (2,501) | (2,432) |
| <b>Net Increase (Decrease) in Cash</b>             | (364)   | (6)     | 58      | 16      | 10      | 68      | (46)    | 5       | 58      | 96      |
| <b>Cash at Beginning of Year</b>                   | 170     | (195)   | (201)   | (143)   | (128)   | (118)   | (50)    | (96)    | (91)    | (33)    |
| <b>Cash at End of Year</b>                         | (195)   | (201)   | (143)   | (128)   | (118)   | (50)    | (96)    | (91)    | (33)    | 63      |

**ELECTRIC OPERATIONS (MH10)**  
**PROJECTED CASH FLOW STATEMENT**  
(In Millions of Dollars)

*For the year ended March 31*

|  | 2021           | 2022           | 2023           | 2024           | 2025           | 2026           | 2027           | 2028           | 2029           | 2030           |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>OPERATING ACTIVITIES</b>                        |                |                |                |                |                |                |                |                |                |                |
| Cash Receipts from Customers                       | 2,895          | 3,100          | 3,196          | 3,410          | 3,836          | 4,023          | 4,125          | 4,208          | 4,310          | 4,405          |
| Cash Paid to Suppliers and Employees               | (1,069)        | (1,126)        | (1,160)        | (1,190)        | (1,200)        | (1,215)        | (1,233)        | (1,256)        | (1,289)        | (1,322)        |
| Interest Paid                                      | (1,109)        | (1,007)        | (949)          | (1,028)        | (1,269)        | (1,424)        | (1,394)        | (1,355)        | (1,313)        | (1,252)        |
| Interest Received                                  | 44             | 44             | 23             | 25             | 38             | 45             | 48             | 63             | 77             | 82             |
|  | <u>761</u>     | <u>1,011</u>   | <u>1,111</u>   | <u>1,217</u>   | <u>1,405</u>   | <u>1,429</u>   | <u>1,546</u>   | <u>1,659</u>   | <u>1,785</u>   | <u>1,913</u>   |
| <b>FINANCING ACTIVITIES</b>                        |                |                |                |                |                |                |                |                |                |                |
| Proceeds from Long-Term Debt                       | 1,390          | 1,400          | 600            | 590            | 200            | 190            | -              | (10)           | -              | (40)           |
| Sinking Fund Withdrawals                           | 278            | 722            | 167            | -              | -              | 339            | -              | -              | 60             | 250            |
| Retirement of Long-Term Debt                       | (403)          | (725)          | (167)          | -              | -              | (450)          | -              | -              | (60)           | (220)          |
| Other  | 28             | (12)           | (8)            | (8)            | (9)            | (10)           | (11)           | (12)           | (12)           | (13)           |
|  | <u>1,293</u>   | <u>1,384</u>   | <u>592</u>     | <u>582</u>     | <u>191</u>     | <u>69</u>      | <u>(11)</u>    | <u>(22)</u>    | <u>(12)</u>    | <u>(23)</u>    |
| <b>INVESTING ACTIVITIES</b>                        |                |                |                |                |                |                |                |                |                |                |
| Property, Plant and Equipment, net of contribution | (1,767)        | (1,707)        | (1,623)        | (1,407)        | (1,332)        | (756)          | (807)          | (936)          | (1,109)        | (1,059)        |
| Sinking Fund Payment                               | (299)          | (357)          | (223)          | (222)          | (236)          | (248)          | (242)          | (251)          | (261)          | (269)          |
| Other  | (33)           | (38)           | (29)           | (32)           | (30)           | (30)           | (33)           | (31)           | (32)           | (32)           |
|  | <u>(2,099)</u> | <u>(2,103)</u> | <u>(1,874)</u> | <u>(1,661)</u> | <u>(1,598)</u> | <u>(1,035)</u> | <u>(1,081)</u> | <u>(1,218)</u> | <u>(1,402)</u> | <u>(1,360)</u> |
| <b>Net Increase (Decrease) in Cash</b>             | (45)           | 292            | (171)          | 138            | (2)            | 463            | 454            | 419            | 371            | 530            |
| <b>Cash at Beginning of Year</b>                   | 63             | 18             | 310            | 139            | 277            | 275            | 739            | 1,192          | 1,612          | 1,982          |
| <b>Cash at End of Year</b>                         | <u>18</u>      | <u>310</u>     | <u>139</u>     | <u>277</u>     | <u>275</u>     | <u>739</u>     | <u>1,192</u>   | <u>1,612</u>   | <u>1,982</u>   | <u>2,512</u>   |



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(c) for the stabilization by the board of rates or prices for power sold by the corporation, the meeting of extraordinary contingencies, and such other requirements or purposes as in the opinion of the board are proper.

**Use of reserves**

**40(2)** The reserves created pursuant to subsection (1) may be used or employed by the board

- (a) towards the reservation and setting aside of the sinking fund established under section 41;
- (b) towards the renewal, reconstruction, or replacement, or depreciated, damaged, or obsolescent property and works;
- (c) towards restoration of any property lost or damaged, or the payment of any claims, in respect of which a reserve as insurance has been established;
- (d) in such manner towards the stabilization of rates or prices for power, the meeting of extraordinary contingencies, and for such other requirements or purposes, as the board in its discretion deems proper; and
- (e) subject to the approval of the Lieutenant Governor in Council, towards the cost of construction of new works and extensions, improvements, or additions, to any property and works of the corporation.

c) la stabilisation par le conseil des tarifs de l'énergie que vend la Régie, les provisions pour les circonstances imprévues ainsi que les autres exigences et objectifs qui sont jugés opportuns par le conseil.

**Utilisation des réserves**

**40(2)** Le conseil peut utiliser les réserves établies en vertu du paragraphe (1) aux fins suivantes :

- a) la constitution du fonds d'amortissement prévu à l'article 41;
- b) la rénovation, la reconstruction ou le remplacement des biens ou des ouvrages dépréciés, endommagés ou frappés d'obsolescence;
- c) la remise en état d'un bien perdu ou endommagé, l'indemnisation d'un sinistre, si ces risques ont fait l'objet d'une constitution de réserve aux fins d'assurance;
- d) la stabilisation des tarifs ou des prix de l'énergie, l'adaptation à des circonstances exceptionnelles ainsi que l'adaptation des exigences ou des objectifs que le conseil, à sa discrétion, juge pertinente;
- e) sous réserve de l'approbation du lieutenant-gouverneur en conseil, le financement de la construction de nouveaux ouvrages ainsi que l'extension, l'amélioration, la mise en exploitation ou l'agrandissement de biens et d'ouvrages de la Régie.

## SINKING FUND

## FONDS D'AMORTISSEMENT

**Establishment of sinking fund**

**41(1)** The board shall reserve and set aside, out of the reserves or funds of the corporation established and maintained under section 40 and out of such other revenues and funds of the corporation as may be available for such purposes,

- (a) such annual or other periodic amounts as may be required to be reserved and set aside as a sinking fund under any agreement or undertaking entered into, or assumed, by the corporation or the responsibility for the performance or implementation of which is an obligation of the corporation, relative to the repayment of moneys borrowed by the corporation and

**Établissement d'un fonds d'amortissement**

**41(1)** Le conseil doit mettre en réserve, sur les réserves et les fonds de la Régie établis et maintenus en application de l'article 40 et sur les autres revenus et fonds de la Régie disponibles à de telles fins, les sommes suivantes :

- a) les sommes qui peuvent être nécessaires à la Régie pour rembourser les sommes qu'elle a recueillies ou empruntées; pour ce faire, la Régie doit constituer un fonds d'amortissement sur une base annuelle ou périodique qui doit servir au paiement qui découle d'un contrat ou d'un accord que la Régie a passé ou a cautionné ou dont la Régie est responsable de l'exécution ou de la mise en oeuvre;

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(b) such additional annual or other periodic amounts as the Lieutenant Governor in Council may from time to time direct to be reserved and set aside as a sinking fund for the repayment of any other moneys borrowed by, or advanced to, the corporation and applied to the cost of acquisition or construction of property and

b) les sommes que le lieutenant-gouverneur en conseil peut ordonner à la Régie de mettre en réserve sur une base annuelle ou périodique, à titre de fonds d'amortissement pour le remboursement des sommes qu'elle a recueillies ou empruntées ou qu'elle a reçues à titre d'avance et qui sont affectées au coût

Act continues on page 31.

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works of the corporation, or indebtedness assumed by the corporation or the liability for the repayment of which is an obligation of the corporation, in respect of the cost of any property or works of the corporation, or otherwise.

**Minimum annual amount for sinking fund**

**41(2)** Subject to subsection (7), the aggregate of the amounts so reserved and set aside as a sinking fund in each fiscal year under subsection (1) shall not be less than

- (a) 1% of the advances, borrowings, and assumptions of indebtedness or indebtedness for which the corporation is liable, mentioned in subsection (1) that are outstanding as at March 31 of the fiscal year next preceding the fiscal year in which the sinking fund payment is made; and
- (b) an amount in each fiscal year equal to interest at the rate of 4% per annum on the total sinking fund balances as at March 31 in the next preceding fiscal year.

**Payment to Minister of Finance**

**41(3)** The moneys reserved and set aside in each fiscal year for sinking fund purposes under subsections (1) and (2) shall be paid to the Minister of Finance as trustee for the corporation before the end of that fiscal year.

**Sinking fund trust account**

**41(4)** The Minister of Finance shall continue to maintain appropriate sinking fund trust accounts, in which shall be included

- (a) the moneys and investments made from the moneys reserved and set aside by the corporation, and from interest earnings thereon, held by the Minister of Finance at the time this Act comes into force; and
- (b) the moneys paid to the Minister of Finance under subsection (3).

**Investment by Minister of Finance**

**41(5)** The Minister of Finance shall invest and keep invested the moneys and investments so held by the Minister of Finance, in securities authorized by *The Financial Administration Act*

d'acquisition ou de construction de ces biens et ouvrages, ou au remboursement qu'elle pourrait devoir faire du fait qu'elle a cautionné des dettes relatives au coût de biens et ouvrages lui appartenant ou non.

**Apport annuel minimum au fonds d'amortissement**

**41(2)** Sous réserve du paragraphe (7), le montant global des sommes mises en réserve à titre de fonds d'amortissement pour chaque exercice en vertu du paragraphe (1) ne doit pas être inférieur aux montants suivants :

- a) 1 % des avances, des emprunts, des dettes et des cautionnements de dette dont la Régie est responsable, lesquels sont prévus au paragraphe (1) et qui demeurent à payer au 31 mars de l'exercice qui précède immédiatement l'exercice au cours duquel le versement au fonds d'amortissement est fait;
- b) une somme équivalente pour chaque exercice à un intérêt annuel de 4 % sur le solde global du fonds d'amortissement établi au 31 mars de l'exercice immédiatement précédent.

**Versement au ministre des Finances**

**41(3)** Les sommes mises en réserve lors de chaque exercice dans un fonds de réserve en vertu des paragraphes (1) et (2) doivent être versées au ministre des Finances, fiduciaire de la Régie à cette fin, avant la fin de l'exercice concerné.

**Compte en fiducie pour le fonds d'amortissement**

**41(4)** Le ministre des Finances maintient les comptes en fiducie qu'il convient pour les fonds d'amortissement. Sont versés dans ces comptes :

- a) les sommes et investissements que détient le ministre des Finances au moment de l'entrée en vigueur de la présente loi et qui proviennent des sommes mises en réserve par la Régie ainsi que des intérêts qu'ils ont produits;
- b) les versements faits au ministre des Finances en vertu du paragraphe (3).

**Investissement par le ministre des Finances**

**41(5)** Le ministre des Finances doit investir et garder investis les sommes et investissements ainsi détenus dans les titres pour lesquels la *Loi sur l'administration financière* permet

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for the investment of funds, and shall apply them towards the repayment of advances made to, and moneys borrowed or assumed by, the corporation or liability for the repayment of which is an obligation of the corporation and to which reference is made in subsection (1), as they fall due; and the Minister of Finance shall pay to the corporation all interest earned from the investment of the moneys so reserved and set aside and paid to and held by the Minister of Finance.

**Repayments to the government**

**41(6)** The corporation in addition to the payments provided for under subsections (1) and (2), may pay to the Minister of Finance such money as it may have available for application on advances made by the government to the corporation or assumed by the corporation or liability for the repayment of which is an obligation of the corporation.

**Authorization of omission or deferment of commencement of sinking fund payments**

**41(7)** Subject to subsection (1) and notwithstanding subsection (2), the Lieutenant Governor in Council may direct that

(a) in respect of any moneys advanced to or borrowed by the corporation pursuant to sections 31 or 32, no amounts need be reserved or set aside as a sinking fund; and

(b) in respect of any moneys advanced to, or borrowed or assumed by, the corporation, or liability for the repayment of which is an obligation of the corporation, and that are applied to the cost of newly constructed works of the corporation, the payments to which reference is made in clauses (2)(a) and (b), shall begin with such fiscal year of the corporation as, in each case, the Lieutenant Governor in Council may direct.

**Limitation respecting fiscal year that is to be fixed**

**41(8)** The fiscal year to be directed by the Lieutenant Governor in Council under clause (7)(b) shall not be later than five years after the making of the respective advances to or borrowings by the corporation or, in the case of moneys assumed by the corporation or liability for the repayment of which is an obligation of the corporation, shall not be later than five years after the making of the respective advances or borrowings liability for repayment of which is an obligation of the corporation.

l'investissement de fonds. Il doit utiliser ces sommes et investissements pour les remboursements que la Régie doit faire des avances qu'on lui a consenties, des sommes qu'elle a recueillies ou empruntées ou des dettes dont elle est responsable du remboursement et qui sont visées au paragraphe (1) lorsqu'elles viennent à échéance. Le ministre des Finances doit verser à la Régie les intérêts produits par l'investissement des sommes ainsi mises en réserve qui lui ont été versées et qu'il détient.

**Remboursements au gouvernement**

**41(6)** Outre les versements prévus aux paragraphes (1) et (2), la Régie peut verser au ministre des Finances les sommes disponibles pour le remboursement des avances que lui a faites le gouvernement, pour le remboursement de celles qu'elle assume ou pour les remboursements pour lesquels la Régie assume une responsabilité.

**Autorisation de reporter le début des paiements**

**41(7)** Sous réserve du paragraphe (1) et malgré le paragraphe (2), le lieutenant-gouverneur en conseil peut décider :

a) qu'en égard aux sommes avancées à la Régie ou que cette dernière a empruntées en vertu de l'article 31 ou 32, il n'est pas nécessaire de mettre des sommes en réserve sous la forme d'un fonds d'amortissement;

b) qu'en égard aux sommes avancées à la Régie, qui lui ont été prêtées ou dévolues ou dont elle assume la responsabilité du remboursement et qui sont affectées au coût des ouvrages de la Régie nouvellement construits, les paiements visés aux alinéa (2)a) et b) débutent lors d'un exercice de la Régie que le lieutenant-gouverneur en conseil peut, dans chaque cas, indiquer.

**Restriction eu égard à la détermination de l'exercice**

**41(8)** L'exercice qu'indique le lieutenant-gouverneur en conseil aux termes de l'alinéa (7)b) ne peut se situer plus de cinq ans après les avances ou emprunts qu'a contractés la Régie ou, dans le cas de sommes dévolues à la Régie ou d'autres responsabilités de remboursement, ne peut se situer plus de cinq ans après ces engagements.

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**"Works" defined for purposes of subsection (7)**

**41(9)** For the purposes of subsection (7), the expression "**works**", in addition to the meaning given it in section 1, includes preliminary reports, surveys, investigations, engineering, accounting, or organization work or service, or any other work or service in connection with, or incidental to, any proposed development or construction.

**Définition du mot « ouvrages »**

**41(9)** Aux fins du paragraphe (7), le mot « **ouvrages** », outre le sens que lui donne l'article 1, s'entend des rapports préliminaires, études, enquêtes, de l'ingénierie, de la comptabilité, des travaux ou services d'organisation et de tout autre travail ou service relié ou subsidiaire à tout aménagement ou construction envisagé.

## APPLICATION OF REVENUES

## AFFECTATION DES REVENUS

**Application of revenues of the corporation**

**42(1)** The corporation shall apply its revenues toward payment of the operating expenses, interest, and other charges, to which reference is made in clauses 39(1)(a) and (b), and the establishment and maintenance of the reserves and funds established under section 40, and to the reservation and setting aside of the sinking fund established under section 41, and towards all other obligations of the corporation; and the corporation may pay the Minister of Finance, for investment for the corporation, such additional moneys as are available for that purpose and as are not immediately required for the purposes and objects of the corporation.

**Affectation des revenus de la Régie**

**42(1)** La Régie doit affecter ses revenus aux paiements des dépenses de fonctionnement, des intérêts et autres frais visés aux alinéas 39(1)a) et b), de la constitution et du maintien de réserves et fonds visés à l'article 40, à la mise en réserve du fonds d'amortissement visé à l'article 41, à l'exécution de ses autres obligations. La Régie peut verser au ministre des Finances, pour qu'il les investisse au bénéfice de la Régie, les sommes excédentaires qui, n'étant pas immédiatement nécessaires à la réalisation de l'objet de la Régie, sont disponibles à cet effet.

**Funds to be held in trust**

**42(2)** Additional moneys paid to the Minister of Finance for investment under subsection (1) shall form part of the Consolidated Fund; and interest earnings thereon shall be credited to the account of the corporation in the Consolidated Fund or shall be paid over to the corporation by the Minister of Finance.

**Sommes détenues en fiducie**

**42(2)** Les sommes excédentaires versées au ministre des Finances pour investissement en vertu du paragraphe (1) sont détenues dans le Trésor. Les intérêts que produisent ces investissements sont soit versés au compte de la Régie au Trésor, soit versés à la Régie par le ministre des Finances.

**Right of corporation to use of funds and securities**

**42(3)** The moneys referred to in subsection (2), and any investment therefrom held for the corporation, may be used as required by the board for the purposes of the corporation.

S.M. 1996, c. 59, s. 98.

**Droit pour la Régie d'utiliser les fonds et les titres**

**42(3)** Les sommes visées au paragraphe (2) et tout investissement fait à partir de ces sommes et détenu pour la Régie peuvent être utilisés comme l'exige le conseil pour les objets de la Régie.

L.M. 1996, c. 59, art. 98.

## TAXATION, CHARGES AND DISTRIBUTIONS

## TAXATION, CHARGES ET VERSEMENTS

**43(1)** Repealed, S.M. 1989-90, c. 24, s. 85.

**43(1)** Abrogé, L.M. 1989-90, c. 24, art. 85.



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#### 4.0 Finance Expense

review. Such a review may suggest a different mix between fixed and floating debt, which may reduce finance expense.

Because of the potential for MH's overall debt level reaching \$20 billion, possibly over twice the debt taken on by the province on its own account (with all debt guaranteed by the province) the Board will direct MH to engage an external assessment of the Corporation's relative weighting of fixed vs. floating debt, and file a report with the Board on or before June 30, 2009.

#### **Sinking Fund**

The Board notes that elimination of the sinking fund requirement has been forecast to result in savings of \$93 million over an eleven year forecast period. While the potential savings are alluring and demand a consideration of the positions of interveners and the views of the Utility, the Board believes that MH has been served well in the past by the obligation to have sinking funds. Yet, the Board accepts that its future benefit may be diminished due to changes in accounting standards and improvements in the capital markets.

The Board understands MH's perspective that elimination of the sinking fund requirement will have no impact on the credit rating of MH or the Province, nor would it limit MH's access to the capital that it clearly needs to proceed with its expansion plans.

Out of an abundance of caution, and in light of the major capital expansion and related anticipated growth in debt levels now planned, the Board will recommend that MH seek independent advice, as well as advice from government and its credit rating agencies, as to the merits of a possible elimination of the sinking fund requirements.





**PUB/MH I-25****Subject: Tab 4: Financial Results & Forecast****Reference: Sinking Fund**

- a) Please provide a continuity schedule of the sinking fund from fiscal years 2000 to 2020 including contributions, income earned, and withdrawals from the fund.

**ANSWER:**

Please see the attached schedule.

**PUB/MH 1 - 25 (a)****MANITOBA HYDRO  
SINKING FUND CONTINUITY****Actuals to March 31, 2009  
(In \$Millions Canadian Dollars)**

|                                     | Actual<br>2004/05 | Actual<br>2005/06 | Actual<br>2006/07 | Actual<br>2007/08 | Actual<br>2008/09 | Forecast<br>2009/10 | Forecast<br>2010/11 | Forecast<br>2011/12 | Forecast<br>2012/13 | Forecast<br>2013/14 | Forecast<br>2014/15 | Forecast<br>2015/16 | Forecast<br>2016/17 | Forecast<br>2017/18 | Forecast<br>2018/19 |
|-------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>\$CAD Sinking Fund</b>           |                   |                   |                   |                   |                   |                     |                     |                     |                     |                     |                     |                     |                     |                     |                     |
| Opening                             | 301               | 81                | (0)               | (0)               | (0)               | (0)                 | 13                  | 31                  | 103                 | 116                 | 19                  | 32                  | 39                  | 50                  | 62                  |
| Contributions                       | 13                | 5                 |                   |                   |                   | 13                  | 31                  | 98                  | 116                 | 10                  | 13                  | 10                  | 11                  | 11                  | 12                  |
| Withdrawals                         | (236)             | (84)              |                   |                   |                   |                     | (13)                | (27)                | (103)               | (107)               | -                   | (3)                 | -                   | -                   | -                   |
| Premiums/Discounts                  | 3                 | (2)               |                   |                   |                   |                     |                     |                     |                     |                     |                     |                     |                     |                     |                     |
| Total                               | 81                | (0)               | (0)               | (0)               | (0)               | 13                  | 31                  | 103                 | 116                 | 19                  | 32                  | 39                  | 50                  | 62                  | 73                  |
| <b>\$USD Sinking Fund in \$CAD</b>  |                   |                   |                   |                   |                   |                     |                     |                     |                     |                     |                     |                     |                     |                     |                     |
| Opening                             | 414               | 481               | 555               | 630               | 718               | 666                 | 379                 | 233                 | 233                 | 227                 | 21                  | 114                 | 302                 | 467                 | 700                 |
| Contributions                       | 86                | 98                | 100               | 96                | 124               | 81                  | 67                  | -                   | -                   | 167                 | 95                  | 192                 | 150                 | 234                 | 192                 |
| Withdrawals                         | -                 |                   |                   |                   | (261)             | (262)               | (214)               | -                   | -                   | (376)               | -                   | -                   | -                   | -                   | (456)               |
| Premiums/Discounts/Other*           | 14                | (1)               | (13)              | 64                | (32)              | (6)                 | (3)                 | (3)                 | (2)                 | (4)                 | (3)                 | (4)                 | 12                  | (1)                 | (1)                 |
| FX Adjustments                      | (34)              | (22)              | (12)              | (72)              | 116               | (100)               | 3                   | 4                   | (4)                 | 8                   | 0                   | 1                   | 3                   | -                   | -                   |
| Total                               | 481               | 555               | 630               | 718               | 666               | 379                 | 233                 | 233                 | 227                 | 21                  | 114                 | 302                 | 467                 | 700                 | 434                 |
| <b>Total Sinking Funds in \$CAD</b> |                   |                   |                   |                   |                   |                     |                     |                     |                     |                     |                     |                     |                     |                     |                     |
|                                     | 562               | 555               | 630               | 718               | 666               | 392                 | 264                 | 336                 | 344                 | 40                  | 146                 | 342                 | 518                 | 762                 | 508                 |

\*Premiums/Discounts/Other includes premiums and discounts on investments; and effective 2007/08 includes changes to portfolio carrying value from premiums, discounts and changes in fair value.

**MANITOBA**  
**THE PUBLIC UTILITIES BOARD ACT**  
**THE MANITOBA HYDRO ACT**  
**THE CROWN CORPORATIONS PUBLIC**  
**REVIEW AND ACCOUNTABILITY ACT**

**Board Order 7/03**

**February 3, 2003**

Before: G. D. Forrest, Chair  
R. A. Mayer, Q.C., Vice Chair  
Dr. K. Avery Kinew, Member

**A FILING BY MANITOBA HYDRO TO PROVIDE AN INFORMATION  
UPDATE REGARDING FINANCIAL RESULTS, FORECASTS,  
METHODOLOGIES, PROCESSES, AND OTHER MATTERS  
RELATING TO SALES RATES CHARGED BY MANITOBA HYDRO**

February 3, 2003  
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the program, prior to the change in accounting policy, Hydro had reflected the balance of the US debt, and sinking fund at a designated US exchange rate, which has been significantly below the rates currently experienced. As a result of this policy, the debt of Hydro at March 31, 2001 was valued at approximately \$1 billion less in the financial statements than it would have been if the year-end exchange rate had been used to translate the US denominated debt into Canadian dollar equivalent.

The Board notes that as a result of the accounting policy change, US denominated transactions and balances will better reflect the true economic costs and benefits and more clearly reflect the risks faced by Hydro to US denominated transactions and balances, which in the Board's view, are significant.

## **21.8 Operating Expenses**

Although Hydro's operating and administration expenses appear reasonable, the Board encourages Hydro to continue to control these expenses through aggressive cost control initiatives and management of the labour force. The Board appreciates that some operating and administration expenses, particularly payments to the Province, are beyond Hydro's control. However, it remains necessary for Hydro to continue to be diligent in taking steps to control all such costs and improve efficiencies.

Corporate performance measures such as the operating and administration costs per customer or per kW.h targets are of great assistance in assessing the performance of Hydro's cost control initiatives compared to other utilities. The Board recommends Hydro aggressively pursue meeting its operating and administration costs per customer target while finding ways to increase productivity. The Board also encourages Hydro to continue to participate in benchmarking initiatives to help identify and implement further efficiencies and enhancements in its operations as compared to other utilities. Hydro should actively pursue all possible synergy savings in

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operating and administration expenses as a result of Hydro's recent acquisition of Winnipeg Hydro.

## **21.9 Transmission Tariffs**

The jurisdiction of the Board over transmission tariffs is an area of concern to the Board and parties were requested to address this issue in their closing argument.

The MISO tariff does not apply to the Hydro transmission grid, but only outside the Province. Therefore, there is no provincial authority over the MISO tariff, and accordingly, no role for the Board.

The Board receives its jurisdiction and obligations for Hydro rates mainly from *The Crown Corporations Public Review and Accountability Act*. Rates for services provided by Hydro shall be approved by the Board, which rates for service means the provision of electrical power. Even though Hydro can issue its own tariff under s. 15 of *The Manitoba Hydro Act*, Hydro is still obligated to have such a tariff as a rate for service for the provision of electrical power approved by the Board. Whether the provision of power is bundled or unbundled between generation, transmission and distribution, the Board retains the jurisdiction to approve rates for service if offered in this province.

Accordingly, the Board will direct Hydro to make a separate application to the Board for approval of the Hydro Open Access Transmission Tariff. Hydro is ordered to file such an application by no later than June 30, 2003. Such an application should contain tariff and rate schedules, and a comprehensive explanation of the pricing and costs included in designing the rates.

|  |                           |
|--|---------------------------|
| <b>MANITOBA</b>  | <b>Board Order 116/08</b> |
| <b>THE PUBLIC UTILITIES BOARD ACT</b>  |                           |
| <b>THE MANITOBA HYDRO ACT</b>  |                           |
| <b>THE CROWN CORPORATIONS PUBLIC<br/>REVIEW AND ACCOUNTABILITY ACT</b>   | <b>July 29, 2008</b>      |
| <b>Edited for format and typographical errors only<br/>August 25, 2008<br/>Further amended September 4, 2008</b> |                           |

Before:           Graham Lane CA, Chair  
                    Robert Mayer Q.C., Vice-Chair  
                    Susan Proven, P.H.Ec., Member

**AN ORDER SETTING OUT FURTHER DIRECTIONS, RATIONALE AND  
BACKGROUND FOR OR RELATED TO THE DECISIONS IN BOARD  
ORDER 90/08 WITH RESPECT TO AN APPLICATION BY MANITOBA  
HYDRO FOR INCREASED RATES AND FOR RELATED MATTERS**

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## 5.0 Operating, Maintenance, and Administrative Expenses

MKO also recommended that MH and the Board clearly distinguish MH's necessary and appropriate costs (expenditures and investments related to operations, mitigation and agreement obligations) from "charitable donations". MKO suggested that endowments funded by MH's net export revenues (intended to benefit "MH Affected Communities", such as for regional economic development, community infrastructure and the enhancement of fish and wildlife) should not be "charitable donations".

### 5.8 Board Findings

The Board remains concerned with the growth of OM&A expenses, particularly the level and growth of these expenditures prior to deferrals, capitalization and allocations to subsidiaries.

As stated in Order 101/04:

"The Board will expect MH to maintain vigilance over its costs, so that the additional revenues [from PUB approved rate increases] contribute as they are intended to move towards achieving the debt to equity target more quickly than suggested in MH's 2003 Integrated Financial Forecast."

Expectations from past recommendations related to OM&A expenses have not been met. The Board expects MH to control OM&A expense levels to assist in meeting its financial targets. Further control of OM&A costs is vital given the planned major capital expansion, and in light of the fact that MH will not meet its debt to equity target over the current forecast period.

And, in this Order, the Board continues to be concerned with MH's "aggressive" capitalization and deferral policies with respect to OM&A expenses. While there is an argument for the practice, the net result is that costs now being incurred are not reflected in rates until years, in fact decades, later, meaning the current

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#### 5.0 Operating, Maintenance, and Administrative Expenses

generation of ratepayers leave the results for the generations that will follow to meet.

The following concern, from Order 143/04, echoes past concerns raised by the Board with respect to the capitalization policies followed by MH. The Board then stated:

“The Board is concerned with the range and level of costs being capitalized by MH. While the Board understands that many of the projects undertaken by MH are long-term in nature, both from a benefit and cost perspective, aggressively capitalizing costs and selecting long amortization periods increases the rate risks to future generations of electric customers. If the Board questions whether aggressive capitalization policies are prudent..... The Board does not dispute that MH's accounting is based on GAAP, only that GAAP also provides for a more conservative capitalization approach.”

In Order 117/06 the Board further stated:

“The Board is concerned with MH's present capitalization and notes MH's comment that net export revenue represents a form of “windfall” which cannot be guaranteed to continue at recent levels. Even though net export revenues have been significant over the past decade, progress towards the debt:equity target of 75:25 is slow.”

The Board notes MH defends its level of OM&A expenditures on the basis of 'need' and has argued that it has successfully 'controlled OM&A cost per customer account'. The Board is of the view that this premise will remain not fully substantiated, given the enormous amount and percentage of total OM&A costs that have been and are forecast to be capitalized, at least until adequate peer benchmarking has been performed and the results reviewed.

As expressed in past Orders, for two decades MH's annual net income result has been assisted/increased by its deferral and capitalization process. If non – direct construction costs (an allocation of the salary of staff in contracts not involved in actual construction but more in planning in supporting roles) had been expensed



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#### 5.0 Operating, Maintenance, and Administrative Expenses

in the period incurred, rather than capitalized or deferred, annual net income would have been considerably lower, and possibly negative in many years; OM&A cost per customer account would have been much higher; rate pressure would have been considerably greater than has been demonstrated to date; and retained earnings would be much lower.

As indicated, while there is an argument for MH's current approach (to expense costs in the current period and reflect them in current rates, when the costs relate to projects not expected to provide benefits until the future, would mean charging the current generation of MH's customers for costs that could arguably be met by future generations), MH's rate structure and rates, even including the increases directed and indicated in Order 90/08, is premised on past and future OM&A cost deferrals and capitalization. If the approach was to change (a distinct possibility with the upcoming adoption of IFRS), costs now capitalized in the current period would be expensed. This would, again as previously noted, result in current and future ratepayers being billed for costs reflective not only of current costs but also cost burdens avoided by past ratepayers as a result of the current process of deferral and capitalization.

The Board does not believe OM&A should be adjusted based on the corporate strategic plan target of \$640 per customer as suggested by the Coalition. The Board is not convinced the benchmark is completely relevant, given the level of expense deferrals and capitalization impacting the current result. Once more stringent capitalization requirements are put in place with IFRS such a metric may have more value and use in the establishment of rate requirements.

To arbitrarily direct, as some interveners have suggested, that a significant amount of expense not be reflected in rates, as a way of sending a message to

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#### 5.0 Operating, Maintenance, and Administrative Expenses

MH that it is spending too much on OM&A, would be irresponsible given what the Board and the recent process has revealed.

This Board must rely on the public GRA process to provide opportunities to assess OM&A, and while the Board continues to express concern, there is nothing on the record sufficiently concrete to justify not accepting the costs in rates.

#### **IFRS**

The Board notes the coming adoption of IFRS is likely to have a material impact on MH's financial reporting and results. The Board further notes that AcSB has, in advance of IFRS, established a new reporting standard with respect to accounting for intangible assets [including goodwill, deferred charges and capitalized expenditures].

These new requirements are effective for fiscal years beginning on or after October 1, 2008 and could have an impact on MH's fiscal 2009 - 2010 accounts. However, the Board is aware that MH is looking to U.S. Federal Accounting Standards Board (FASB) accounting standards in support of its continuing its present accounting practices in the short term.

The Board's primary concern is not accounting for the short-term, but the long term, particularly with MH's massive capital expenditure plans.

The Board notes in The FASB Handbook section 71.34 (in part), Accounting for the Effects of Certain Types of Regulation, reads as follows:

"The regulator's action provides reasonable assurance of the existence of an asset (paragraph 9). Accordingly, the regulated enterprise would capitalize the cost and amortize it over the period during which it will be allowed for rate-making purposes."

## APPENDIX 4.4

**MANITOBA HYDRO**  
**2010/11 & 2011/12 GENERAL RATE APPLICATION**

**OPERATING, MAINTENANCE & ADMINISTRATIVE EXPENSE**

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## MANITOBA HYDRO

## Schedule 4.5.3

## OPERATING, MAINTENANCE AND ADMINISTRATIVE COSTS BY BUSINESS UNIT

(000's)

|   | 2007/08<br>Actual | 2008/09<br>Actual | 2009/10<br>Forecast | 2010/11<br>Forecast | 2011/12<br>Forecast |
|---|-------------------|-------------------|---------------------|---------------------|---------------------|
| <b>President &amp; CEO</b>                                      |                   |                   |                     |                     |                     |
| General Counsel   | \$ 4,629          | \$ 5,669          | \$ 5,450            | \$ 5,545            | \$ 5,673            |
| Public Affairs  | 2,939             | 3,189             | 3,299               | 3,352               | 3,429               |
| Research & Development  | 3,548             | 3,396             | 4,310               | 4,395               | 4,496               |
| Administration  | 9,861             | 9,901             | 11,416              | 12,137              | 12,416              |
|   | <b>\$ 20,977</b>  | <b>\$ 22,155</b>  | <b>\$ 24,475</b>    | <b>\$ 25,429</b>    | <b>\$ 26,014</b>    |
| <b>Corporate Relations</b>                                      |                   |                   |                     |                     |                     |
| Aboriginal Relations  | \$ 4,331          | \$ 4,473          | \$ 4,372            | \$ 4,448            | \$ 4,550            |
| Administration  | 914               | 1,047             | 728                 | 752                 | 769                 |
|   | <b>\$ 5,245</b>   | <b>\$ 5,520</b>   | <b>\$ 5,100</b>     | <b>\$ 5,200</b>     | <b>\$ 5,320</b>     |
| <b>Corporate Planning &amp; Strategic Analysis</b>              |                   |                   |                     |                     |                     |
| Corporate Strategic Review                                      | \$ 582            | \$ 626            | \$ 1,064            | \$ 2,658            | \$ 2,719            |
| Corporate Planning & Development                                | 1,042             | 1,069             | 2,078               | 2,592               | 2,652               |
| Administration  | 362               | 380               | 558                 | 1,050               | 1,074               |
|   | <b>\$ 1,986</b>   | <b>\$ 2,075</b>   | <b>\$ 3,700</b>     | <b>\$ 6,300</b>     | <b>\$ 6,445</b>     |
| <b>Finance &amp; Administration</b>                             |                   |                   |                     |                     |                     |
| Information Technology Services                                 | \$ 32,709         | \$ 33,959         | \$ 35,070           | \$ 35,500           | \$ 36,317           |
| Treasury  | 2,001             | 2,067             | 2,090               | 2,100               | 2,148               |
| Corporate Risk Management                                       | 460               | 566               | 820                 | 836                 | 855                 |
| Gas Supply  | 2,058             | 2,248             | 2,250               | 2,300               | 2,353               |
| Rates & Regulatory Affairs                                      | 2,998             | 2,918             | 3,700               | 3,741               | 3,827               |
| Corporate Controller  | 9,475             | 10,053            | 11,480              | 11,626              | 11,893              |
| Human Resources   | 11,084            | 10,666            | 10,925              | 10,915              | 11,166              |
| Corporate Safety & Health                                       | 3,411             | 3,663             | 3,700               | 3,750               | 3,836               |
| Corporate Services  | 33,117            | 35,279            | 36,200              | 36,644              | 37,487              |
| Administration  | 1,820             | 1,901             | 2,520               | 2,555               | 2,614               |
|   | <b>\$ 99,133</b>  | <b>\$ 103,320</b> | <b>\$ 108,755</b>   | <b>\$ 109,967</b>   | <b>\$ 112,496</b>   |
| <b>Power Supply</b>   |                   |                   |                     |                     |                     |
| Power Planning  | \$ 2,955          | \$ 4,015          | \$ 6,422            | \$ 6,494            | \$ 6,643            |
| Power Projects Development                                      | 411               | 730               | 383                 | 396                 | 405                 |
| HVDC  | 19,128            | 21,659            | 22,856              | 23,096              | 23,627              |
| Generation North  | 30,929            | 33,671            | 28,702              | 28,942              | 29,608              |
| Generation South  | 46,747            | 50,020            | 51,841              | 52,437              | 53,643              |
| Power Sales & Operations  | 11,625            | 12,578            | 13,153              | 13,290              | 13,596              |
| Engineering Services  | 4,909             | 4,534             | 5,074               | 5,171               | 5,290               |
| New Generation Construction                                     | (228)             | 24                | (249)               | (249)               | (255)               |
| Administration  | 11,134            | 14,952            | 16,818              | 18,523              | 18,949              |
|   | <b>\$ 127,610</b> | <b>\$ 142,183</b> | <b>\$ 145,000</b>   | <b>\$ 148,100</b>   | <b>\$ 151,506</b>   |
| <b>Transmission</b>   |                   |                   |                     |                     |                     |
| Transmission System Operations                                  | 28,453            | 31,408            | 33,054              | 33,545              | 34,317              |
| Transmission Planning & Design                                  | 3,403             | 5,219             | 4,034               | 4,660               | 4,767               |
| Transmission Construction & Line Maintenance                    | 15,952            | 15,964            | 16,485              | 16,661              | 17,044              |
| Apparatus Maintenance   | 33,834            | 36,281            | 35,070              | 35,579              | 36,397              |
| Administration  | 1,529             | 2,216             | 2,457               | 1,955               | 2,000               |
|   | <b>\$ 83,171</b>  | <b>\$ 91,088</b>  | <b>\$ 91,100</b>    | <b>\$ 92,400</b>    | <b>\$ 94,525</b>    |
| <b>Customer Services &amp; Distribution</b>                     |                   |                   |                     |                     |                     |
| Customer Service Operations - Winnipeg & North                  | 44,893            | 48,121            | 47,988              | 48,808              | 49,931              |
| Customer Service Operations - South                             | 43,951            | 46,243            | 48,609              | 49,439              | 50,576              |
| Distribution Planning & Design                                  | 8,075             | 8,541             | 8,424               | 8,555               | 8,752               |
| Distribution Construction                                       | 910               | 694               | 930                 | 942                 | 964                 |
| Administration  | 544               | 163               | 1,349               | 1,256               | 1,285               |
|   | <b>\$ 98,373</b>  | <b>\$ 103,762</b> | <b>\$ 107,300</b>   | <b>\$ 109,000</b>   | <b>\$ 111,507</b>   |
| <b>Customer Care &amp; Marketing</b>                            |                   |                   |                     |                     |                     |
| Industrial & Commercial Solutions                               | \$ 2,669          | \$ 2,077          | \$ 3,258            | \$ 3,293            | \$ 3,369            |
| Consumer Marketing & Sales                                      | 8,264             | 8,850             | 10,000              | 10,341              | 10,579              |
| Business Support Services                                       | 22,937            | 23,128            | 23,329              | 23,622              | 24,165              |
| Administration  | 4,989             | 5,288             | 5,413               | 5,744               | 5,876               |
|   | <b>\$ 38,859</b>  | <b>\$ 39,343</b>  | <b>\$ 42,000</b>    | <b>\$ 43,000</b>    | <b>\$ 43,989</b>    |
| Motor Vehicle Chargeout   | (15,394)          | (16,043)          | (16,154)            | (16,601)            | (16,983)            |
| Payroll Tax   | (8,774)           | (9,679)           | (9,873)             | (10,070)            | (10,272)            |
| Corporate Allocations & Adjustments                             | (4,930)           | (3,824)           | (8,775)             | (9,666)             | (10,160)            |
| CICA Accounting Changes*  | -                 | 5,000             | 7,000               | 7,000               | 7,000               |
| Provision for IFRS  | -                 | -                 | -                   | -                   | 15,000              |
| Operating & Administration Charged to Centra                    | (56,270)          | (59,042)          | (60,160)            | (61,343)            | (62,570)            |
| Capitalized Overhead  | (67,289)          | (66,198)          | (67,964)            | (69,021)            | (70,447)            |
| <b>Operating &amp; Administrative Costs Attributable to Ele</b> | <b>\$ 322,697</b> | <b>\$ 359,660</b> | <b>\$ 371,504</b>   | <b>\$ 379,695</b>   | <b>\$ 403,370</b>   |

\* Other CICA Accounting Changes totalling \$4 million (beginning in 2009/10) are embedded within the Business Units

## MANITOBA HYDRO

## Schedule 4.5.4

## EQUIVALENT FULL TIME EMPLOYEES - ANNUAL RESULTS BY BUSINESS UNIT

|  | 2007/08<br>Actual | 2008/09<br>Actual | 2009/10<br>Forecast | 2010/11<br>Forecast | 2011/12<br>Forecast |
|--|-------------------|-------------------|---------------------|---------------------|---------------------|
| <b>President &amp; CEO</b>                         |                   |                   |                     |                     |                     |
| General Counsel                                    | 27                | 26                | 29                  | 29                  | 29                  |
| Public Affairs                                     | 31                | 32                | 34                  | 34                  | 34                  |
| Research & Development                             | 2                 | 2                 | 2                   | 2                   | 2                   |
| Administration                                     | 27                | 27                | 32                  | 34                  | 34                  |
|  | <u>87</u>         | <u>87</u>         | <u>97</u>           | <u>99</u>           | <u>99</u>           |
| <b>Corporate Relations</b>                         |                   |                   |                     |                     |                     |
| Aboriginal Relations                               | 61                | 67                | 64                  | 65                  | 65                  |
| Administration                                     | 8                 | 8                 | 4                   | 4                   | 4                   |
|  | <u>69</u>         | <u>75</u>         | <u>69</u>           | <u>69</u>           | <u>69</u>           |
| <b>Corporate Planning &amp; Strategic Analysis</b> |                   |                   |                     |                     |                     |
| Corporate Strategic Review                         | 5                 | 6                 | 9                   | 21                  | 21                  |
| Corporate Planning & Development                   | 11                | 11                | 10                  | 12                  | 12                  |
| Administration                                     | 3                 | 3                 | 4                   | 5                   | 5                   |
|  | <u>19</u>         | <u>20</u>         | <u>23</u>           | <u>38</u>           | <u>38</u>           |
| <b>Finance &amp; Administration</b>                |                   |                   |                     |                     |                     |
| Information Technology Services                    | 313               | 313               | 313                 | 314                 | 314                 |
| Treasury   | 15                | 15                | 15                  | 15                  | 15                  |
| Corporate Risk Management                          | 4                 | 5                 | 6                   | 6                   | 6                   |
| Gas Supply   | 18                | 20                | 20                  | 20                  | 20                  |
| Rates & Regulatory Affairs                         | 19                | 19                | 21                  | 21                  | 21                  |
| Corporate Controller                               | 108               | 107               | 119                 | 119                 | 119                 |
| Human Resources                                    | 159               | 163               | 158                 | 158                 | 158                 |
| Corporate Safety & Health                          | 30                | 30                | 30                  | 30                  | 30                  |
| Corporate Services                                 | 309               | 316               | 347                 | 347                 | 347                 |
| Administration                                     | 11                | 11                | 13                  | 13                  | 13                  |
|  | <u>986</u>        | <u>999</u>        | <u>1,042</u>        | <u>1,043</u>        | <u>1,043</u>        |
| <b>Power Supply</b>                                |                   |                   |                     |                     |                     |
| Power Planning                                     | 55                | 58                | 68                  | 68                  | 68                  |
| Power Projects Development                         | 46                | 49                | 58                  | 58                  | 58                  |
| HVDC   | 235               | 250               | 268                 | 270                 | 270                 |
| Generation North                                   | 215               | 219               | 227                 | 229                 | 229                 |
| Generation South                                   | 455               | 459               | 469                 | 470                 | 470                 |
| Power Sales & Operations                           | 84                | 84                | 88                  | 89                  | 89                  |
| Engineering Services                               | 175               | 183               | 213                 | 213                 | 213                 |
| New Generation Construction                        | 55                | 83                | 142                 | 143                 | 143                 |
| Administration                                     | 150               | 191               | 224                 | 246                 | 246                 |
|  | <u>1,470</u>      | <u>1,576</u>      | <u>1,757</u>        | <u>1,785</u>        | <u>1,785</u>        |
| <b>Transmission</b>                                |                   |                   |                     |                     |                     |
| Transmission System Operations                     | 362               | 362               | 370                 | 370                 | 370                 |
| Transmission Planning & Design                     | 178               | 191               | 215                 | 216                 | 216                 |
| Transmission Construction & Line Maintenance       | 273               | 275               | 295                 | 296                 | 296                 |
| Apparatus Maintenance                              | 397               | 421               | 432                 | 433                 | 433                 |
| Administration                                     | 45                | 49                | 44                  | 44                  | 44                  |
|  | <u>1,255</u>      | <u>1,298</u>      | <u>1,355</u>        | <u>1,358</u>        | <u>1,358</u>        |
| <b>Customer Services &amp; Distribution</b>        |                   |                   |                     |                     |                     |
| Customer Service Operations - Winnipeg & North     | 520               | 530               | 532                 | 534                 | 534                 |
| Customer Service Operations - South                | 561               | 566               | 578                 | 579                 | 579                 |
| Distribution Planning & Design                     | 173               | 178               | 185                 | 185                 | 185                 |
| Distribution Construction                          | 386               | 397               | 406                 | 407                 | 407                 |
| Administration                                     | -                 | -                 | 6                   | 6                   | 6                   |
|  | <u>1,640</u>      | <u>1,671</u>      | <u>1,708</u>        | <u>1,711</u>        | <u>1,711</u>        |
| <b>Customer Care &amp; Marketing</b>               |                   |                   |                     |                     |                     |
| Industrial & Commercial Solutions                  | 52                | 54                | 60                  | 60                  | 60                  |
| Consumer Marketing & Sales                         | 216               | 216               | 215                 | 218                 | 218                 |
| Business Support Services                          | 229               | 229               | 229                 | 227                 | 227                 |
| Administration                                     | 48                | 51                | 57                  | 60                  | 60                  |
|  | <u>545</u>        | <u>550</u>        | <u>561</u>          | <u>566</u>          | <u>566</u>          |
| <b>Total</b>                                       | <u>6,071</u>      | <u>6,276</u>      | <u>6,613</u>        | <u>6,669</u>        | <u>6,669</u>        |



# Presentation to the Public Utilities Board of Manitoba

Manitoba Hydro GRA

Hearing Start Date: January 5, 2011



# Cost Constraint Measures

- Travel restrictions
- Hiring freeze
- Overtime reductions
- Computer life extensions
- Fleet reductions
- New IT systems



## MANITOBA PUBLIC UTILITIES BOARD

**IN THE MATTER OF *The Crown Corporations Public Review and Accountability Act***

**AND IN THE MATTER OF the Manitoba Hydro filing  
in respect to Increase Electric Rates for 2010/11 2011/12**

## REBUTTAL EVIDENCE OF MANITOBA HYDRO

### WITH RESPECT TO THE WRITTEN EVIDENCE OF:

- **DR. ATIF KUBURSI AND DR. LONNIE MAGEE – Independent Consultants retained by the Manitoba Public Utilities Board (“PUB”)**
- **DR. TOM CARTER, CARTER RESEARCH ASSOCIATES INC. on behalf of The Consumers’ Association of Canada (Manitoba) Inc./Manitoba Society of Seniors (“CAC/MSOS”)**
- **M. GREG MATWICHUK, STEPHEN JOHNSON, CHARTERED ACCOUNTANTS on behalf of The Consumers’ Association of Canada (Manitoba) Inc./Manitoba Society of Seniors (“CAC/MSOS”)**
- **JOHN D. MCCORMICK, J. D. MCCORMICK FINANCIAL SERVICES, INC. on behalf of The Consumers’ Association of Canada (Manitoba) Inc./Manitoba Society of Seniors (CAC/MSOS)**
- **PAUL CHERNICK, RESOURCE INSIGHT, INC. on behalf of Resource Conservation Manitoba / Time to Respect Earth’s Ecosystems (“RCM/TREE”)**
- **ROGER COLTON, FISCHER SHEEHAN & COLTON on behalf of Resource Conservation Manitoba / Time to Respect Earth’s Ecosystems (“RCM/TREE”)**
- **JONATHON WALLACH, RESOURCE INSIGHT, INC. on behalf of Resource Conservation Manitoba / Time to Respect Earth’s Ecosystems (“RCM/TREE”)**
- **PATRICK BOWMAN AND ANDREW MCLAREN INTERGROUP CONSULTANTS LTD. on behalf of Manitoba Industrial Power Users Group (“MIPUG”)**

December 31, 2010



## REBUTTAL EVIDENCE

### MANITOBA HYDRO OPERATING, MAINTENANCE & ADMINISTRATIVE COSTS (in millions of dollars)

|  | <u>2005/06</u> |      | <u>2006/07</u> |      | <u>Actuals</u><br><u>2007/08</u> |       | <u>2008/09</u> |      | <u>2009/10</u> |      | <u>Forecast</u><br><u>2010/11</u> <u>2011/12</u> |              | <u>Compounded</u><br><u>Average</u><br><u>Annual Increase</u> |
|--|----------------|------|----------------|------|----------------------------------|-------|----------------|------|----------------|------|--|--------------|---|
| Consolidated OM&A                              | \$             | 375  | \$             | 386  | \$                               | 391   | \$             | 442  | \$             | 456  | \$   | 476   \$ 482 | 4.3%  |
| Less:  |                |      |                |      |                                  |       |                |      |                |      |  |              |   |
| Centra Gas                                     |                | (53) |                | (54) |                                  | (56)  |                | (60) |                | (61) |  | (63)   (64)  |   |
| Subsidiaries                                   |                | (11) |                | (9)  |                                  | (12)  |                | (18) |                | (17) |  | (15)   (16)  |   |
| Electric OM&A                                  |                | 311  |                | 323  |                                  | 323   |                | 364  |                | 378  |  | 398   402    | 4.4%  |
| Less Accounting Changes:                       |                |      |                |      |                                  |       |                |      |                |      |  |              |   |
| CICA Changes                                   |                |      |                |      |                                  |       |                | (10) |                | (13) |  | (13)   (13)  |   |
| Reclassifications                              |                |      |                |      |                                  |       |                | (3)  |                | 2    |  | 2   (3)      |   |
| Provision for Acct. Changes                    |                |      |                |      |                                  |       |                |      |                |      |  | (18)   (14)  |   |
| Net Electric OM&A after Accounting Changes     | \$             | 311  | \$             | 323  | \$                               | 323   | \$             | 351  | \$             | 367  | \$   | 369   \$ 372 | 3.0%  |
| Year over Year % Increase Net of Acctg Changes |                |      |                | 4.1% |                                  | -0.2% |                | 8.9% |                | 4.3% |  | 0.6%   0.9%  |   |
| CPI  |                |      |                | 2.3% |                                  | 1.4%  |                | 1.2% |                | 1.4% |  | 2.0%   2.0%  | 1.7%  |

As illustrated in this table, Manitoba Hydro electric operations has forecasted an average annual increase in OM&A of 3.0% between 2005/06 and 2011/12, after adjusting for accounting changes. This increase is above the average annual increase in Canadian CPI at 1.7%, reflecting higher costs and maintenance requirements that have been experienced by Manitoba Hydro and most other electrical utilities in Canada.

Manitoba Hydro has provided substantial evidence in this and previous GRA's with respect to cost and business drivers which have caused actual OM&A costs to exceed CPI. Details of those cost drivers have been provided in Appendix 4.4 of this application.

To offset these cost drivers, Manitoba Hydro has focused on productivity improvements and has initiated various cost constraint measures. These measures are also outlined in Appendix 4.4 and have been supplemented by several more stringent controls on hiring, travel, and overtime. Operating costs for 2010/11 to date are approximately \$5 million below budget which serves to confirm the effectiveness of these controls.

**PUB/MH I-34**

**Subject: Tab 4: Financial Results & Forecast**

**Reference: Tab 4 Page 13 of 29 Schedule 4.5.1, 4.5.4 Staffing Levels**

**a) Please re-file the schedule 4.5.1 including the years 1999/00 through 2011/12.**

**ANSWER:**

Please see the following schedule for EFT information from 2004/05 through 2011/12.

**MANITOBA HYDRO**  
**EQUIVALENT FULL TIME EMPLOYEES - ANNUAL RESULTS BY BUSINESS UNIT**

Schedule 4.5.1

|   | <b>2004/05<br/>Actual</b> | <b>2005/06<br/>Actual</b> | <b>2006/07<br/>Actual</b> | <b>2007/08<br/>Actual</b> | <b>2008/09<br/>Actual</b> | <b>2009/10<br/>Forecast</b> | <b>2010/11<br/>Forecast</b> | <b>2011/12<br/>Forecast</b> |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|
| President & CEO                         | 84                        | 82                        | 84                        | 87                        | 87                        | 97                          | 99                          | 99                          |
| Corporate Relations                     | 49                        | 62                        | 67                        | 69                        | 75                        | 69                          | 69                          | 69                          |
| Corporate Planning & Strategic Analysis | 18                        | 19                        | 20                        | 19                        | 20                        | 23                          | 38                          | 38                          |
| Finance & Administration                | 1,032                     | 1,031                     | 999                       | 986                       | 999                       | 1,042                       | 1,043                       | 1,043                       |
| Power Supply                            | 1,344                     | 1,367                     | 1,405                     | 1,470                     | 1,576                     | 1,757                       | 1,785                       | 1,785                       |
| Transmission                            | 1,208                     | 1,221                     | 1,233                     | 1,255                     | 1,298                     | 1,355                       | 1,358                       | 1,358                       |
| Customer Services & Distribution        | 1,605                     | 1,648                     | 1,617                     | 1,640                     | 1,671                     | 1,708                       | 1,711                       | 1,711                       |
| Customer Care & Marketing               | 527                       | 552                       | 564                       | 545                       | 550                       | 561                         | 566                         | 566                         |
| <b>Total</b>                            | <b>5,867</b>              | <b>5,982</b>              | <b>5,989</b>              | <b>6,071</b>              | <b>6,276</b>              | <b>6,613</b>                | <b>6,669</b>                | <b>6,669</b>                |

**PUB/MH/PRE-ASK-15 (REVISED)****Reference: PUB/MH II-23 (a) EFT**

- a) Please update PUB/MH II-23 (a) to incorporate actual 2009/10 and updated 2010/11 and 2011/12 results.**

**ANSWER:**

The following schedule updates PUB/MH I-23(a) to incorporate actual results for 2009/10. Please note that 2008/09 has also been restated to reflect changes in accounting standards for intangible assets. In addition, IFF10 OM&A targets have been adjusted to reflect the provision for accounting changes.

**MANITOBA HYDRO**  
**OPERATING, MAINTENANCE AND ADMINISTRATIVE COSTS BY COST ELEMENT**

|   | (000's)           |                   |                   |                   |                   |  |                   |                     |                     |   |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|--|-------------------|---------------------|---------------------|---|
|   | 2004/05<br>Actual | 2005/06<br>Actual | 2006/07<br>Actual | 2007/08<br>Actual | 2008/09<br>Actual | Fiscal<br>2004/05-2008/09<br>Compounded<br>Annual Growth | 2009/10<br>Actual | 2010/11<br>Forecast | 2011/12<br>Forecast | Fiscal<br>2008/09-2011/12<br>Compounded Growth<br>% Inc/(Dec) |
| <i>Labour</i>                                       |                   |                   |                   |                   |                   |  |                   |                     |                     |   |
| Wages, Salaries                                     | \$ 320,808        | \$ 332,257        | \$ 344,701        | \$ 359,249        | \$ 380,031        | 4.3  | \$ 407,988        | \$ 415,215          | \$ 424,765          | 3.8   |
| Overtime  | 33,842            | 38,032            | 38,896            | 41,781            | 45,890            | 7.9  | 50,307            | 48,061              | 49,166              | 2.3   |
| Employee Benefits                                   | 68,442            | 70,184            | 73,636            | 76,807            | 83,671            | 5.2  | 82,674            | 93,035              | 95,175              | 4.4   |
| <b>Subtotal - Labour and Benefits</b>               | <b>423,093</b>    | <b>440,473</b>    | <b>457,233</b>    | <b>477,838</b>    | <b>509,592</b>    | 4.8  | <b>540,968</b>    | <b>556,311</b>      | <b>569,106</b>      | 3.8   |
| EFTs (Straight Time + Overtime)                     | 5,885             | 5,999             | 6,007             | 6,090             | 6,312             | 1.8  | 6,465             | 6,704               | 6,704               | 2.0   |
| <b>Labour &amp; Benefits per EFT</b>                | <b>72</b>         | <b>73</b>         | <b>76</b>         | <b>78</b>         | <b>81</b>         | 2.9  | <b>84</b>         | <b>83</b>           | <b>85</b>           | 1.7   |
| Employee Safety & Training                          | 5,275             | 3,686             | 3,487             | 3,646             | 4,145             | (5.8)  | 4,623             | 4,747               | 4,856               | 5.4   |
| Travel  | 23,534            | 26,212            | 27,729            | 28,331            | 31,812            | 7.8  | 32,435            | 32,963              | 33,721              | 2.0   |
| Motor Vehicle                                       | 17,726            | 19,380            | 19,731            | 22,423            | 24,126            | 8.0  | 24,281            | 23,114              | 23,646              | (0.7)   |
| Materials & Tools                                   | 23,893            | 26,046            | 25,414            | 27,824            | 29,345            | 5.3  | 26,897            | 26,178              | 26,780              | (3.0)   |
| Consulting & Professional Fees                      | 7,269             | 7,229             | 8,498             | 7,503             | 9,704             | 7.5  | 14,814            | 10,904              | 11,155              | 4.8   |
| Construction & Maintenance Services                 | 13,345            | 13,700            | 13,711            | 15,938            | 18,378            | 8.3  | 20,109            | 21,785              | 22,286              | 6.6   |
| Building & Property Services                        | 21,031            | 22,973            | 24,697            | 25,740            | 28,947            | 8.3  | 22,931            | 20,671              | 21,146              | (9.9)   |
| Equipment Maintenance & Rentals                     | 9,546             | 10,720            | 11,606            | 11,719            | 13,029            | 8.1  | 14,379            | 13,858              | 14,177              | 2.9   |
| Consumer Services                                   | 4,203             | 4,301             | 4,316             | 4,651             | 5,284             | 5.9  | 5,798             | 5,683               | 5,814               | 3.2   |
| Computer Services                                   | 3,959             | 4,293             | 2,622             | 1,131             | 858               | (31.8)   | 983               | 696                 | 712                 | (6.0)   |
| Collection Costs                                    | 5,161             | 6,790             | 7,218             | 5,256             | 5,019             | (0.7)  | 4,599             | 4,542               | 4,646               | (2.5)   |
| Customer & Public Relations                         | 5,223             | 5,585             | 6,493             | 6,665             | 6,901             | 7.2  | 8,155             | 6,014               | 6,152               | (3.8)   |
| Sponsored Memberships                               | 1,149             | 1,012             | 1,187             | 1,192             | 1,465             | 6.3  | 1,325             | 1,267               | 1,296               | (4.0)   |
| Office & Administration                             | 15,447            | 15,902            | 14,939            | 14,427            | 14,652            | (1.3)  | 15,320            | 15,703              | 15,857              | 2.7   |
| Communication Systems                               | 1,844             | 1,447             | 1,866             | 1,353             | 1,449             | (5.8)  | 1,772             | 1,603               | 1,640               | 4.2   |
| Research & Development Costs                        | 3,685             | 2,874             | 3,251             | 2,979             | 3,059             | (4.6)  | 3,952             | 4,110               | 4,205               | 11.2  |
| Miscellaneous Expense                               | 2,470             | 2,811             | 2,422             | 3,292             | 903               | (22.2)   | 1,190             | 1,087               | 1,112               | 7.2   |
| Contingency Planning                                | -                 | -                 | -                 | -                 | -                 |  | -                 | 5,417               | 3,921               |   |
| Operating Expense Recovery                          | (18,105)          | (19,205)          | (20,570)          | (23,314)          | (21,519)          | 4.4  | (21,580)          | (16,497)            | (16,670)            | (8.2)   |
| <b>Total Costs</b>                                  | <b>569,749</b>    | <b>596,229</b>    | <b>615,849</b>    | <b>638,594</b>    | <b>687,149</b>    | 4.8  | <b>722,951</b>    | <b>740,156</b>      | <b>755,558</b>      | 3.2   |
| Capital Order Activities                            | (157,730)         | (170,458)         | (176,992)         | (192,338)         | (203,077)         | 6.5  | (224,298)         | (235,040)           | (239,741)           | 5.7   |
| CICA Accounting Changes*                            | -                 | -                 | -                 | -                 | 5,000             |  | 9,000             | 9,000               | 9,000               | 21.6  |
| Provision for Accounting Changes                    | -                 | -                 | -                 | -                 | -                 |  | -                 | 18,000              | 13,500              |   |
| Capitalized Overhead                                | (58,174)          | (62,028)          | (61,887)          | (67,289)          | (65,743)          | 3.1  | (69,151)          | (71,021)            | (72,447)            | 3.3   |
| Operating and Administration Charged to Centra      | (55,232)          | (53,085)          | (53,505)          | (56,270)          | (59,042)          | 1.7  | (60,951)          | (63,400)            | (64,000)            | 2.7   |
| <b>OM&amp;A Attributable to Electric Operations</b> | <b>\$ 298,613</b> | <b>\$ 310,658</b> | <b>\$ 323,465</b> | <b>\$ 322,697</b> | <b>\$ 364,287</b> | 5.1  | <b>\$ 377,551</b> | <b>\$ 397,695</b>   | <b>\$ 401,870</b>   | 3.3   |

\* Other CICA Accounting Changes totalling \$4.6 million in 2008/09 and \$4.0 million in 2009/10 & future years are embedded within the Total Costs

**PUB/MH/PRE-ASK-15 (REVISED)****Reference: PUB/MH II-23 (a) EFT**

- b) **Please provide the Compounded Annual Growth for the 2004/05 to 2009/10 and 2009/10 to 2011/12.**

**ANSWER:**

Please see the following schedule which incorporates actual results for 2009/10. Please note that 2008/09 has been restated to reflect changes in accounting standards for intangible assets. In addition, IFF10 OM&A targets have been adjusted to reflect the provision for accounting changes.

**MANITOBA HYDRO**  
**OPERATING, MAINTENANCE AND ADMINISTRATIVE COSTS BY COST ELEMENT**

|   | (000's)           |                   |                   |                   |                   |                   |  |                     |                     |   |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|---------------------|---------------------|---|
|   | 2004/05<br>Actual | 2005/06<br>Actual | 2006/07<br>Actual | 2007/08<br>Actual | 2008/09<br>Actual | 2009/10<br>Actual | Fiscal<br>2004/05-2009/10<br>Compounded<br>Annual Growth | 2010/11<br>Forecast | 2011/12<br>Forecast | Fiscal<br>2009/10-2011/12<br>Compounded Growth<br>% Inc/(Dec) |
| <i>Labour</i>                                       |                   |                   |                   |                   |                   |                   |  |                     |                     |   |
| Wages, Salaries                                     | \$ 320,808        | \$ 332,257        | \$ 344,701        | \$ 359,249        | \$ 380,031        | \$ 407,988        | 4.9  | \$ 415,215          | \$ 424,765          | 2.0   |
| Overtime  | 33,842            | 38,032            | 38,896            | 41,781            | 45,890            | 50,307            | 8.3  | 48,061              | 49,166              | (1.1)   |
| Employee Benefits                                   | 68,442            | 70,184            | 73,636            | 76,807            | 83,671            | 82,674            | 3.9  | 93,035              | 95,175              | 7.3   |
| <b>Subtotal - Labour and Benefits</b>               | <b>423,093</b>    | <b>440,473</b>    | <b>457,233</b>    | <b>477,838</b>    | <b>509,592</b>    | <b>540,968</b>    | 5.0  | <b>556,311</b>      | <b>569,106</b>      | 2.6   |
| EFTs (Straight Time + Overtime)                     | 5,885             | 5,999             | 6,007             | 6,090             | 6,312             | 6,465             | 1.9  | 6,704               | 6,704               | 1.8   |
| <b>Labour &amp; Benefits per EFT</b>                | <b>72</b>         | <b>73</b>         | <b>76</b>         | <b>78</b>         | <b>81</b>         | <b>84</b>         | 3.1  | <b>83</b>           | <b>85</b>           | 0.7   |
| Employee Safety & Training                          | 5,275             | 3,686             | 3,487             | 3,646             | 4,145             | 4,623             | (2.6)  | 4,747               | 4,856               | 2.5   |
| Travel  | 23,534            | 26,212            | 27,729            | 28,331            | 31,812            | 32,435            | 6.6  | 32,963              | 33,721              | 2.0   |
| Motor Vehicle                                       | 17,726            | 19,380            | 19,731            | 22,423            | 24,126            | 24,281            | 6.5  | 23,114              | 23,646              | (1.3)   |
| Materials & Tools                                   | 23,893            | 26,046            | 25,414            | 27,824            | 29,345            | 26,897            | 2.4  | 26,178              | 26,780              | (0.2)   |
| Consulting & Professional Fees                      | 7,269             | 7,229             | 8,498             | 7,503             | 9,704             | 14,814            | 15.3   | 10,904              | 11,155              | (13.2)  |
| Construction & Maintenance Services                 | 13,345            | 13,700            | 13,711            | 15,938            | 18,378            | 20,109            | 8.5  | 21,785              | 22,286              | 5.3   |
| Building & Property Services                        | 21,031            | 22,973            | 24,697            | 25,740            | 28,947            | 22,931            | 1.7  | 20,671              | 21,146              | (4.0)   |
| Equipment Maintenance & Rentals                     | 9,546             | 10,720            | 11,606            | 11,719            | 13,029            | 14,379            | 8.5  | 13,858              | 14,177              | (0.7)   |
| Consumer Services                                   | 4,203             | 4,301             | 4,316             | 4,651             | 5,284             | 5,798             | 6.6  | 5,683               | 5,814               | 0.1   |
| Computer Services                                   | 3,959             | 4,293             | 2,622             | 1,131             | 858               | 983               | (24.3)   | 696                 | 712                 | (14.9)  |
| Collection Costs                                    | 5,161             | 6,790             | 7,218             | 5,256             | 5,019             | 4,599             | (2.3)  | 4,542               | 4,646               | 0.5   |
| Customer & Public Relations                         | 5,223             | 5,585             | 6,493             | 6,665             | 6,901             | 8,155             | 9.3  | 6,014               | 6,152               | (13.1)  |
| Sponsored Memberships                               | 1,149             | 1,012             | 1,187             | 1,192             | 1,465             | 1,325             | 2.9  | 1,267               | 1,296               | (1.1)   |
| Office & Administration                             | 15,447            | 15,902            | 14,939            | 14,427            | 14,652            | 15,320            | (0.2)  | 15,703              | 15,857              | 1.7   |
| Communication Systems                               | 1,844             | 1,447             | 1,866             | 1,353             | 1,449             | 1,772             | (0.8)  | 1,603               | 1,640               | (3.8)   |
| Research & Development Costs                        | 3,685             | 2,874             | 3,251             | 2,979             | 3,059             | 3,952             | 1.4  | 4,110               | 4,205               | 3.2   |
| Miscellaneous Expense                               | 2,470             | 2,811             | 2,422             | 3,292             | 903               | 1,190             | (13.6)   | 1,087               | 1,112               | (3.3)   |
| Contingency Planning                                | -                 | -                 | -                 | -                 | -                 | -                 | -  | 5,417               | 3,921               | -   |
| Operating Expense Recovery                          | (18,105)          | (19,205)          | (20,570)          | (23,314)          | (21,519)          | (21,580)          | 3.6  | (16,497)            | (16,670)            | (12.1)  |
| <b>Total Costs</b>                                  | <b>569,749</b>    | <b>596,229</b>    | <b>615,849</b>    | <b>638,594</b>    | <b>687,149</b>    | <b>722,951</b>    | 4.9  | <b>740,156</b>      | <b>755,558</b>      | 2.2   |
| Capital Order Activities                            | (157,730)         | (170,458)         | (176,992)         | (192,338)         | (203,077)         | (224,298)         | 7.3  | (235,040)           | (239,741)           | 3.4   |
| CICA Accounting Changes*                            | -                 | -                 | -                 | -                 | 5,000             | 9,000             | -  | 9,000               | 9,000               | 0.0   |
| Provision for Accounting Changes                    | -                 | -                 | -                 | -                 | -                 | -                 | -  | 18,000              | 13,500              | -   |
| Capitalized Overhead                                | (58,174)          | (62,028)          | (61,887)          | (67,289)          | (65,743)          | (69,151)          | 3.5  | (71,021)            | (72,447)            | 2.4   |
| Operating and Administration Charged to Centra      | (55,232)          | (53,085)          | (53,505)          | (56,270)          | (59,042)          | (60,951)          | 2.0  | (63,400)            | (64,000)            | 2.5   |
| Adjustment per IFF10                                | -                 | -                 | -                 | -                 | -                 | -                 | -  | -                   | -                   | -   |
| <b>OM&amp;A Attributable to Electric Operations</b> | <b>\$ 298,613</b> | <b>\$ 310,658</b> | <b>\$ 323,465</b> | <b>\$ 322,697</b> | <b>\$ 364,287</b> | <b>\$ 377,551</b> | 4.8  | <b>\$ 397,695</b>   | <b>\$ 401,870</b>   | 3.2   |

\* Other CICA Accounting Changes totalling \$4.6 million in 2008/09 and \$4.0 million in 2009/10 & future years are embedded within the Total Costs



TAB 3

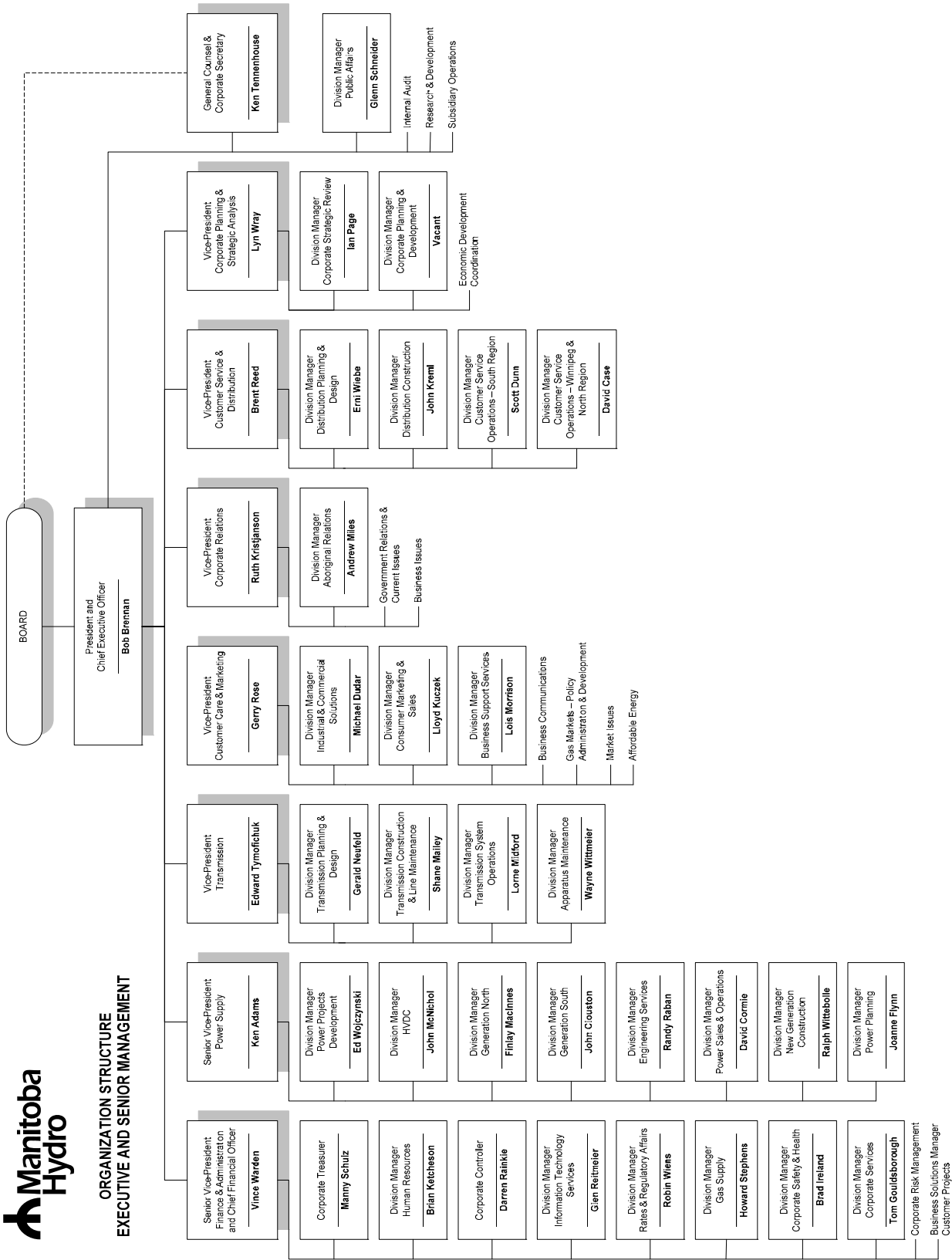
MANITOBA HYDRO  
2010/11 & 2011/12 GENERAL RATE APPLICATION

CORPORATE OVERVIEW

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Figure 3.2.1 - Organizational Chart



November 2010

# Capital Expenditure Forecast (CEF10)

## 2010/11 - 2019/20



Corporate Controller Division  
Finance & Administration



**Manitoba Hydro**  
**Consolidated Capital Expenditure Forecast (CEF10)**  
 For the Years 2010/11 – 2019/20

## 1.0 Overview

### Capital Expenditure Forecast Summary

This Consolidated Capital Expenditure Forecast (CEF10) totals \$16 931 million for the ten year period to 2019/20. Expenditures for Major New Generation & Transmission total \$12 354 million, with the balance of \$4 577 million comprised of expenditures for infrastructure renewal, system safety and security, new and increasing load requirements, and ongoing efficiency improvements.

### Comparison to CEF09

The Capital Expenditure Forecast (CEF10) for the ten year period ending 2019/20 totals \$16 931 million compared to \$15 376 million for the same ten year period included in last year's Capital Expenditure Forecast (CEF09).

|             | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  | 10 Year Total |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|
| CEF09       | 1 085 | 1 036 | 1 024 | 1 486 | 1 765 | 2 156 | 2 165 | 1 716 | 1 651 | 1 291 | 15 376        |
| Incr (Decr) | 37    | 33    | 108   | (17)  | (166) | (216) | (321) | 514   | 660   | 923   | 1 555         |
| CEF10       | 1 122 | 1 069 | 1 133 | 1 469 | 1 599 | 1 940 | 1 845 | 2 231 | 2 311 | 2 214 | 16 931        |

The increase of \$1 555 million in capital expenditures over the ten year forecast period is comprised of the following:

|   | Total Projected Cost | Total Project Increase / (Decrease) | 10 Year Increase (Decrease) |
|---|----------------------|-------------------------------------|-----------------------------|
|   | (\$ Millions)        |                                     |                             |
| Keeyask Generating Station              | \$ 5 637             | \$ 1 045                            | \$ 924                      |
| Conawapa Generating Station             | 7 771                | 1 446                               | (399)                       |
| Kelsey Improvements & Upgrades          | 302                  | 112                                 | 111                         |
| Pointe du Bois Spillway Replacement     | 398                  | 80                                  | 83                          |
| Kettle Improvements & Upgrades          | 166                  | 90                                  | 70                          |
| Wuskwatim Generating Station            | 1 275                | -                                   | 55                          |
| Pointe du Bois Safety Upgrades          | 50                   | 50                                  | 50                          |
| System Refurbishment and Other Projects | NA                   | NA                                  | 328                         |
| Reduction to Target Adjustment          | NA                   | NA                                  | 333                         |
|   |                      |                                     | \$ 1 555                    |



November 2010

# Capital Expenditure Forecast (CEF10)

## 2010/11 - 2019/20



Corporate Controller Division  
Finance & Administration



**Manitoba Hydro**  
**Consolidated Capital Expenditure Forecast (CEF10)**  
For the Years 2010/11 – 2019/20

**CAPITAL EXPENDITURE FORECAST (CEF10)**  
(in millions of dollars)

|   | Total<br>Project<br>Cost | 2011           | 2012           | 2013           | 2014           | 2015           | 2016           | 2017           | 2018           | 2019           | 2020           | 10 Year Total   |
|---|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| <b>Finance &amp; Administration</b>             |                          |                |                |                |                |                |                |                |                |                |                |                 |
| Corporate Buildings Program                     | NA                       | 8.0            | 8.0            | 8.0            | 8.0            | 8.0            | 8.0            | 8.0            | 8.0            | 8.0            | 8.0            | 80.0            |
| Workforce Management                            | 11.3                     | 0.8            | -              | -              | -              | -              | -              | -              | -              | -              | -              | 0.8             |
| Fleet Acquisitions                              | NA                       | 13.5           | 13.8           | 14.1           | 14.3           | 14.6           | 14.9           | 15.2           | 15.5           | 15.8           | 16.2           | 148.0           |
| Finance & Administration Domestic               | NA                       | 24.4           | 24.9           | 25.4           | 25.9           | 26.4           | 27.0           | 27.5           | 28.1           | 28.6           | 29.2           | 267.5           |
|   |                          | 46.7           | 46.7           | 47.5           | 48.3           | 49.1           | 49.9           | 50.7           | 51.6           | 52.5           | 53.3           | 496.2           |
| Capital Increase Provision                      |                          | -              | -              | -              | -              | -              | 31.1           | 87.9           | 133.7          | 155.4          | 177.2          | 585.2           |
| <b>ELECTRIC CAPITAL SUBTOTAL</b>                |                          | <b>1 179.3</b> | <b>1 139.6</b> | <b>1 178.2</b> | <b>1 424.5</b> | <b>1 562.7</b> | <b>1 903.0</b> | <b>1 808.2</b> | <b>2 193.5</b> | <b>2 272.1</b> | <b>2 174.9</b> | <b>16 836.0</b> |
| <b>GAS</b>                                      |                          |                |                |                |                |                |                |                |                |                |                |                 |
| <b>Customer Service &amp; Distribution</b>      |                          |                |                |                |                |                |                |                |                |                |                |                 |
| Ile Des Chenes NG Transmission Network Upgrade  | 1.2                      | 0.8            | 0.4            | -              | -              | -              | -              | -              | -              | -              | -              | 1.2             |
| Centerport NPS 16 Natural Gas Transmission Main | 1.7                      | 1.7            | -              | -              | -              | -              | -              | -              | -              | -              | -              | 1.7             |
| Gas SCADA Replacement                           | 4.6                      | 1.8            | 2.6            | -              | -              | -              | -              | -              | -              | -              | -              | 4.4             |
| Customer Service & Distribution Domestic        | NA                       | 21.2           | 21.7           | 22.1           | 22.5           | 23.0           | 23.4           | 23.9           | 24.4           | 24.9           | 25.4           | 232.5           |
|   |                          | 25.6           | 24.6           | 22.1           | 22.5           | 23.0           | 23.4           | 23.9           | 24.4           | 24.9           | 25.4           | 239.8           |
| <b>Customer Care &amp; Marketing</b>            |                          |                |                |                |                |                |                |                |                |                |                |                 |
| Advanced Metering Infrastructure                | 15.0                     | -              | 1.0            | 5.4            | 8.4            | -              | -              | -              | -              | -              | -              | 14.7            |
| Demand Side Management                          | NA                       | 11.2           | 12.0           | 12.4           | 10.4           | 10.4           | 10.0           | 9.4            | 7.2            | 5.6            | 5.1            | 93.7            |
| Customer Care & Marketing Domestic              | NA                       | 2.8            | 2.9            | 2.9            | 3.0            | 3.0            | 3.1            | 3.2            | 3.2            | 3.3            | 3.4            | 30.7            |
|   |                          | 14.0           | 15.9           | 20.7           | 21.8           | 13.4           | 13.1           | 12.5           | 10.5           | 8.9            | 8.5            | 139.2           |
| Capital Increase Provision                      |                          | -              | -              | -              | -              | -              | -              | -              | 2.3            | 4.9            | 5.0            | 12.1            |
| <b>GAS CAPITAL SUBTOTAL</b>                     |                          | <b>39.6</b>    | <b>40.5</b>    | <b>42.8</b>    | <b>44.3</b>    | <b>36.4</b>    | <b>36.6</b>    | <b>36.4</b>    | <b>37.1</b>    | <b>38.7</b>    | <b>38.8</b>    | <b>391.1</b>    |
| <b>CONSOLIDATED CAPITAL</b>                     |                          |                |                |                |                |                |                |                |                |                |                |                 |
| Target Adjustment                               |                          | 1 218.9        | 1 180.1        | 1 220.9        | 1 468.8        | 1 599.1        | 1 939.6        | 1 844.7        | 2 230.6        | 2 310.7        | 2 213.7        | 17 227.1        |
|   |                          | (97.0)         | (111.0)        | (88.0)         | -              | -              | -              | -              | -              | -              | -              | (296.0)         |
| <b>CEF10 TOTAL</b>                              |                          | <b>1 121.9</b> | <b>1 069.1</b> | <b>1 132.9</b> | <b>1 468.8</b> | <b>1 599.1</b> | <b>1 939.6</b> | <b>1 844.7</b> | <b>2 230.6</b> | <b>2 310.7</b> | <b>2 213.7</b> | <b>16 931.1</b> |

**PUB/MH II-64****Subject: Tab 6: Capital Expenditures****Reference: PUB/MH I-66 Capital Target Adjustment**

**Please explain how the general provision was determined. Provide supporting calculations.**

**ANSWER:**

In the course of preparing of CEF09, Manitoba Hydro established direction that the overall capital spending should not vary substantially from the amount approved in CEF08. An analysis of previous years' capital expenditure performance indicated that due to various circumstances, including resource capabilities, project constraints, and active project prioritization, the achieved levels of capital expenditures on an annual aggregate basis was consistently lower than the sum of all individual projects.

By considering historical capital performance factors, capital expenditure trends, and current capital demands, annual capital targets were proposed that met the corporate direction for capital spending levels and were deemed to be realistic given prevailing resourcing, capabilities and project constraints. The annual targets were reviewed and accepted for CEF09.

Subsequent to the establishment of the targets and the approval of the specific projects included in CEF09, the target adjustment was calculated as the difference between the capital targets as determined above and the total of all approved individual project spending.





## Comparison of Electric Operations Normal Capital Spending

(\$ millions)

|   | A       | B       | C       | D       | E       | F       | G       | H       | I       | J       |          |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
|   | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | Total    |
| <b>CEF10</b>  |         |         |         |         |         |         |         |         |         |         |          |
| 1 Total Electric Capital                                  | 1,179.3 | 1,139.6 | 1,178.2 | 1,424.5 | 1,562.7 | 1,903.0 | 1,808.2 | 2,193.5 | 2,272.1 | 2,174.9 | 16,836.0 |
| 2 Sub-Total New Generation and Transmission Spending      | 746.6   | 688.6   | 739.7   | 964.3   | 1,110.2 | 1,472.7 | 1,368.0 | 1,743.9 | 1,813.8 | 1,706.4 | 12,354.2 |
| 3 Electric Capital Excluding Major New Gen/Trans Capital  | 432.7   | 451.0   | 438.5   | 460.2   | 452.5   | 430.3   | 440.2   | 449.6   | 458.3   | 468.5   | 4,481.8  |
| <b>CEF09</b>  |         |         |         |         |         |         |         |         |         |         |          |
| 4 Total Electric Capital                                  | 1,165.5 | 1,074.5 | 1,038.6 | 1,228.0 | 1,691.7 | 2,247.6 | 2,160.5 | 1,653.3 | 1,800.3 | 1,557.9 | 15,617.9 |
| 5 Sub-Total New Generation and Transmission Spending      | 681.5   | 599.4   | 623.1   | 844.1   | 1,318.0 | 1,843.4 | 1,748.4 | 1,283.8 | 1,408.7 | 1,167.4 | 11,517.8 |
| 6 Electric Capital Excluding Major New Gen/Trans Capital  | 484.0   | 475.1   | 415.5   | 383.9   | 373.7   | 404.2   | 412.1   | 369.5   | 391.6   | 390.5   | 4,100.1  |
| 7 CEF10 Increase/(Decrease) compared to CEF09             | -51.3   | -24.1   | 23.0    | 76.3    | 78.8    | 26.1    | 28.1    | 80.1    | 66.7    | 78.0    | 381.7    |
| <b>CEF07</b>  |         |         |         |         |         |         |         |         |         |         |          |
| 8 Total Electric Capital                                  | 932.5   | 818.1   | 803.9   | 1,211.6 | 1,129.9 | 1,255.6 | 1,313.5 | 1,099.4 | -       | -       | 8,564.5  |
| 9 Sub-Total New Generation and Transmission Spending      | 483.4   | 412.2   | 469.9   | 886.2   | 809.4   | 969.5   | 1,045.0 | 821.3   | -       | -       | 5,896.9  |
| 10 Electric Capital Excluding Major New Gen/Trans Capital | 449.1   | 405.9   | 334.0   | 325.4   | 320.5   | 286.1   | 268.5   | 278.1   | -       | -       | 2,667.6  |
| 11 CEF10 Increase/(Decrease) compared to CEF07            | -16.4   | 45.1    | 104.5   | 134.8   | 132.0   | 144.2   | 171.7   | 171.5   | -       | -       | 887.4    |

2011 03 30



**MH/CAC/MSOS (Carter)-7****Reference:** Page 48**“8.0 Conclusions**

The policy outcomes of energy subsidy programs like LIEEPs are to:

- reduce the energy poverty of low income households:
- reduce energy usage and thus the cost of energy consumption:
- promote energy conservation and the drain on resources that are non-renewable; and,
- reduce greenhouse gas emissions and help achieve climate change objectives.

Subsidiary objectives of such programs include “green job” creation, promotion of community development, improving the quality of the living environment resulting in positive health outcomes and enhancing education on energy savings and home operation.”

**Question:**

- a) If the objective of a utility’s DSM programs are to pursue energy efficient opportunities, are you of the opinion that a utility should use additional ratepayer dollars (i.e. over and above those dollars required to capture energy efficiency savings) to achieve social policy objectives (e.g. creating green jobs, promotion of community development, improving health outcomes, etc.). If so, to what degree would it be acceptable for a utility to use ratepayer dollars for these purposes and how would the utility justify those expenditures if those objectives were outside the mandate of a utility?

**ANSWER:**

First I am not of the opinion that utilities should be vehicles for poverty alleviation programs. In my opinion Manitoba Hydro or any public or private energy distributor should be regulated to ensure that rate increases and the prices they charge are justified. However, poverty alleviation should not be the responsibility of these agencies. The increasing price of energy contributes to increases in poverty (energy poverty) but so do rises in food costs and we don’t look to international or national food producers to introduce poverty alleviation. Increasing housing costs contribute more to poverty than increasing energy costs but we generally look to governments to address the affordable housing problems, not the housing industry, although the industry at times may make contributions. The vast majority of funding for poverty alleviation is provided by government and most programs are administered by, or overseen by governments, although non-profit community based organizations often act as the delivery agents.

Poverty alleviation programs work most effectively if they are designed and administered as part of a broader poverty “alleviation strategy.” Strategies should consist of integrated programs that target all vulnerable groups in society in poverty and these programs as well as providing assistance to raise people’s incomes should also provide assistance to deal with the systemic causes of poverty such as inadequate levels of education. Isolated programs, although they may make a contribution, are more

effective if they are part of this integrated strategy. Governments are in the best position to play this integrated role, even though they may at times not do an adequate job.

What is the best role for an organization like Manitoba Hydro within this context? Certainly to be a player in an integrated strategy but not a funder of programs to alleviate poverty. Manitoba Hydro must play a role in program design, energy audits, education, promotion, monitoring, perhaps even delivery in conjunction with community based organizations. However, funding should rest mainly with governments.

The other concern is that energy efficiency, LIEEPs or HEEPs tend to be short term. Few last more than five to ten years. Poverty alleviation must, of necessity, be a long term initiative. There are also difficulties extending such programs to all people in poverty, particularly those in the rental sector as the report points out and participation is low for a variety of other reasons as also discussed in the report. Basic programs like social assistance have much broader penetration to those who need assistance. Some of the funding for LIEEPs also results in modest savings for those in poverty: \$300-\$500 per year. Although a positive contribution to poverty alleviation, and to other subsidiary objectives of such programs, other poverty alleviation initiatives make much greater contributions.

Given the above statements I am not in favour of utilities using tax payer's or ratepayer's dollars for these purposes. Tax payer dollars are necessary but should be channelled through other agencies.

**MIPUG/MH II-3****Reference: Cost of Service Study**

- g) Please provide a schedule showing the costs incurred by Hydro related to the 2006 Cost of Service Study review. Please separately identify costs internal to hydro; costs awarded by the Board to intervenors and external consultant or legal costs including the costs to prepare the NERA study.

**ANSWER:**

|                                       | <b>2005/06</b>   | <b>2006/07</b>   | <b>2007/08</b>  | <b>Total</b>              |
|---------------------------------------|------------------|------------------|-----------------|---------------------------|
| Internal Costs <sup>1</sup>           | \$188,980        | \$198,549        | \$577           | \$388,107                 |
| <u>PUB related costs<sup>2</sup>:</u> |                  |                  |                 | 0                         |
| Legal                                 | 26,842           | 117,559          | 3,747           | 148,148                   |
| Accounting                            | 69,497           | 95,609           |                 | 165,106                   |
| Consulting                            | 87,785           | 145,542          | 68,888          | 302,215                   |
| Transcription Service                 | 1,902            | 28,874           |                 | 30,777                    |
| PUB awarded Intervenor Costs          |                  | 118,508          |                 | 118,508                   |
| Total                                 | <u>\$375,006</u> | <u>\$704,642</u> | <u>\$73,212</u> | <u>\$1,152,861</u>        |
| NERA Report                           |                  |                  |                 | \$129,624                 |
|                                       |                  |                  |                 | <u><u>\$1,282,485</u></u> |

1 - includes labour, overhead and miscellaneous expense

2- does not include monthly PUB administration fee.





**Appendix A**  
**Terms of Reference for External Review of Manitoba**  
**Hydro's Cost of Service Study**

## **TERMS OF REFERENCE FOR EXTERNAL REVIEW OF MANITOBA HYDRO'S COST OF SERVICE STUDY**

### **1 PURPOSE**

Manitoba Hydro ("MH") is seeking proposals from qualified consultants to assist in the redevelopment of the Corporation's Cost of Service Studies ("COSS") for both its electric and gas operations. The deliverable will be a report which recommends a COSS methodology most appropriate to Manitoba Hydro's electricity and natural gas systems and which incorporates best practices within the energy utility industry in North America.

The key uses of the COSS are:

- a) A basis for the apportionment of the utility's revenue requirement among its classes of service;
- b) A measure of just and reasonable rates to each of the customer classes; and
- c) A guide in rate design and service extension policy.

The consultant selected to carry out this review will be required to demonstrate extensive expertise in the area of utility cost of service procedures in North America.

### **2 OBJECTIVES OF THE ASSIGNMENT**

Manitoba Hydro is seeking consulting assistance with the following:

- a) Review the structure of Manitoba Hydro's operating and capital costs and recommend an appropriate methodology to allocate those costs to customer classes based on cost causation.
- b) Provide recommendations on how or if Marginal Cost adjustments could be made to, or otherwise reflected in an embedded COSS; and
- c) Prepare a report which sets forth in detail the findings of the review with respect to all material issues and methodologies, such report to be in an appropriate format for submission to the PUB and other stakeholders.

The selected consultant may be required to provide expert testimony before the Manitoba Public Utilities Board with respect to its recommendations and conclusions.



### **3 TIMING**

Manitoba Hydro is seeking a consultant to commence the study by October 2010 with a final report to be complete by early 2011.

### **4 QUALIFICATIONS**

The consultant firm selected will have specialized knowledge in the electricity and natural gas industries, including relevant engineering and cost study disciplines, economics, regulation, and public policy. The consultant personnel selected to carry out the assignment will have a documented extensive record in carrying out and/or reviewing cost of service studies and their methodologies, and in defending their work before public utilities tribunals in North America. The selected consultant should be able to demonstrate experience and expertise with respect to cost drivers at electric utilities which are predominantly hydraulic and for which a significant portion of sales is to off-system wholesale customers.

### **5 BASIS FOR AWARD OF ASSIGNMENT**

Manitoba Hydro will select the proposal that, in its opinion, provides the best value to Manitoba Hydro based on the consultant's technical proposal, the consultant's proposed budget and the qualifications of the firm as well as those of the principals and other consultants proposed to carry out this assignment.

### **6 BACKGROUND AND MAJOR ISSUES IN COST OF SERVICE STUDY**

To assist consultants bidding on this assignment, this discussion identifies the key issues of concern to Manitoba Hydro in both its electric and natural gas cost studies. It is noted, however, that the assignment is to review all material aspects of the COSS.

#### **6.1 Electric Cost of Service Study:**

Manitoba Hydro has carried out embedded cost of service studies to allocate its costs to its various customer classes since the 1970s. The Corporation's study methodology has changed incrementally over the years. In 2006, the key features of the study were:

- a) Embedded cost results reported on a prospective test year basis;

- b) Five main functions: Generation; Transmission; Sub-transmission; Distribution Plant; Distribution Services.
- c) Bulk Power functions (Generation and Transmission) classified between Demand and Energy on the basis of System Load Factor.
- d) Generation and Transmission Demand related costs allocated on the basis of class contribution to Summer Peak (top 50 hours) and Winter Peak (top 50 hours).
- e) Sub-transmission classified as 100% Demand related and allocated on basis of Class Non-Coincident Peaks.
- f) Distribution Plant classified between Customer and Demand, with different classification ratios for the sub-functions (eg: Poles & Wire; Line Transformers). Demand-related costs allocated on basis of class Non-Coincident Peak; Customer-related costs on weighted customer count.
- g) Distribution Services classified as Customer-related with different weightings for allocation of various sub-functions (eg: customer service; billing and collections)

A highly relevant feature of the Cost of Service Study is the practice of crediting net revenue from off-system (export) sales to domestic customer classes. A significant portion of Manitoba Hydro's sales are to wholesale markets outside the Province. In 1992 net export revenue was sufficient to cover 15% of Manitoba Hydro's total cost of service, in 1997 this coverage had increased to 25% and by 2004 net export revenue was sufficient to cover fully 33% of Manitoba Hydro's costs. Moreover, export revenue per kW.h sold was also increasing significantly throughout this period, from 1.5 cents per kW.h in 1992 to 4.9 cents per kW.h in the 2004 COSS. Approximately 50% of net export revenue is derived from firm, long-term sales.

Manitoba Hydro's practice, prior to 2006, was to credit net export revenue to customer classes on the basis of their share of Generation and Transmission costs. The basis of this allocator was that it is the Generation and Transmission assets that make possible the export sales. As export revenues increased through the 1990s, these credits covered an increasing proportion of Generation and Transmission costs. In the 2003/04 Cost of Service Study, net export revenues covered fully 47% of Generation and Transmission costs while accounting for only 35% of sales from the Transmission system.

In effect, customer classes were receiving export credits based on an ever increasing marginal cost of bulk energy while being allocated costs based on embedded cost of Generation which was relatively stable from year to year. This approach was particularly beneficial for the large industrial class, served at high

voltage, for whom Generation and Transmission represents the vast proportion of cost to serve. For this class, the export credit approach was, in effect, offsetting almost half the total allocated Generation and Transmission cost. For Residential and Small General Service customers, the offset was also substantial, but at 28%, much less than for General Service Large.

Manitoba Hydro became concerned with this situation for two reasons: (1) that the class results from the study were becoming distorted relative to each other, because of the preponderance and treatment of export revenues and the different percentages of Generation and Transmission cost in the total class allocated to each class; and (2) that rates to industrial customers based on embedded cost were encouraging location of new large loads that, effectively, had to be served at marginal cost, while paying rates based on embedded cost.

Manitoba Hydro filed cost of service documents for review by the Manitoba Public Utilities Board in 2005. This material contained Manitoba Hydro's recommendations for revisions to the Study methodology which would address its concerns. Manitoba Hydro's filing was reviewed by the PUB in a public hearing which concluded in June of 2006. The PUB further clarified its directives in an Order on Manitoba Hydro's 2008/09 General Rate Application. The PUB directives supported some, but not all, of Manitoba Hydro's Cost of Service Study recommendations.

There is a substantial public record of the evolution of the cost of service study in Manitoba's regulatory setting over the past six or seven years. This includes Manitoba Hydro's General Rate Applications, PUB regulatory decisions, previous consultant studies and other documents made available during discovery processes.

## **6.2 Natural Gas Cost of Service Study**

Manitoba Hydro's natural gas operations are similar to those of other gas LDC's in Canada and the US. There are special challenges related to serving customers across a geographically wide service territory with significant areas of low customer density, where most of the load is seasonal, and where seasonal temperatures can be both extreme and highly variable. Manitoba Hydro procures its natural gas supplies from outside the province using a portfolio of contracted supply, pipeline and storage assets. However, while there are these and other unique features to Manitoba gas operations, cost allocation procedures have not been subject to the same degree of controversy as those of the electric operations.

The Corporation's natural gas Cost of Service and Rate Design Methodology was last comprehensively reviewed in 1996. The key features of the study include:

- a) Embedded costs results reported on a future test year basis;

- b) Six main functions: Production, Pipeline, Storage, Transmission, Distribution, Onsite;
- c) Production related costs are market based. Costs allocated based on volume and daily load curve;
- d) Pipeline and Storage related costs contractually based. The majority of these costs are demand related and allocated on peak and average basis. The peak is determined on a class non-coincident basis;
- e) Transmission related costs classified as 100% demand and allocated on the basis of peak and average. Peak is determined on class non-coincident basis;
- f) Distribution related costs split between demand and customer on the basis of a diameter length methodology. Demand related costs allocated to classes on the basis of peak and average. Peak is determined on a class non-coincident basis;
- g) Customer related costs allocated on weighted customer count;
- h) Allocated costs basis of rates. Revenue to Cost Ratio at unity; and
- i) Rate Design significantly unbundled. Small volume users have essentially a 5 part rate: Fixed Monthly Charge; volumetric Primary Gas, Supplemental Gas, Transportation and Distribution rates. Industrial Customers have, in addition to those identified above, Demand Transportation and Distribution rates

While there has not been significant public review of the natural gas cost of service study over the past ten years and the current cost of service study has served the utility well, a number of significant changes have occurred including a change in ownership, industry changes, customer changes, demand side management and low income customer considerations and stakeholder changes. These changes together with the requirement to review electric cost of service make it appropriate for cost of service to be reviewed in its entirety.

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19.0 Board Directives

- e) MH to file with the Board on or before June 30, 2009 a draft plan, with projected implications, to increase the Corporation's integrated (natural gas and electricity) energy-efficiency initiatives with respect to low-income households, so as to allow for reduced energy consumption for all such households within a decade;
- f) MH to report back to the Board on the potential for a low-income and a general refrigerator replacement program, and provide the merits of such programs, on or before June 30, 2009; and
- g) MH to accrue interest on the AEF balance, to ensure additional funds are available to fund expanded low-income energy efficiency programs and to avoid the loss of "purchasing power" of the AEF due to continuing inflation;

19. MH to refile the COSS by January 15, 2009 on the following basis:

- a) As defined by Order 117/06;
- b) Incorporating diesel and exports in the same fashion as other domestic customer classes;
- c) The assigning of 50% fixed and 100% variable thermal plant costs to the Export class;
- d) Assign DSM cost directly to export class and add DSM energy savings to domestic load for Generation cost-sharing purposes;
- e) Use the most recent actual [not forecast] export prices to establish export revenue in the COSS; and
- f) Use actual [eight year] energy [SEP] prices and energy use profiles in Generation energy weighting process;

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19.0 Board Directives

20. MH to provide and file with the Board by January 15, 2009 a revamped Marginal Cost (MC)-COSS analysis, one reflecting needed refinements to generation, transmission and distribution marginal costs. This should include specific demonstrations of how alternative MC adjustments could be applied to an embedded COSS. Among the scenarios to be explored, MH should consider the addition or blending of marginal costs to embedded costs prior to comparison to class revenues;
21. MH to file all appropriate data [e.g. SEP/ NEB/ MISO clearinghouse information and avoided cost information etc.] required for input to the marginal cost determinations for generation, transmission and distribution and to further define the key assumptions employed by MH in support of this process, with the Board [on a confidential basis if necessary] on or before September 30, 2008;
22. MH to provide a planned implementation strategy outline by September 30, 2008 for TOU Rates as appropriate to the classes with required metering technology already in place. Alternative rate strategies should be included for consideration at the upcoming Energy Intensive Industry rate hearing;
23. MH file a plan by January 15, 2009 outlining the pros and cons of the various potential inverted rate strategies under consideration, and the MH-proposed course of action to address this issue over the next five years;
24. MH to plan to re-balance demand and energy charges on a revenue-neutral basis, and submit a 5-year transition plan for the Board's approval at the earliest of June 30, 2009, or the next GRA;

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MANITOBA HYDRO

2010/11 & 2011/12 GENERAL RATE APPLICATION

PUB DIRECTIVES

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- 1           e)     *MH to file with the Board on or before June 30, 2009 a draft plan, with*  
2                 *projected implications, to increase the Corporation's integrated (natural*  
3                 *gas and electricity) energy-efficiency initiatives with respect to low-*  
4                 *income households, so as to allow for reduced energy consumption for*  
5                 *all such households within a decade;*  
6  
7           f)     *MH to report back to the Board on the potential for a low-income and a*  
8                 *general refrigerator replacement program, and provide the merits of*  
9                 *such programs, on or before June 30, 2009; and*  
10  
11          g)     *MH to accrue interest on the AEF balance, to ensure additional funds*  
12                 *are available to fund expanded low-income energy efficiency programs*  
13                 *and to avoid the loss of "purchasing power" of the AEF due to*  
14                 *continuing inflation;*  
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16           The responses to items 18 (a); (b); (c); and (d) were filed with the PUB on September 30,  
17           2008.

18  
19           The responses to items 18(e) and (f) were filed with the PUB on July 24, 2009.

20  
21           Manitoba Hydro filed a response to 18(d) on March 4, 2009. This directive was updated  
22           in Order 32/09; Directive 8. The response to that directive will be provided in January,  
23           2010.

24  
25           **19.     *MH to refile the COSS by January 15, 2009 on the following basis:***

- 26  
27           a)     *As defined by Order 117/06;*  
28  
29           b)     *Incorporating diesel and exports in the same fashion as other domestic*  
30                 *customer classes. This Directive remains conditional on the full*  
31                 *execution of the Settlement Agreement and is also subject to further*  
32                 *review and approval by the Board in a required separate application and*  
33                 *proceeding;*  
34  
35           c)     *The assigning of 50% fixed and 100% variable thermal plant costs to the*  
36                 *Export class;*  
37



- d) *Assign DSM cost directly to export class and add DSM energy savings to domestic load for Generation cost-sharing purposes;*
- e) *Use the most recent actual [not forecast] export prices to establish export revenue in the COSS; and*
- f) *Use actual [eight year] energy [SEP] prices and energy use profiles in Generation energy weighting process;*

A Cost of Service Study for the year ended March 31, 2008, was prepared consistent with this directive and was filed with the Public Utilities Board March 4, 2009. This study is provided in the General Rate Application as Appendix 11.3.

20. *MH to provide and file with the Board by January 15, 2009, or by such subsequent date as determined by the Board following the clarification meeting(s) between Board staff and/or Advisors and MH, a revamped Marginal Cost (MC)-COSS analysis; one reflecting needed refinements to generation, transmission and distribution marginal costs. This should include specific demonstrations of how alternative MC adjustments could be applied to an embedded COSS. Among the scenarios to be explored, MH should consider the addition or blending of marginal costs to embedded costs prior to comparison to class revenues;*

A meeting was held on November 24, 2009 between Manitoba Hydro and the PUB to discuss this directive. A copy of a report produced pursuant to this and any subsequent similar meetings will be provided in due course.

Manitoba Hydro intends to engage external consulting services to review the entire Cost of Service methodology for consistency with cost causation, utility economics and the range of regulatory practice in North America and, pursuant to that review, to make appropriate recommendations with respect to either maintaining or varying those methodologies. Manitoba Hydro will file its proposed Terms of Reference for the review in January, 2010.

21. *MH to file all appropriate data [e.g. SEP/ NEB/ MISO clearinghouse information and avoided cost information etc.] required for input to the marginal cost determinations for generation, transmission and distribution and to further define the key assumptions employed by MH in support of this*



**Order 116/08 Directive 19 Revisions to PCOSS08**

The attached Electric Cost of Service schedules are filed to comply with Directive 19 in PUB Order 116/08 requiring Manitoba Hydro to re-file the results of the 2007/08 Prospective Cost of Service Study (“PCOSS08”) with modifications as directed in that Order. Order 116/08 was issued subsequent to PUB Order 90/08 which dealt with Manitoba Hydro’s 2008/09 General Rate Application. Order 116/08 provided further direction on a number significant matters including directing Manitoba Hydro to make some specific modifications to the Corporation’s Cost of Service Study (“COSS”) that had been filed as part of the 2008/09 GRA as compliant with earlier Cost of Service Order 117/06. Directed modifications are discussed below.

- a) **Manitoba Hydro was directed to re-file the study using the methodology as defined by Order 117/06 (Directive 19(a)).**

Manitoba Hydro has revised PCOSS08 to reflect the intention of the PUB as clarified in Order 116/08. Differences from the methodology used by Manitoba Hydro in preparing PCOSS08 as per order 117/06 and PCOSS08 as revised pursuant to the clarifications issued in Order 116/08 are discussed in the remainder of the document.

- b) **The PCOSS should incorporate diesel and exports in the same fashion as other domestic customer classes (Directive 19(b)).**

As directed the Export and Diesel classes have been incorporated, and disclosed, in the study in the same fashion as other customer classes as shown in Schedules 5 and 6.

- c) **Fifty percent of fixed and 100% variable thermal plant costs are to be directly assigned to the Export class. (Directive 19(c)).**

In Order 117/06 Manitoba Hydro was directed to allocate costs to the export customer class in a manner that reflected cost causation, and in particular, costs assigned to the Export class were to include thermal plant costs.

In PCOSS08 filed to support the 2008/09 GRA, Manitoba Hydro assigned the thermal fuel costs to the export customers, while the remaining operating and maintenance, interest and depreciation expense were allocated as part of the generation pool. Manitoba Hydro believed this treatment was the closest cost-causal interpretation consistent with the directive. MIPUG provided support for Manitoba Hydro’s interpretation and agreed that the treatment did not appear unreasonable.

In Order 116/08 the Board stated that while it understood the rationale that “thermal plants provide dispatchable energy, increase dependable energy for export, and enhance the reliability of domestic energy and, as such, all non-variable costs should be shared by both domestic and export classes”, the approach “would reject the principles of cost causation and would be avoiding a proper allocation of costs” (Order 116/08, pp 270). The Directive from

Order 117/06 was modified in 116/08 to assign all fuel costs and 50% of the fixed costs to the Export class.

Manitoba Hydro continues to believe that it is inconsistent with cost causation, and therefore inappropriate to directly assign fixed thermal plant costs to the Export class, or to assign any fixed cost at all to opportunity export sales. However, as directed, 100% of the fuel costs of \$23.2 million have been directly assigned to the Export class in the revised study. The remaining fixed operating and maintenance costs (\$20.5M), interest (\$20.3M) and depreciation (\$17.5) are split evenly between exports and the generation pool. The \$52.4 million in thermal plant fixed and variable costs assigned to exports implies a cost of 8.92¢/kWh for the 587 GW.h of thermal energy forecast in PCOSS08. The remaining costs are assigned to the generation pool for allocation to the domestic and Export classes, with the export share reduced for sales deemed served by thermal generation and power purchases.

**d) Assign DSM cost directly to export class and add DSM energy savings to domestic load for Generation cost-sharing purposes (Directive 19(d)).**

Order 117/06 directed Manitoba Hydro to directly assign the cost of domestic DSM to export customers, but did not provide a specific treatment for DSM energy. In PCOSS08 Manitoba Hydro interpreted the directive to mean that the associated DSM energy savings should also be assumed to serve the export market. The PUB clarified their intent in 116/08, and stated that while the costs of DSM are to be directly assigned to the export class, exports should not to be deemed to receive the benefit from the associated energy savings.

As directed Manitoba Hydro has assigned the costs of domestic DSM programs to the Export class, and added the DSM energy and capacity savings into the domestic load in this revised PCOSS. No reduction was made to the Export class energy or demand for cumulative DSM savings.

Energy savings from DSM programs are included in the PCOSS in two ways. Energy savings from programs undertaken in the past are implicitly and inextricably included in the forecast energy consumption for the class. Additional energy savings from new DSM planned for the two forecast years included in the PCOSS are then explicitly assigned to reduce forecast consumption for each class. This treatment of the DSM energy savings is consistent with PCOSS prepared prior to the issuance of 117/06.

In this revision to PCOSS08, once forecast class loads (including savings from DSM undertaken in the two forecast years) are calculated, the forecast cumulative DSM savings of 1,350 GW.h (actual to 2005/06 plus forecast for 2006/07 and 2007/08) are added back to the domestic classes in accordance with Directive 19(d). The determination of class energy including cumulative DSM is illustrated in Schedule 1. The DSM savings are assumed to have the same distribution between the twelve time periods as the forecast class energy when determining the weighted energy allocator for Generation cost-sharing purposes. The determination of marginal cost weighted class energy including cumulative DSM is illustrated in Schedule 2.

While forecast DSM savings are allocated to individual classes for rate design and use in the PCOSS, the DSM cumulative savings have only been tracked on an aggregate basis by sector, and are not available broken down by customer class. The sector aggregations can be directly matched to a specific class in the case of Residential programs, but in the cases of Industrial and Commercial programs participants belong to multiple classes. To estimate the savings on a class level, cumulative DSM savings aggregated by sector have been split using the forecast for DSM as used in the PCOSS (See Table 1). For example, if General Service Medium class was expected to provide 36% of the forecast savings from the Commercial DSM programs, then 36% of the 539 GW.h savings projected from Commercial programs to the end of 2007/08 would be added to the GSM load.

The class share of forecast sector savings from a sample of past studies (PCOSS from 1995, 1999, 2004 and 2008) has been averaged to recognize the evolution in the Power Smart programs as technologies change, existing opportunities are exhausted and new ones identified. Table 2 shows the average class share of forecast savings for the Commercial and Industrial sector programs in the sampled studies. As a PCOSS is not prepared each year, and due to the considerable effort required to produce the data, a complete analysis incorporating all years is neither practical nor even possible.

Unlike other classes that benefit from ongoing DSM programs, the Streetlighting and Sentinel conversion was completed in a single program spanning several years in the early 1990's and accordingly are not represented in Power Smart program forecasts since that time. The programs were significant, but would not be recognized in the revised PCOSS without a specific adjustment to the methodology used to estimate class share of DSM savings. A post-conversion review of the Streetlighting and Sentinel programs identified the savings realized from the conversion. As these savings are directly attributable to the lighting class, they are removed from the Commercial sector savings before allocating the remaining savings between classes.

While Manitoba Hydro believes this method of estimating class share of DSM savings is the most reasonable given the lack of historical data at the detailed level, it should be stressed that these results may vary considerably from actual class-by-class savings had they been tracked in that manner since the Power Smart program's inception.

Table 1 – Cumulative DSM Energy Savings Forecast to 2007/08 (GW.h @ Generation)

| <b>Sector</b>  | <b>Program Savings by Sector</b> | <b>Codes &amp; Standards Savings Attributed to Sectors</b> | <b>Total Savings by Sector</b> |
|--|----------------------------------|--|--------------------------------|
| Residential (including Customer Service Initiatives) | 113.0                            | 279.9  | 392.9                          |
| Industrial   | 349.0                            | 27.5   | 376.6                          |
| Commercial (less A&R Lighting)                       | 386.5                            | 151.4  | 538.0                          |
| A&R Lighting   | 42.6                             | -  | 42.6                           |
| Total Energy Savings                                 | 891.1                            | 458.9  | 1,350.0                        |

Table 2 – Average Class Share of Forecast Sector Savings in PCOSS

| <b>Sector</b> | <b>Res</b> | <b>A&amp;R Lighting</b> | <b>GSS ND</b> | <b>GSS Demand</b> | <b>GSM</b> | <b>GSL 0-30</b> | <b>GSL 30-100</b> | <b>GSL &gt;100</b> | <b>Total</b> |
|---------------|------------|-------------------------|---------------|-------------------|------------|-----------------|-------------------|--------------------|--------------|
| Industrial    | 0.0%       | 0.0%                    | 2.5%          | 2.5%              | 17.3%      | 17.7%           | 6.3%              | 53.8%              | 100%         |
| Commercial    | 0.5%       | 0.0%                    | 25.8%         | 27.4%             | 36.0%      | 8.4%            | 1.1%              | 0.7%               | 100%         |

Table 3 – Sector Energy Savings Assigned to Classes (GW.h @ Gen)

| <b>Sector</b> | <b>Res</b> | <b>A&amp;R Lighting</b> | <b>GSS ND</b> | <b>GSS Demand</b> | <b>GSM</b> | <b>GSL 0-30</b> | <b>GSL 30-100</b> | <b>GSL &gt;100</b> | <b>Total</b> |
|---------------|------------|-------------------------|---------------|-------------------|------------|-----------------|-------------------|--------------------|--------------|
| Residential   | 392.9      |                         |               |                   |            |                 |                   |                    | 392.9        |
| Industrial    | -          |                         | 9.4           | 9.4               | 65.0       | 66.7            | 23.5              | 202.5              | 376.6        |
| Commercial    | 2.9        |                         | 138.6         | 147.4             | 193.9      | 45.4            | 6.1               | 3.6                | 538.0        |
| A&R Lighting  |            | 42.6                    |               |                   |            |                 |                   |                    | 42.6         |
| Total Savings | 395.8      | 42.6                    | 148.0         | 156.8             | 258.9      | 112.1           | 29.6              | 206.1              | 1,350.0      |

Both Coincident Peak (CP) and class Non-Coincident Peak (NCP) demand allocators for Transmission, Subtransmission and Distribution incorporate the cumulative DSM capacity savings into the forecast class demand in a similar manner. Cumulative winter and summer demand savings by sector, excluding rate programs, have been broken down to the class level on the same basis as energy savings and added to the forecast seasonal demands used to calculate the seasonal demand (2 CP) allocator for Transmission. The determination of the seasonal demand allocator is illustrated in Schedule 3. Cumulative savings forecast to 2007/08 are 294.5 MW at Generation at winter peak, and 249.5 MW at summer peak, excluding rate programs

Demand for curtailable customers was calculated in previous PCOSS as if the customers were not curtailed at the time of the system peak. There were no curtailments in the top fifty hours, summer or winter, in the 2005/06 Load Research results used in PCOSS08 so the adjustment did not change calculated demand in the study. This adjustment to customer demand allocators, and the possible resulting increase in demand allocated costs, was offset in prior studies by crediting the affected classes with a cost reduction equal to the value of the curtailable load. However, as the demand allocators for all customer classes have now been increased by the amount of their cumulative DSM demand savings, this trade-off for the curtailable incentive is no longer applicable. As such, there is no assignment of a curtailable credit to the curtailable classes in this revised version.

The increase in class Non-Coincident Peak is estimated using the increase in winter CP and the class diversity factor, and results in an increase to total NCP load of 340.6 MW at Generation. The determination of the NCP demand allocator is illustrated in Schedule 1.

Manitoba Hydro is of the view that the treatment of DSM savings and costs, as described above, is unnecessarily cumbersome, requires significant analytical effort, provides only a rough allocation of DSM energy and demand to classes, and does not improve the results of the PCOSS. Manitoba Hydro recommends that DSM be incorporated into the PCOSS by allocating ongoing costs and benefits both to the domestic classes.

**e) Use the most recent actual [not forecast] export prices to establish export revenue in the COSS (Directive 19(e)).**

The 7,707 GWh of forecast export sales in PCOSS08 had an average price 6.362¢/kWh, while the actual average price for Market and Bilateral sales in 2005/06 (the most recent actual year at the time PCOSS08 was prepared) was 5.194¢/kWh. The actual average sales price has been adjusted for forecast CPI in 2006/07 and 2007/08 (2.0% per year) to calculate the inflation adjusted price used in the PCOSS of 5.404¢/kWh. For comparison purposes the actual average price received for export sales for the first three quarters of 2007/08 was 4.942¢/kWh.

Export revenue in the study also included \$42.5 million in Merchant or Off System sales that are made only when there are arbitrage opportunities to allow such sales to be made profitably. These price-sensitive sales are directly linked to an offsetting import purchase, the cost of which (\$35.2 million) is directly assigned to the export class as part of power purchases. There is no energy associated with these transactions in the PCOSS.

As a proxy for restating using actual export prices, total merchant sales revenue has been adjusted while purchases are held constant, to yield the same ratio of sales to purchases as realized in 2005/06. In 2005/06 the ratio of actual sales revenue to purchases was 114.4% for these transactions, compared to the 120.8% forecast for 2007/08.

Table 4 – Calculation of Revised System Merchant Sales Revenue

|   |        |
|---|--------|
| 2005/06 System Merchant Sales (\$/MWh)                | 68.49  |
| 2005/06 System Merchant Purchase (\$/MWh)             | 59.87  |
| Ratio of Sales:Purchase                               | 114.4% |
| Forecast System Merchant Purchases in PCOSS08 (000\$) | 35,213 |
| Adjusted System Merchant Sales in PCOSS08 (000\$)     | 40,283 |

Export revenue includes items such as MISO Transmission Credits and other export related revenues that are not related to energy sales. These items have not been adjusted in the revised PCOSS. Revised export revenue of \$475.4 million is \$76 million less than in the prior version of PCOSS08.

Table 5 – Calculation of Revised Export Revenue

|  | (000 \$) |
|--|----------|
| Export Sales at Forecast Price (7,707 GW.h @ 6.362¢/kWh)           | 490,314  |
| Adjust Export Sales to use Actual Price (5.404¢/kWh vs 6.362¢/kWh) | (73,840) |
| Merchant Sales at Forecast Price                                   | 42,538   |
| Adjust Merchant Sales to 114.4% of Forecast Merchant Purchases     | (2,255)  |
| Miscellaneous Revenue  | 18,662   |
| Revised Export Revenue   | 475,419  |

Adjusting the revenue side of the transaction requires a corresponding adjustment to the cost of the supply that is subject to many of the same market forces and conditions. The 2,028 GW.h in forecast Power Purchases included in the PCOSS have been restated to use the CPI adjusted actual price of purchased power for 2005/06 of 3.939¢/kWh, resulting in the power purchase costs directly assigned to the Export class increasing by \$5.8 million. Power Purchases also include Merchant Purchases, PSO Transmission Charges and Financial Transmission Rights. These items have not been adjusted in the revised PCOSS.

Table 6 – Calculation of Revised Power Purchases

|  | (000 \$) |
|--|----------|
| Power Purchases at Forecast Price (2,028 GW.h @ 3.652¢/kWh)            | 74,065   |
| Adjust Power Purchases to use Actual Price (3.939¢/kWh vs. 3.652¢/kWh) | 5,817    |
| Merchant Purchases at Forecast Price                                   | 35,213   |
| PSO Transmission and FTR Charges                                       | 25,181   |
| Revised Power Purchases  | 140,276  |

The net change in Manitoba Hydro revenue due to the \$76.1 million reduction in export revenue and \$5.8 million increase in Purchased Power costs is matched on the cost side by making a \$81.9 million reduction in Contribution to Reserves (a component of Interest costs included in the PCOSS) so costs continue to equal revenue in the study.

The intervenor, COALITION, has raised concerns that this would result in revenues and net costs in the PCOSS that will not match Manitoba Hydro's projected revenue requirement as per the Integrated Financial Forecast (IFF). Manitoba Hydro does not believe that the fact that PCOSS revenues do not match Manitoba Hydro's projected revenue requirement necessarily reduces the usefulness of the PCOSS results. There is already a precedent for a mismatch between the PCOSS and the IFF revenue requirement with the addition of the Uniform Rate Adjustment (URA) which increased revenue in the PCOSS without, by definition, a similar increase to the revenue requirement.

The purpose of the COSS is to determine a fair sharing of revenue requirement among the customer classes and with minor changes in export revenue the apportionment of the revenue requirement is still valid, regardless of the precise amount of revenue required. The risk is that a dramatic reduction in export revenue requires adjustments to the PCOSS that imply a considerably lower cost for Manitoba Hydro's plant, even though the Corporation's revenue requirement as identified in the IFF does not change.



Revenue Cost Coverage (RCC) ratios for the domestic classes are utilized post allocation of net export credit and the change will not be material for most classes as a result of the change in gross export revenues. There are some classes that are more sensitive to these changes than others, and could see significant changes in their RCC with dramatic changes to export revenues. The accompanying change in interest costs has the greatest impact on plant-intensive functions such as Generation and Transmission, while the reduction in net export has a uniform effect on the net cost of all functions. As a result the net cost of Generation and Transmission after allocation of exports is reduced more than other functions due to this change. Similarly, directly assigned interest costs will change, but are not offset by net export revenues in the approved methodology. Classes with a relatively higher proportion of direct costs or Generation and Transmission related costs are liable to see greater changes than average with the directed change to export revenue.

**f) Use actual [eight year] energy [SEP] prices and energy use profiles in Generation energy weighting process (Directive 19(f)).**

In the version of the PCOSS08 filed during the 2008/09 GRA the energy consumption patterns from the last actual year are used to distribute forecast energy consumption into the twelve time periods, which are then weighted by the relative value of SEP energy in each period. The distribution of export energy among the twelve periods in the actual years previous to the PCOSS06 and PCOSS08 were quite different due to different water conditions in 2003/04 versus 2005/06.

The season and time of day that export sales are made by Manitoba Hydro are logically affected by changing water conditions. The pattern of domestic energy use does not share the same connection to water conditions, but is likely affected by variations in weather and other factors from year to year. Manitoba Hydro agrees that using averages improves data quality for the export customers, and to a lesser degree for the domestic classes.

Load Research data is not available to provide domestic consumption profiles over the required twelve periods for years prior to 2002/03. The revised study has used energy use profiles for the four year period from 2002/03 to the 2005/06 base year of PCOSS08. Future PCOSS will use the full eight year average as data becomes available. As expected the use of average weightings from a number of years affects the Export class distribution more than any domestic class.

**Table 7 – Energy Profile Using Average of 2002/03 to 2005/06 Actual Consumptions**

|             | Spring |          |      | Summer |          |       | Fall |          |      | Winter |          |       |
|-------------|--------|----------|------|--------|----------|-------|------|----------|------|--------|----------|-------|
|             | On     | Shoulder | Off  | On     | Shoulder | Off   | On   | Shoulder | Off  | On     | Shoulder | Off   |
| Residential | 3.3%   | 6.2%     | 3.9% | 6.2%   | 11.6%    | 5.9%  | 4.2% | 7.8%     | 4.9% | 11.4%  | 20.6%    | 14.1% |
| GSS         | 3.7%   | 6.5%     | 3.9% | 8.3%   | 12.6%    | 7.2%  | 4.4% | 7.7%     | 4.7% | 10.5%  | 18.4%    | 12.0% |
| GSM         | 3.9%   | 6.7%     | 4.1% | 8.6%   | 14.0%    | 8.3%  | 4.3% | 7.6%     | 4.7% | 9.8%   | 16.9%    | 11.0% |
| GSL         | 3.8%   | 7.1%     | 5.3% | 7.5%   | 13.8%    | 10.3% | 3.9% | 7.4%     | 5.6% | 8.4%   | 15.4%    | 11.6% |
| Exports     | 6.3%   | 9.2%     | 3.4% | 13.7%  | 20.6%    | 7.9%  | 3.9% | 7.0%     | 3.7% | 6.7%   | 11.2%    | 6.5%  |

**Table 8 – Energy Profile Using 2005/06 Actual Consumption**

|             | Spring |          |      | Summer |          |       | Fall |          |      | Winter |          |       |
|-------------|--------|----------|------|--------|----------|-------|------|----------|------|--------|----------|-------|
|             | On     | Shoulder | Off  | On     | Shoulder | Off   | On   | Shoulder | Off  | On     | Shoulder | Off   |
| Residential | 3.2%   | 5.9%     | 4.1% | 6.4%   | 12.0%    | 6.4%  | 4.2% | 7.6%     | 5.2% | 11.2%  | 20.3%    | 13.4% |
| GSS         | 3.9%   | 6.7%     | 4.0% | 8.5%   | 12.8%    | 7.5%  | 4.4% | 7.6%     | 4.6% | 10.4%  | 17.9%    | 11.5% |
| GSM         | 4.0%   | 7.0%     | 4.2% | 8.7%   | 14.3%    | 8.4%  | 4.3% | 7.7%     | 4.6% | 9.6%   | 16.5%    | 10.7% |
| GSL         | 3.9%   | 7.1%     | 5.4% | 7.7%   | 13.8%    | 10.5% | 3.9% | 7.3%     | 5.5% | 8.3%   | 15.2%    | 11.5% |
| Exports     | 4.0%   | 7.8%     | 5.6% | 9.2%   | 17.3%    | 11.7% | 3.6% | 7.6%     | 5.5% | 6.5%   | 12.8%    | 8.4%  |

Table 9 compares the ratio of class weighted energy to their un-weighted energy under both consumption profiles, and illustrates the effect of using an averaged consumption profile versus a single year. The use of a multi-year consumption profile instead of just a single year has essentially no effect on the aggregate weighting applied to the domestic classes energy consumption, and only moderately increases the weighting applied to the export energy sales. While it is reasonable to assume that the aggregate weighting for the domestic class will not change significantly once the full eight year sample is available, it is difficult to predict the impact the additional data will have on the export aggregate weighting.

**Table 9 – Comparison of Aggregate Weightings of Single vs. Multi-Year Energy Profile**

|             | <b>Aggregate Weight using<br/>2002/03 to 2005/06<br/>Profiles</b> | <b>Aggregate Weight<br/>using 2005/06 Profile</b> | <b>Increase Due to<br/>Multi-Year Profile</b> |
|-------------|---|---|---|
| Residential | 2.25  | 2.25  | 0.3%  |
| GSS         | 2.26  | 2.26  | 0.1%  |
| GSM         | 2.25  | 2.25  | 0.1%  |
| GSL         | 2.17  | 2.17  | 0.0%  |
| Exports     | 2.32  | 2.16  | 7.1%  |

### **Revised Results of PCOSS08**

Manitoba Hydro has modeled the results of the Prospective Cost of Service Study for 2007/08 to reflect the modifications directed in Order 116/08 as discussed above. Other than the changes previously mentioned, costs and revenues in PCOSS08 have not been updated or changed in order to allow comparison between versions, and allow the effects of Order 116/08 revisions to be studied in isolation. A variance analysis illustrating the effect of incorporating these directions is included as Schedule 7. The changes were implemented on a cumulative basis in the variance analysis, and it should be noted that the impact attributed to any individual modification may be different if they had been implemented in a different sequence.

The assignment and allocation of costs as directed in Order 116/08 results in net export revenue of \$48.7 million remaining to be allocated to domestic customers, considerably lower than the \$165 million in the study prior to incorporating the 116/08 directives.

Table 10 – Comparison of Net Export Revenue under Order 116/08 vs. 117/06

|                        | <b>PCOSS08 116/08<sup>i</sup></b><br><b>(\$ Million)</b> | <b>PCOSS08 117/06<sup>ii</sup></b><br><b>(\$ Million)</b> |
|------------------------|--|---|
| Gross Export Revenue   | 475  | 552   |
| Less:                  |  |   |
| Uniform Rates          | 17   | 17  |
| DSM                    | 23   | 25  |
| Trading Desk           | 13   | 13  |
| MAPP/MISO/NEB          | 7  | 7   |
| Purchased Power        | 140  | 134   |
| Thermal Costs          | 52   | 23  |
| Allocated Generation   | 129  | 116   |
| Allocated Transmission | 45   | 51  |
| Net Export Revenue     | 49   | 165   |

Table 11 – Comparison of Class Share of Export Revenue

| <b>Customer Class</b> | <b>PCOSS08 116/08<sup>i</sup></b> | <b>PCOSS08 117/06<sup>ii</sup></b> | <b>PCOSS06 Previous<sup>iii</sup></b> | <b>PCOSS06 Recommended<sup>iv</sup></b> |
|-----------------------|-----------------------------------|------------------------------------|---------------------------------------|---|
| Residential           | 42.6%                             | 42.4%                              | 34.2%                                 | 42.6%                                   |
| GSS Non-Demand        | 8.6%                              | 8.3%                               | 8.4%                                  | 9.6%                                    |
| GSS Demand            | 9.8%                              | 9.7%                               | 8.6%                                  | 8.3%                                    |
| GSM                   | 13.6%                             | 13.4%                              | 14.8%                                 | 13.6%                                   |
| GSL 0-30 kV           | 7.0%                              | 7.0%                               | 7.3%                                  | 6.5%                                    |
| GSL 30-100 kV         | 3.1%                              | 3.2%                               | 3.5%                                  | 2.6%                                    |
| GSL >100kV            | 13.8%                             | 14.5%                              | 22.8%                                 | 15.4%                                   |
| A&R Lighting          | 0.7%                              | 0.5%                               | 0.4%                                  | 0.5%                                    |
| Diesel                | 1.0%                              | 0.9%                               | 0.0%                                  | 0.8%                                    |

As shown in Table 12, application of Order 116/08 directives yields results similar to those from studies before the review and revision of Manitoba Hydro's Cost of Service methodology began. With the reduction of net export to only \$49 million, the distorting effects of exports on class RCC's remain. Although the study no longer explicitly allocates net export credits as an offset to Generation and Transmission costs, the assignment of sufficient Generation and Transmission expenses to the Export class to largely eliminate the net export credit has simply shifted the appearance of the allocation but not its results.

The changes perpetuate the distorting effects of export revenues that caused concern for Manitoba Hydro and some of the parties in the first place. Using the methodology from 116/08 results in four classes falling within the 0.95 - 1.05 zone of reasonableness (ZOR), three classes above the ZOR, and one below the ZOR.

The greatest impact on class RCC is from the assignment of DSM costs directly to the Export class, and the addition of DSM savings back to the domestic class load. Unfortunately the lack of detailed historic data on realized savings requires a number of assumptions and allocations to disaggregate savings to the class level, and yields an estimate for which the level of confidence is disproportionate to its impact on the results of the study.

Table 12 – Comparison of Class RCC

| <b>Customer Class</b> | <b>PCOSS08<br/>116/08<sup>i</sup></b> | <b>PCOSS08<br/>117/06<sup>ii</sup></b> | <b>PCOSS06<br/>Previous<sup>iii</sup></b> | <b>PCOSS06<br/>Recommended<sup>iv</sup></b> |
|-----------------------|---------------------------------------|--|---|---|
| Residential           | 96.2%                                 | 96.4%                                  | 92.2%                                     | 97.0%                                       |
| GSS Non-Demand        | 101.4%                                | 104.3%                                 | 103.1%                                    | 107.4%                                      |
| GSS Demand            | 107.8%                                | 107.2%                                 | 106.0%                                    | 105.4%                                      |
| GSM                   | 100.2%                                | 101.1%                                 | 102.9%                                    | 100.6%                                      |
| GSL 0-30 kV           | 89.9%                                 | 90.4%                                  | 94.0%                                     | 90.1%                                       |
| GSL 30-100 kV         | 108.4%                                | 103.7%                                 | 109.4%                                    | 101.5%                                      |
| GSL >100kV            | 112.0%                                | 108.7%                                 | 114.7%                                    | 103.2%                                      |
| A&R Lighting          | 102.4%                                | 105.8%                                 | 105.2%                                    | 107.1%                                      |

<sup>i</sup> Version of PCOSS described herein with changes as directed in PUB Order 116/08

<sup>ii</sup> Version of PCOSS submitted during the 2008/09 GRA with changes as directed in PUB Order 117/06

<sup>iii</sup> Version of PCOSS submitted during the 2005 Cost of Service Review using Manitoba Hydro's then current methodology

<sup>iv</sup> Version of PCOSS submitted during the 2005 Cost of Service Review using Manitoba Hydro's preferred methodology

SCHEDULE 1

2008 Prospective Cost of Service Study  
Prospective Peak Load Report  
Using Top 50 Peak Hours

|                                 | Forecast<br># Cust.<br>COP | Forecast<br>Total KW/h | Forecast<br>DSM KW/h | Forecast<br>Savings | Total KW/h<br>E20 | Distribution<br>Losses | Common Bus<br>Losses | Forecast<br>DSM KW/h<br>Savings to 07:00 | KW/h Generated<br>Adjusted<br>E10 | CP<br>Load<br>Factor | CP @ Meter       |                       |           |                       | Forecast  |                       |           |                       | Common Bus<br>Losses<br>MW | Detailed<br>Losses<br>MW | Cumulative<br>Forecast<br>DSM MW<br>to 2007/08 | Class<br>Demand<br>@ Meter<br>MW | Class<br>NCP MW<br>@ Gen. |          |
|---------------------------------|----------------------------|------------------------|----------------------|---------------------|-------------------|------------------------|----------------------|--|-----------------------------------|----------------------|------------------|-----------------------|-----------|-----------------------|-----------|-----------------------|-----------|-----------------------|----------------------------|--------------------------|--|----------------------------------|---------------------------|----------|
|                                 |                            |                        |                      |                     |                   |                        |                      |  |                                   |                      | CP @ Meter       |                       | Forecast  |                       | Forecast  |                       | Forecast  |                       |                            |                          |  |                                  |                           |          |
|                                 |                            |                        |                      |                     |                   |                        |                      |  |                                   |                      | Non-Demand<br>MW | Non-Demand<br>Savings | DSM<br>MW | Non-Demand<br>Savings | DSM<br>MW | Non-Demand<br>Savings | DSM<br>MW | Non-Demand<br>Savings |                            |                          |  |                                  |                           |          |
| Residential                     | 430,295                    | 6,538,090,000          | (42,040,000)         | -                   | 6,496,050,000     | 420,132,337            | 677,944,495          | 395,799,888                              | 7,989,920,721                     | 53.6%                | 1,388.65         | (3.81)                | 1,384.84  | 55.1%                 | (72.65)   | 1,312.19              | 11,597    | 165.09                | 88.07                      | 1,681.32                 | 87.8%  | 1,494.53                         | 1,914.94                  | 1,914.94 |
| Seasonal                        | 20,118                     | 61,960,000             | -                    | -                   | 61,960,000        | 4,007,266              | 6,466,343            | -  | 72,833,699                        | 157.8%               | 4.29             | -                     | 4.47      | -                     | -         | 4.47                  | 0.40      | 0.56                  | 0.00                       | 5.43                     | 80.0%  | 55.89                            | 67.86                     | 55.89    |
| Water Heating                   | 5,690                      | 19,516,000             | -                    | -                   | 19,516,000        | 1,262,198              | 2,036,752            | 67.4%                                    | 22,814,950                        | 67.4%                | 3.29             | -                     | 3.29      | -                     | -         | 3.29                  | 0.29      | 0.41                  | 0.00                       | 4.00                     | 80.0%  | 4.12                             | 5.00                      | 5.00     |
| Total Residential               | 455,503                    | 6,619,566,000          | (42,040,000)         | -                   | 6,577,526,000     | 425,401,801            | 686,451,291          | 395,799,888                              | 8,085,179,280                     | 54.0%                | 1,396.42         | (3.81)                | 1,392.61  | 55.1%                 | (72.65)   | 1,319.96              | 11,665    | 166.07                | 88.07                      | 1,690.75                 | 84.9%  | 1,554.53                         | 1,987.80                  | 1,987.80 |
| GS Small - Single Phase         |                            |                        |                      |                     |                   |                        |                      |  |                                   |                      |                  |                       |           |                       |           |                       |           |                       |                            |                          |  |                                  |                           |          |
| Non-Demand                      | 39,443                     | 917,201,579            | (19,818,120)         | -                   | 897,383,459       | 59,331,818             | 957,411,064          | 103,021,792                              | 1,175,678,133                     | 61.6%                | 173.21           | (3.94)                | 169.26    | 10.4%                 | (13.70)   | 155.56                | 13.75     | 19.57                 | 22.32                      | 211.20                   | 83.0%  | 187.42                           | 254.46                    | 254.46   |
| Demand                          | 3,571                      | 489,087,449            | (6,996,007)          | -                   | 482,091,442       | 31,179,228             | 503,112,506          | 37,086,499                               | 600,688,777                       | 68.1%                | 81.76            | (1.59)                | 80.38     | 14.1%                 | (5.35)    | 75.03                 | 6.63      | 9.44                  | 8.03                       | 99.13                    | 87.2%  | 86.04                            | 113.68                    | 113.68   |
| Subtotal                        | 43,014                     | 1,406,289,028          | (26,814,127)         | -                   | 1,379,474,901     | 90,511,046             | 1,460,524,170        | 140,108,292                              | 1,776,366,909                     | 63.7%                | 254.97           | (5.53)                | 249.64    | 14.4%                 | (19.05)   | 230.58                | 20.38     | 29.01                 | 30.35                      | 310.33                   | 84.3%  | 273.46                           | 368.13                    | 368.13   |
| Seasonal                        | 779                        | 4,760,000              | -                    | -                   | 4,760,000         | 307,853                | 4,967,699            | -  | 5,564,622                         | 162.5%               | 0.33             | -                     | 0.33      | -                     | -         | 0.33                  | 0.03      | 0.04                  | 0.00                       | 0.40                     | 8.0%   | 4.16                             | 5.05                      | 5.05     |
| Water Heating                   | 509                        | 6,104,000              | -                    | -                   | 6,104,000         | 394,776                | 673,033              | -  | 7,115,899                         | 68.9%                | 1.01             | -                     | 1.01      | 0.0%                  | -         | 1.01                  | 0.09      | 0.13                  | 0.00                       | 1.22                     | 75.0%  | 1.34                             | 1.63                      | 1.63     |
| Total Single Phase              | 44,502                     | 1,437,153,028          | (26,814,127)         | -                   | 1,410,338,901     | 92,315,676             | 1,471,127,272        | 140,108,292                              | 1,783,482,741                     | 63.8%                | 256.31           | (5.53)                | 250.98    | 14.4%                 | (19.05)   | 231.92                | 20.50     | 29.18                 | 30.35                      | 311.95                   | 83.1%  | 278.56                           | 374.82                    | 374.82   |
| GS Small - Three Phase          |                            |                        |                      |                     |                   |                        |                      |  |                                   |                      |                  |                       |           |                       |           |                       |           |                       |                            |                          |  |                                  |                           |          |
| Non-Demand                      | 10,911                     | 409,338,420            | (8,653,780)          | -                   | 400,684,640       | 29,097,891             | 411,134,756          | 44,985,493                               | 505,906,701                       | 61.6%                | 75.63            | (1.72)                | 73.91     | 4.5%                  | (5.89)    | 67.93                 | 4.54      | 8.38                  | 9.75                       | 99.59                    | 83.0%  | 81.84                            | 109.15                    | 109.15   |
| Demand                          | 5,877                      | 1,278,912,552          | (22,857,593)         | -                   | 1,256,054,959     | 79,197,846             | 1,592,826,536        | 159,725,705                              | 1,410,007,675                     | 68.1%                | 263.95           | (4.47)                | 259.47    | 13.1%                 | (17.27)   | 242.21                | 16.19     | 29.87                 | 25.93                      | 314.20                   | 87.2%  | 277.76                           | 360.32                    | 360.32   |
| Total Three Phase               | 16,788                     | 1,687,250,972          | (31,241,773)         | -                   | 1,656,909,599     | 108,295,737            | 2,004,961,292        | 204,988,427                              | 2,415,884,427                     | 66.7%                | 339.58           | (6.20)                | 333.38    | 17.6%                 | (23.25)   | 310.13                | 20.73     | 38.25                 | 35.68                      | 404.79                   | 86.2%  | 359.60                           | 469.46                    | 469.46   |
| Total G.S. Small                |                            |                        |                      |                     |                   |                        |                      |  |                                   |                      |                  |                       |           |                       |           |                       |           |                       |                            |                          |  |                                  |                           |          |
| Non-Demand                      | 69,754                     | 1,316,439,969          | (28,471,000)         | -                   | 1,287,968,969     | 78,429,709             | 1,367,938,920        | 148,097,286                              | 1,631,284,714                     | 69.3%                | 248.44           | (5.67)                | 243.17    | 14.9%                 | (19.69)   | 223.48                | 18.29     | 27.95                 | 32.07                      | 301.79                   | 83.0%  | 269.26                           | 362.60                    | 362.60   |
| Demand                          | 9,248                      | 2,088,000,000          | (38,544,000)         | -                   | 2,049,456,000     | 105,377,024            | 2,206,293,226        | 156,837,206                              | 2,363,133,432                     | 67.1%                | 344.71           | (5.86)                | 338.02    | 32.1%                 | (42.30)   | 317.23                | 23.82     | 39.31                 | 33.96                      | 413.32                   | 87.2%  | 360.80                           | 471.99                    | 471.99   |
| Sub-Total G.S. Small            | 79,002                     | 3,404,440,000          | (66,015,000)         | -                   | 3,338,425,000     | 183,806,734            | 3,574,232,146        | 304,934,492                              | 4,022,031,316                     | 68.4%                | 593.15           | (11.53)               | 581.02    | 32.1%                 | (42.30)   | 540.72                | 41.13     | 67.26                 | 66.03                      | 715.11                   | 85.4%  | 633.06                           | 833.59                    | 833.59   |
| Seasonal                        | 779                        | 4,760,000              | -                    | -                   | 4,760,000         | 307,853                | 4,967,699            | -  | 5,564,622                         | 162.7%               | 0.33             | -                     | 0.33      | 0.0%                  | -         | 0.33                  | 0.03      | 0.04                  | 0.00                       | 0.40                     | 8.0%   | 4.16                             | 5.05                      | 5.05     |
| Water Heating                   | 509                        | 6,104,000              | -                    | -                   | 6,104,000         | 394,776                | 673,033              | -  | 7,115,899                         | 68.9%                | 1.01             | -                     | 1.01      | 0.0%                  | -         | 1.01                  | 0.09      | 0.13                  | 0.00                       | 1.22                     | 75.0%  | 1.34                             | 1.63                      | 1.63     |
| Total G.S. Small                | 80,581                     | 3,411,200,000          | (66,015,000)         | -                   | 3,345,185,000     | 184,104,414            | 3,581,932,644        | 304,934,492                              | 4,029,147,215                     | 68.5%                | 595.89           | (11.53)               | 584.36    | 32.1%                 | (42.30)   | 540.66                | 41.23     | 67.43                 | 66.03                      | 716.54                   | 84.9%  | 638.56                           | 844.28                    | 844.28   |
| General Service - Medium        | 1,801                      | 2,987,000,000          | (38,282,780)         | -                   | 2,948,717,220     | 140,580,231            | 302,833,792          | 258,898,845                              | 3,651,020,088                     | 73.6%                | 462.03           | (7.21)                | 454.81    | 12.6%                 | (16.67)   | 438.14                | 29.29     | 54.03                 | 56.95                      | 578.40                   | 90.6%  | 483.59                           | 638.42                    | 638.42   |
| General Service - Large         | 252                        | 1,656,326,000          | (24,523,120)         | -                   | 1,631,802,880     | 62,356,552             | 164,105,030          | 112,129,996                              | 1,930,374,458                     | 81.2%                | 229.42           | (4.26)                | 225.16    | 0.2%                  | (0.27)    | 224.88                | 12.47     | 27.44                 | 25.34                      | 290.13                   | 84.2%  | 267.08                           | 344.57                    | 344.57   |
| 30 - 100 KV                     | 27                         | 769,958,000            | (1,810,474)          | -                   | 768,147,526       | 8,961,613              | 76,174,968           | 23,053,906                               | 876,338,013                       | 83.2%                | 105.35           | (0.47)                | 104.89    | -                     | -         | 104.89                | 1.60      | 12.31                 | 5.47                       | 124.27                   | 77.7%  | 134.99                           | 159.94                    | 159.94   |
| 30 - 100 KV - Curtailment Costs | 1                          | 220,000,000            | (517,206)            | -                   | 219,482,794       | 2,560,600              | 21,765,464           | 6,871,889                                | 230,995,947                       | 98.0%                | 25.56            | (0.11)                | 25.44     | -                     | -         | 25.44                 | 0.39      | 2.99                  | 1.33                       | 301.5                    | 94.1%  | 27.04                            | 32.04                     | 32.04    |
| Over 100 KV                     | 11                         | 2,662,716,000          | (3,547,953)          | -                   | 2,659,168,047     | 2,657,388,447          | 26,044,554           | 105,292,717                              | 3,023,145,318                     | 87.0%                | 348.43           | (0.83)                | 347.60    | -                     | -         | 347.60                | -         | 49.18                 | 25.85                      | 413.63                   | 91.8%  | 378.65                           | 450.58                    | 450.58   |
| Over 100 KV - Curtailment Costs | 3                          | 2,550,000,000          | (5,121,467)          | -                   | 2,544,878,533     | 2,544,879,453          | 29,457,926           | 100,835,548                              | 2,895,171,908                     | 97.3%                | 296.36           | (0.71)                | 297.65    | -                     | -         | 297.65                | -         | 34.41                 | 22.14                      | 354.19                   | 95.8%  | 310.70                           | 399.72                    | 399.72   |
| Total G.S. - Large              | 294                        | 7,839,000,000          | (117,320,420)        | -                   | 7,721,679,580     | 731,835,765            | 771,987,942          | 347,899,337                              | 8,995,825,644                     | 86.6%                | 1,007.11         | (6.38)                | 1,000.73  | 0.2%                  | (0.27)    | 1,000.46              | 14.46     | 117.32                | 80.13                      | 1,212.37                 | 89.5%  | 1,118.45                         | 1,358.84                  | 1,358.84 |
| SEP                             |                            |                        |                      |                     |                   |                        |                      |  |                                   |                      |                  |                       |           |                       |           |                       |           |                       |                            |                          |  |                                  |                           |          |
| GSU                             | 22                         | 21,000,000             | -                    | -                   | 21,000,000        | 1,001,176              | 2,156,633            | -  | 24,157,889                        | 44.8%                | 5.34             | -                     | 5.34      | -                     | -         | 5.34                  | 0.36      | 0.66                  | 0.00                       | 6.35                     | 78.7%  | 6.78                             | 8.07                      | 8.07     |
| GSU - 0 - 30 Kvs                | 6                          | 2,700,000              | -                    | -                   | 2,700,000         | 104,423                | 27,899               | -  | 3,079,222                         | 88.8%                | 0.35             | -                     | 0.35      | -                     | -         | 0.35                  | 0.02      | 0.04                  | 0.00                       | 0.41                     | 18.0%  | 1.92                             | 2.26                      | 2.26     |
| Total SEP                       | 28                         | 23,700,000             | -                    | -                   | 23,700,000        | 1,105,599              | 2,431,532            | -  | 27,237,111                        | 47.5%                | 5.68             | -                     | 5.68      | -                     | -         | 5.68                  | 0.38      | 0.70                  | 0.00                       | 6.76                     | 65.3%  | 8.70                             | 10.33                     | 10.33    |
| Street Lighting                 | 12,224                     | 85,666,830             | -                    | -                   | 85,666,830        | 5,549,596              | 8,949,464            | 34,032,420                               | 134,180,220                       | 119.7%               | 8.15             | -                     | 8.15      | -                     | -         | 8.15                  | 0.72      | 1.03                  | 3.03                       | 12.93                    | 38.2%  | 21.33                            | 33.84                     | 33.84    |
| Street Lighting                 | 2,576                      | 10,330,000             | -                    | -                   | 10,330,000        | 668,093                | 1,078,072            | 8,550,000                                | 20,026,165                        | 119.7%               | 0.98             | -                     | 0.98      | -                     | -         | 0.98                  | 0.09      | 0.12                  | 0.78                       | 1.97                     | 38.2%  | 2.57                             | 3.15                      | 3.15     |
| Total - Lighting                | 15,000                     | 95,996,830             | -                    | -                   | 95,996,830        | 6,208,599              | 10,027,535           | 42,582,420                               | 154,206,385                       | 119.7%               | 9.13             | -                     | 9.13      | 0.0%                  | -         | 9.13                  | 0.81      | 1.15                  | 3.81                       | 14.89                    | 38.2%  | 23.90                            | 36.99                     | 36.99    |
| Total - General Consumers       | 534,116                    | 20,990,566,830         | (175,700,000)        | -                   | 20,814,866,830    | 831,664,489            | 21,121,869,056       | 1,350,000,000                            | 25,118,400,295                    | 68.7%                | 3,475.25         | (28.93)               | 3,447.32  | 100.0%                | (131.90)  | 3,315.42              | 202.81    | 406.69                | 294.99                     | 4,219.91                 | 86.6%  | 3,827.75                         | 4,875.66                  | 4,875.66 |
| Extra Provincial                | -                          | -                      | -                    | -                   | -                 | -                      | -                    | -  | -                                 | 0.0%                 | -                | -                     | -         | -                     | -         | -                     | 0.00      | -                     | 0.00                       | -                        | -  | -                                | -                         | -        |
| Man Hydo - Construction         | -                          | 52,000,000             | -                    | -                   | 52,000,000        | 2,479,102              | 5,340,233            | -  | 99,819,335                        | 73.6%                | 8.04             | -                     | 8.04      | -                     | -         | 8.04                  | 0.54      | 0.99                  | -                          | -                        | -  | -                                | -                         | -        |
| Integrated System               | 534,116                    | 21,042,566,830         | (175,700,000)        | -                   | 20,866,866,830    | 834,143,511            | 21,127,209,289       | 1,350,000,000                            | 25,178,219,630                    | 68.8%                | 3,484.30         | (28.93)               | 3,455.37  | 100.0%                | (131.90)  | 3,323.47              | 203.34    | 407.69                | -                          | -                        | -  | -                                | -                         | -        |

## SCHEDULE 2

2008 Prospective Cost of Service Study  
Prospective Peak Load Responsibility Report  
Energy (MW, h) Weighted by Marginal Cost

|                              | Spring      |               |               | Summer        |               |               | Fall          |               |               | Winter        |               |               | Total          | Weighted Energy/1000 |
|------------------------------|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------------|
|                              | Peak        | Shoulder      | Off Peak      | Peak          | Shoulder      | Off Peak      | Peak          | Shoulder      | Off Peak      | Peak          | Shoulder      | Off Peak      |                |                      |
| Residential                  | 260,215,668 | 491,708,977   | 311,526,521   | 495,985,920   | 927,184,012   | 472,795,945   | 335,498,650   | 625,540,968   | 391,257,440   | 909,479,875   | 1,646,211,365 | 1,124,525,380 | 7,989,930,721  | 18,010,482           |
| Residential FRWH             | 930,431     | 1,758,162     | 1,113,899     | 1,989,669     | 3,719,064     | 1,896,450     | 944,778       | 1,755,917     | 1,101,797     | 1,879,595     | 3,401,813     | 2,323,775     | 22,814,950     | 50,836               |
| Residential Seasonal         | 3,425,956   | 6,473,758     | 4,101,506     | 8,334,687     | 15,580,661    | 7,944,996     | 2,520,237     | 4,683,986     | 2,939,092     | 4,059,978     | 7,348,795     | 5,019,955     | 72,433,609     | 160,183              |
| GS Small Non-Demand          | 62,844,245  | 111,722,522   | 64,596,402    | 146,123,313   | 210,944,436   | 118,819,101   | 73,513,433    | 129,314,557   | 77,675,964    | 177,130,903   | 309,384,838   | 199,215,219   | 1,681,284,914  | 3,817,507            |
| GS Small Non-Demand FRWH     | 312,509     | 555,570       | 321,223       | 730,361       | 1,054,354     | 593,888       | 311,688       | 548,277       | 329,336       | 614,416       | 1,073,167     | 691,020       | 7,133,809      | 16,088               |
| GS Small Non-Demand Seasonal | 316,323     | 562,348       | 325,142       | 908,998       | 1,312,235     | 739,145       | 170,628       | 300,144       | 180,289       | 193,569       | 338,097       | 217,703       | 5,564,622      | 12,401               |
| GS Small Demand              | 92,573,922  | 161,090,331   | 98,014,160    | 196,384,238   | 319,037,872   | 185,454,789   | 112,048,121   | 195,964,779   | 121,278,023   | 263,960,116   | 460,565,323   | 304,374,748   | 2,510,746,422  | 5,660,405            |
| GS Medium                    | 141,211,522 | 245,898,382   | 149,823,196   | 315,113,424   | 511,972,152   | 302,765,618   | 158,215,234   | 277,528,164   | 170,711,983   | 356,718,215   | 618,339,374   | 402,722,824   | 3,651,020,088  | 8,209,245            |
| GS Large                     | 81,095,211  | 135,150,774   | 88,200,891    | 177,123,119   | 279,107,637   | 182,112,596   | 85,755,539    | 143,444,686   | 94,733,982    | 181,882,142   | 299,086,616   | 202,681,266   | 1,950,374,458  | 4,355,577            |
| GS Large 750-30KV            | 30,842,802  | 60,123,907    | 47,091,513    | 61,916,682    | 116,158,204   | 91,748,195    | 33,964,080    | 65,167,732    | 51,329,110    | 73,402,019    | 137,489,749   | 107,104,019   | 876,338,013    | 1,890,530            |
| GS Large 30-100KV            | 9,053,239   | 17,894,055    | 13,548,520    | 18,441,966    | 35,527,303    | 27,137,792    | 9,339,480     | 18,612,230    | 14,048,376    | 19,693,963    | 38,018,266    | 29,080,757    | 250,395,947    | 539,590              |
| GS Large > 100KV             | 116,529,553 | 221,981,830   | 172,704,109   | 209,744,857   | 388,309,097   | 304,656,889   | 118,328,202   | 227,595,253   | 175,787,962   | 251,479,480   | 469,640,461   | 366,387,626   | 3,023,145,318  | 6,522,504            |
| GS > 100KV Curtailable       | 104,309,191 | 204,100,159   | 156,536,299   | 210,169,696   | 412,843,813   | 318,947,713   | 108,197,066   | 213,690,588   | 163,011,685   | 228,095,845   | 438,441,331   | 336,828,523   | 2,895,171,908  | 6,229,885            |
| Street Lights                | -           | 5,882,643     | 14,551,800    | 464,419       | 10,991,253    | 29,103,600    | 4,798,998     | 8,359,545     | 17,493,121    | 10,217,221    | 17,957,541    | 34,986,243    | 154,806,385    | 280,891              |
| Totals                       | 903,660,572 | 1,664,903,418 | 1,122,455,179 | 1,843,451,149 | 3,233,742,095 | 2,044,716,718 | 1,043,606,133 | 1,910,506,808 | 1,281,878,161 | 2,478,807,137 | 4,447,296,736 | 3,116,159,059 | 25,091,163,164 | 55,756,113           |
| Exports                      | 367,199,670 | 539,397,650   | 201,254,829   | 804,708,027   | 1,209,304,879 | 462,675,421   | 228,589,098   | 411,597,523   | 217,310,475   | 394,652,948   | 657,798,434   | 379,511,046   | 5,874,000,000  | 13,606,145           |
| 12 Season Wiggins            | 2,513       | 2,144         | 1,246         | 3,258         | 2,388         | 1,000         | 2,624         | 2,155         | 1,396         | 3,406         | 2,262         | 1,796         |                |                      |

SCHEDULE 3

2008 Prospective Cost of Service Study  
Prospective Peak Load Responsibility Report  
Seasonal Coincident Peaks (2 CP) at Generation Peak

|                              | Forecast Total<br>Generation @<br>Energy | Avg % of<br>Yearly<br>Energy | Winter            |                              |                                 |                                  | Avg %<br>of Yearly<br>Energy | SUMMER                         |                              |                                  |   | D14       |  |
|------------------------------|--|------------------------------|-------------------|------------------------------|---------------------------------|----------------------------------|------------------------------|--------------------------------|------------------------------|----------------------------------|---|-----------|--|
|                              |  |                              | Seasonal<br>CP LF | Estimated<br>Seasonal Energy | Estimated<br>Seasonal<br>Demand | Estimated<br>Winter<br>DSM Adder |                              | Estimated<br>Seasonal<br>CP LF | Estimated<br>Seasonal Energy | Estimated<br>Summer DSM<br>Adder | Estimated<br>Seasonal<br>Demand incl<br>DSM |           |  |
|                              |  |                              |                   |                              |                                 |                                  |                              |                                |                              |                                  |   |           |  |
| Residential                  |  |                              |                   |                              |                                 |                                  |                              |                                |                              |                                  |   |           |  |
| Residential                  | 7,594,130,833                            | 63.1%                        | 84.6%             | 4,794,857,598                | 1,297,596                       | 88,070                           | 36.9%                        | 2,799,273,234                  | 720,738                      | 68,960                           | 789,698                                     | 1,087,682 |  |
| Seasonal                     | 72,433,609                               | 34.0%                        | 162.5%            | 24,643,092                   | 3,472                           | 0                                | 66.0%                        | 47,790,517                     | 6,660                        | 0                                | 6,660                                       | 5,066     |  |
| Water Heating                | 22,814,950                               | 49.6%                        | 126.0%            | 11,316,215                   | 2,056                           | 0                                | 50.4%                        | 8,809,416                      | 1,583                        | 0                                | 1,583                                       | 1,820     |  |
| Total Residential            | 7,689,379,392                            |                              |                   | 4,830,816,906                | 1,303,124                       | 88,070                           |                              | 2,855,873,167                  | 728,981                      | 68,960                           | 797,941                                     | 1,094,566 |  |
| GS Small                     |  |                              |                   |                              |                                 |                                  |                              |                                |                              |                                  |   |           |  |
| Non-Demand                   | 1,533,277,628                            | 57.8%                        | 72.3%             | 886,234,469                  | 280,597                         | 32,070                           | 42.2%                        | 647,043,159                    | 200,408                      | 28,520                           | 228,928                                     | 270,797   |  |
| Demand                       | 2,353,934,217                            | 57.6%                        | 81.3%             | 1,355,866,109                | 381,807                         | 33,960                           | 42.4%                        | 998,068,108                    | 273,622                      | 30,210                           | 303,832                                     | 359,799   |  |
| Subtotal                     | 3,887,211,846                            | 20.2%                        | 162.5%            | 2,242,100,579                | 662,403                         | 66,030                           | 79.8%                        | 1,645,111,267                  | 474,030                      | 58,730                           | 532,760                                     | 630,597   |  |
| Seasonal                     | 5,564,622                                | 49.6%                        | 106.0%            | 1,124,054                    | 158                             | 0                                | 50.4%                        | 3,781,000                      | 527                          | 0                                | 527   | 343       |  |
| Water Heating                | 7,135,809                                |                              |                   | 3,539,361                    | 764                             | 0                                |                              | 3,596,448                      | 768                          | 0                                | 768   | 766       |  |
| Total GSS                    | 3,899,912,277                            |                              |                   | 2,246,763,994                | 663,326                         | 66,030                           |                              | 1,652,488,715                  | 475,325                      | 58,730                           | 534,055                                     | 631,706   |  |
| General Service - Medium     | 3,392,121,243                            | 53.2%                        | 82.1%             | 1,805,771,384                | 503,543                         | 56,950                           | 46.8%                        | 1,586,349,858                  | 439,691                      | 50,630                           | 490,321                                     | 525,407   |  |
| General Service - Large      |  |                              |                   |                              |                                 |                                  |                              |                                |                              |                                  |   |           |  |
| 0 - 30 Kv                    | 1,838,244,462                            | 51.0%                        | 80.9%             | 936,624,149                  | 265,071                         | 25,340                           | 49.0%                        | 901,620,313                    | 241,909                      | 22,520                           | 264,429                                     | 277,420   |  |
| 30 - 100 Kv                  | 853,284,107                              | 52.4%                        | 86.8%             | 447,114,283                  | 117,918                         | 5,470                            | 47.6%                        | 406,169,824                    | 93,125                       | 4,859                            | 97,983                                      | 110,686   |  |
| 30 - 100 Kv - Curtailed Cust | 243,808,758                              | 49.8%                        | 111.8%            | 121,416,761                  | 24,863                          | 1,330                            | 50.2%                        | 122,391,996                    | 28,015                       | 1,181                            | 29,196                                      | 27,695    |  |
| Over 100 Kv                  | 2,917,852,601                            | 53.1%                        | 98.1%             | 1,548,819,005                | 361,577                         | 25,850                           | 46.9%                        | 1,369,033,596                  | 281,330                      | 22,952                           | 304,282                                     | 345,855   |  |
| Over 100 Kv - Curtailed Cust | 2,794,336,359                            | 51.1%                        | 99.1%             | 1,426,919,643                | 329,688                         | 22,140                           | 48.9%                        | 1,367,416,716                  | 314,854                      | 19,658                           | 334,512                                     | 343,170   |  |
| Total G.S. - Large           | 8,647,526,287                            |                              |                   | 4,480,893,842                | 1,099,117                       | 80,130                           |                              | 4,166,632,445                  | 959,233                      | 71,170                           | 1,030,403                                   | 1,104,825 |  |
| Street Lighting              | 112,223,965                              | 58.2%                        | 86.7%             | 65,306,569                   | 17,255                          | 3,810                            | 41.8%                        | 46,917,396                     | -                            | -                                | -   | 10,532    |  |
| Total - General Consumers    | 23,741,163,164                           |                              |                   | 13,429,552,695               | 3,586,365                       | 294,990                          |                              | 10,308,261,582                 | 2,603,231                    | 249,490                          | 2,852,721                                   | 3,367,038 |  |
| Extra Provincial             | 8,462,000,000                            | 40.3%                        | 94.5%             | 3,409,000,000                | 826,171                         | 0                                | 59.7%                        | 5,053,000,000                  | 1,280,245                    | 0                                | 1,280,245                                   | 1,053,208 |  |
| Integrated System            | 32,203,163,164                           |                              |                   | 16,838,552,695               | 4,412,536                       | 294,990                          |                              | 15,361,261,582                 | 3,883,476                    | 249,490                          | 4,132,966                                   | 4,420,246 |  |

Manitoba Hydro  
Prospective Cost Of Service Study  
March 31, 2008  
Revenue Cost Coverage Analysis  
***MH Model of 116/08 Directives***  
**S U M M A R Y**

## SCHEDULE 4

| Customer Class                     | Total Cost<br>(\$000) | Class<br>Revenue<br>(\$000) | RCC %<br>Pre Export<br>Allocation | Net Export<br>Revenue<br>(\$000) | Total<br>Revenue<br>(\$000) | RCC %<br>Current<br>Rates |
|------------------------------------|-----------------------|-----------------------------|-----------------------------------|----------------------------------|-----------------------------|---------------------------|
| Residential                        | 471,650               | 433,136                     | 91.8%                             | 20,721                           | 453,857                     | 96.2%                     |
| General Service - Small Non Demand | 95,714                | 92,895                      | 97.1%                             | 4,205                            | 97,100                      | 101.4%                    |
| General Service - Small Demand     | 108,460               | 112,162                     | 103.4%                            | 4,765                            | 116,926                     | 107.8%                    |
| General Service - Medium           | 150,430               | 144,186                     | 95.8%                             | 6,609                            | 150,795                     | 100.2%                    |
| General Service - Large 0 - 30kV   | 77,138                | 65,925                      | 85.5%                             | 3,389                            | 69,314                      | 89.9%                     |
| General Service - Large 30-100kV * | 34,003                | 35,367                      | 104.0%                            | 1,494                            | 36,861                      | 108.4%                    |
| General Service - Large >100kV *   | 152,443               | 164,004                     | 107.6%                            | 6,697                            | 170,702                     | 112.0%                    |
| *Includes Curtailment Customers    |                       |                             |                                   |                                  |                             |                           |
| SEP                                | 1,748                 | 1,561                       | 89.3%                             | -                                | 1,561                       | 89.3%                     |
| Area & Roadway Lighting            | 19,105                | 19,243                      | 100.7%                            | 319                              | 19,563                      | 102.4%                    |
| Total General Consumers            | 1,110,690             | 1,068,480                   | 96.2%                             | 48,199                           | 1,116,679                   | 100.5%                    |
| Diesel                             | 11,248                | 4,765                       | 42.4%                             | 494                              | 5,259                       | 46.8%                     |
| Export                             | 426,726               | 475,419                     | 111.4%                            | (48,693)                         | 426,726                     | 100.0%                    |
| Total System                       | 1,548,664             | 1,548,664                   | 100.0%                            | -                                | 1,548,664                   | 100.0%                    |



## SCHEDULE 5

Manitoba Hydro  
Prospective Cost Of Service Study - March 31, 2008  
Customer, Demand, Energy Cost Analysis  
***MH Model of 11/6/08 Directives***  
**SUMMARY**

| Class                            | C U S T O M E R |                     |                    |              | D E M A N D |                     |                  |              | E N E R G Y        |                 |     |
|----------------------------------|-----------------|---------------------|--------------------|--------------|-------------|---------------------|------------------|--------------|--------------------|-----------------|-----|
|                                  | Cost (\$000)    | Number of Customers | Unit Cost \$/Month | Cost (\$000) | % Recovery  | Billable Demand MVA | Unit Cost \$/KVA | Cost (\$000) | Metered Energy mWh | Unit Cost ¢/kWh |     |
| Residential                      | 108,534         | 455,903             | 19.84              | 177,294      | 0%          | n/a                 | n/a              | 165,101      | 6,577,526          | 5.21            | **  |
| GS Small - Non Demand            | 20,919          | 52,042              | 33.50              | 35,742       | 0%          | n/a                 | n/a              | 34,848       | 1,328,832          | 5.31            | **  |
| GS Small - Demand                | 6,069           | 9,248               | 54.68              | 46,338       | 34%         | 2,124               | 7.40             | 51,288       | 2,038,415          | 4.02            |     |
| General Service - Medium         | 5,349           | 1,801               | 247.49             | 64,090       | 100%        | 8,042               | 7.97             | 74,382       | 2,948,717          | 2.52            |     |
| General Service - Large <30kV    | 2,629           | 252                 | n/a                | 31,655       | 100%        | 3,826               | 8.96 *           | 39,465       | 1,611,803          | 2.45            |     |
| General Service - Large 30-100kV | 1,526           | 28                  | n/a                | 8,965        | 100%        | 2,104               | 4.99 *           | 22,019       | 987,630            | 2.23            |     |
| General Service - Large >100kV   | 1,868           | 14                  | n/a                | 28,331       | 100%        | 8,597               | 3.51 *           | 115,547      | 5,202,246          | 2.22            |     |
| SEP                              | 353             | 28                  | 1,051.21           | 296          | 0%          | n/a                 | n/a              | 1,099        | 23,700             | 5.88            | **  |
| Area & Roadway Lighting          | 13,213          | 150,000             | 7.34               | 3,028        | 0%          | n/a                 | n/a              | 2,545        | 95,997             | 5.81            | **  |
| Total General Consumers          | 160,460         | 669,316             |                    | 395,739      |             | 24,693              |                  | 506,293      | 20,814,867         |                 |     |
| Diesel                           | 287             | 716                 | 33.43              | 431          | 0%          | n/a                 | n/a              | 10,036       | 13,250             | 78.99           | **  |
| Export                           | n/a             | n/a                 | n/a                | 51,102       | 0%          | n/a                 | n/a              | 375,624      | 7,707,000          | 5.54            | *** |
| Total System                     | 160,747         | 670,032             |                    | 447,272      |             | 24,693              |                  | 891,953      | 28,535,117         |                 |     |

\* - includes recovery of customer costs

\*\* - includes recovery of demand costs

\*\*\* -includes recovery of customer and demand costs

## SCHEDULE 6

Manitoba Hydro  
Prospective Cost Of Service Study - March 31, 2008  
Functional Breakdown  
***MH Model of 11/6/08 Directives***  
**S U M M A R Y**

| Class                              | Total Cost<br>(\$000) | Generation<br>Cost<br>(\$000) | %     | Transmission<br>Cost<br>(\$000) | %     | Subtransmission<br>Cost<br>(\$000) | %     | Distribution<br>Cust Service<br>Cost (\$000) | %     | Distribution<br>Plant Cost<br>(\$000) | %     |
|------------------------------------|-----------------------|-------------------------------|-------|---------------------------------|-------|------------------------------------|-------|--|-------|---------------------------------------|-------|
| Residential                        | 450,929               | 165,101                       | 36.6% | 45,007                          | 10.0% | 33,910                             | 7.5%  | 52,168                                       | 11.6% | 154,743                               | 34.3% |
| General Service - Small Non Demand | 91,509                | 34,848                        | 38.1% | 11,180                          | 12.2% | 6,317                              | 6.9%  | 13,450                                       | 14.7% | 25,714                                | 28.1% |
| General Service - Small Demand     | 103,695               | 51,288                        | 49.5% | 14,794                          | 14.3% | 8,086                              | 7.8%  | 2,717  | 2.6%  | 26,810                                | 25.9% |
| General Service - Medium           | 143,821               | 74,382                        | 51.7% | 21,604                          | 15.0% | 10,891                             | 7.6%  | 4,365  | 3.0%  | 32,580                                | 22.7% |
| General Service - Large <30kV      | 73,749                | 39,465                        | 53.5% | 11,407                          | 15.5% | 5,878                              | 8.0%  | 2,397  | 3.3%  | 14,602                                | 19.8% |
| General Service - Large 30-100kV   | 32,509                | 22,019                        | 67.7% | 5,690                           | 17.5% | 3,275                              | 10.1% | 1,478  | 4.5%  | 48                                    | 0.1%  |
| General Service - Large >100kV     | 145,746               | 115,547                       | 79.3% | 28,331                          | 19.4% | 0                                  | 0.0%  | 1,843  | 1.3%  | 25                                    | 0.0%  |
| SEP                                | 1,748                 | 1,099                         | 62.9% | 296                             | 16.9% | 0                                  | 0.0%  | 335  | 19.2% | 18                                    | 1.1%  |
| Area & Roadway Lighting            | 18,786                | 2,618                         | 13.9% | 445                             | 2.4%  | 684                                | 3.6%  | 554  | 2.9%  | 14,485                                | 77.1% |
| Total General Consumers            | 1,062,492             | 506,365                       | 47.7% | 138,755                         | 13.1% | 69,041                             | 6.5%  | 79,306                                       | 7.5%  | 269,025                               | 25.3% |
| Diesel                             | 10,754                | 10,036                        | 93.3% | 0                               | 0.0%  | 0                                  | 0.0%  | 0  | 0.0%  | 718                                   | 6.7%  |
| Export                             | 426,726               | 375,624                       | 88.0% | 51,102                          | 12.0% | 0                                  | 0.0%  | 0  | 0.0%  | 0                                     | 0.0%  |
| Total System                       | 1,499,971             | 892,025                       | 59.5% | 189,857                         | 12.7% | 69,041                             | 4.6%  | 79,306                                       | 5.3%  | 269,742                               | 18.0% |

## SCHEDULE 7

**PCOSS08 Variance Analysis**  
**Effect of Changes Directed in Order 116/08 on Class RCC<sup>1</sup>**

| Customer Class                     | Revenue Cost Coverage Ratio (RCC) |  |                                |                  |        | Incremental Change in RCC |                                |                  |                                       |       |
|------------------------------------|-----------------------------------|--|--------------------------------|------------------|--------|---------------------------|--------------------------------|------------------|---------------------------------------|-------|
|                                    | PCOSS08<br>117/06 <sup>2</sup>    | Actual Exports & Imports<br>(ie 116/08) <sup>6</sup> |                                |                  | Net    | Thermal <sup>3</sup>      | Multi Year<br>TOU <sup>4</sup> | DSM <sup>5</sup> | Actual Exports & Imports <sup>6</sup> |       |
|                                    |                                   | Thermal <sup>3</sup>                                 | Multi Year<br>TOU <sup>4</sup> | DSM <sup>5</sup> |        |                           |                                |                  |                                       |       |
| Residential                        | 96.4%                             | 95.9%  | 95.7%                          | 96.6%            | 96.2%  | -0.5%                     | -0.2%                          | 0.9%             | -0.4%                                 | -0.2% |
| General Service - Small Non Demand | 104.3%                            | 104.0%   | 104.1%                         | 101.8%           | 101.4% | -0.3%                     | 0.1%                           | -2.3%            | -0.4%                                 | -2.9% |
| General Service - Small Demand     | 107.2%                            | 107.5%   | 107.3%                         | 107.2%           | 107.8% | 0.3%                      | -0.2%                          | -0.1%            | 0.6%                                  | 0.6%  |
| General Service - Medium           | 101.1%                            | 101.3%   | 101.3%                         | 100.1%           | 100.2% | 0.2%                      | 0.0%                           | -1.2%            | 0.1%                                  | -0.9% |
| General Service - Large 0 - 30kV   | 90.4%                             | 90.3%  | 90.4%                          | 90.3%            | 89.9%  | -0.1%                     | 0.1%                           | -0.1%            | -0.4%                                 | -0.5% |
| General Service - Large 30-100kV*  | 103.7%                            | 104.6%   | 105.0%                         | 107.7%           | 108.4% | 0.9%                      | 0.4%                           | 2.7%             | 0.7%                                  | 4.7%  |
| General Service - Large >100kV*    | 108.7%                            | 110.2%   | 110.7%                         | 110.8%           | 112.0% | 1.5%                      | 0.5%                           | 0.1%             | 1.2%                                  | 3.3%  |
| *Includes Curtailment Customers    |                                   |  |                                |                  |        |                           |                                |                  |                                       |       |
| SEP                                | 89.1%                             | 89.1%  | 89.1%                          | 89.1%            | 89.3%  | 0.0%                      | 0.0%                           | 0.0%             | 0.2%                                  | 0.2%  |
| Area & Roadway Lighting            | 105.8%                            | 105.6%   | 105.6%                         | 99.5%            | 102.4% | -0.2%                     | 0.0%                           | -6.1%            | 2.9%                                  | -3.4% |
| Total General Consumers            | 100.4%                            | 100.4%   | 100.5%                         | 100.5%           | 100.5% | 0.0%                      | 0.1%                           | 0.0%             | 0.0%                                  | 0.1%  |
| Diesel                             | 54.9%                             | 53.0%  | 52.6%                          | 51.3%            | 46.8%  | -1.9%                     | -0.4%                          | -1.3%            | -4.5%                                 | -8.1% |
| Export                             | 100.0%                            | 100.0%   | 100.0%                         | 100.0%           | 100.0% | 0.0%                      | 0.0%                           | 0.0%             | 0.0%                                  | 0.0%  |
| Total System                       | 100.0%                            | 100.0%   | 100.0%                         | 100.0%           | 100.0% | 0.0%                      | 0.0%                           | 0.0%             | 0.0%                                  | 0.0%  |

<sup>1</sup>Changes to PCOSS methodology are cumulative, and the impact attributed to a specific change may vary depending on the sequence in which the steps are performed.

<sup>2</sup>Version of PCOSS submitted during the 2008/09 GRA prepared as directed in PUB Order 117/06

<sup>3</sup>Above with 50% of fixed and 100% of variable Thermal costs assigned to the export class

<sup>4</sup>Above with energy split between the 12 TOU periods based on the average distribution over the past four years

<sup>5</sup>Above with DSM costs assigned to Export class, and DSM energy and capacity savings added to domestic class load

<sup>6</sup>Above with most recent actual export/import prices used to establish export revenue and power purchases. PCOSS includes all changes directed in Order 116/08.



# Prospective Cost of Service Study

*For Fiscal Year Ending  
March 31, 2011*



Cost of Service Department  
May 25, 2010

Manitoba Hydro's approach to PCOSS11 is outlined as follows:

### **Export Class**

PCOSS11 includes a single export class that is allocated Generation and Transmission costs on the same basis as to domestic customers.

### **Load Profile for Allocation of Generation Costs**

Twelve SEP time periods have been used in the allocation of generation-related costs, using energy use profiles averaged over seven years. Future PCOSS will use the full eight year average as Load Research data becomes available.

### **Assignment of DSM Costs**

DSM costs are assigned to the customer classes benefiting from the DSM programming, in the same manner as carried out prior to PCOSS08. This process reasonably assigns costs in accordance with the classes which benefit from the expenditures, is relatively simple to carry out, and avoids methodological complications associated with tracking cumulative DSM energy and capacity savings.

The costs of programs that are funded by the Affordable Energy Fund (AEF) have been charged directly to the export class in this study.

### **Thermal Plant Costs Assigned to the Export Class**

As gas-fired generation is almost never used to support exports and the plants provide dispatchable energy for the benefit of domestic customers, PCOSS11 assigns the cost of gas-fired thermal plants entirely to the domestic classes.

In accordance with climate change legislation, use of the Brandon Unit 5 coal generating station is limited to emergency use only. As Manitoba Hydro can no longer use coal-fired generation to support exports, all the fixed and variable costs have been assigned entirely to the domestic classes in this study.

### **Assignment of Other Costs to Exports**

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THE CLIMATE CHANGE AND EMISSIONS  
REDUCTIONS ACT  
(C.C.S.M. c. C135)

**Coal-Fired Emergency Operations Regulation**

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Regulation 186/2009  
Registered November 18, 2009

**Emergency operations defined**

**1(1)** In section 16 of *The Climate Change and Emissions Reductions Act*, "**emergency operations**" means operations using coal to generate or prepare to generate power in Manitoba that, in the opinion of Manitoba Hydro, are necessary to

(a) prevent or minimize the impact of a system or local emergency or any other condition that may

(i) jeopardize the continuous supply of power, at acceptable voltage and frequency,  
or

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LOI SUR LES CHANGEMENTS CLIMATIQUES ET  
LA RÉDUCTION DES ÉMISSIONS DE GAZ À  
EFFET DE SERRE  
(c. C135 de la C.P.L.M.)

**Règlement sur l'utilisation du charbon en cas  
d'opérations d'urgence**

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Règlement 186/2009  
Date d'enregistrement : le 18 novembre 2009

**Définition**

**1(1)** À l'article 16 de la *Loi sur les changements climatiques et la réduction des émissions de gaz à effet de serre*, « **opérations d'urgence** » s'entend des opérations où l'on utilise du charbon pour produire ou se préparer à produire de l'énergie au Manitoba et qui, selon Hydro-Manitoba, sont nécessaires aux fins suivantes :

a) prévenir une situation d'urgence ou autre qui se produit localement ou à l'échelle du réseau, ou en atténuer les répercussions, laquelle situation pourrait avoir dans la province ou un réseau régional de distribution l'une des conséquences suivantes :

(i) menacer l'alimentation sans interruption en énergie, à un voltage et à une fréquence acceptables,

## CLIMATE CHANGE AND EMISSIONS REDUCTIONS

C135 — M.R. 186/2009

(ii) cause or contribute to instability, uncontrolled separation or cascading failures, or to uncontrolled electricity flows,

within Manitoba or an integrated regional power grid;

(b) provide power if, due to forecasted water supply conditions in Manitoba, demand for power is expected to exceed aggregate supply; or

(c) maintain coal-fired generating facilities in a state of readiness to respond to an emergency or other condition.

**1(2)** Manitoba Hydro must, in assessing the potential for an emergency or other condition under clause (1)(a) or in making a forecast under clause (1)(b), consider

(a) any interconnection or other binding agreement under which Manitoba Hydro is obligated to provide a reliable and continuous supply of power; and

(b) any standards, rules, terms, conditions, guidelines or schedules established by a standards authority which relate to the planning, design or operation of power generation or transmission facilities or systems within an integrated regional power grid.

**1(3)** In clause (2)(b), "**standards authority**" means any agency, industry organization or body that makes or approves standards or criteria that apply both in and outside Manitoba relating to the operation or reliability of power generation or transmission facilities or systems.

**Minister must be notified — coal operations**

**2(1)** Manitoba Hydro must give the minister notice as soon as reasonably practicable if it uses coal to generate power in Manitoba for any reason other than for maintaining coal-fired generating facilities in a state of readiness to respond to an emergency or other condition.

(ii) causer des cas d'instabilité, des séparations non contrôlées, des défaillances en cascade ou des flux électriques non contrôlés ou y contribuer;

b) fournir de l'énergie si, en raison de conditions prévues au chapitre de l'approvisionnement en eau, l'on prévoit que la demande d'énergie sera supérieure à l'alimentation globale;

c) veiller à ce que les centrales alimentées au charbon soient prêtes à fonctionner si une situation d'urgence ou autre survient.

**1(2)** Au moment d'évaluer si une situation d'urgence ou autre visée à l'alinéa (1)a) pourrait survenir ou de faire des prévisions conformément à l'alinéa (1)b), Hydro-Manitoba tient compte des facteurs suivants :

a) l'existence d'une convention d'interconnexion ou autre liant les parties et en vertu de laquelle elle est tenue de fournir un approvisionnement fiable et constant en énergie;

b) l'existence de normes, de règles, de modalités, de conditions, de lignes directrices ou de programmes établis par un organisme de normalisation et ayant trait à la planification, à la conception ou à l'exploitation d'installations ou de réseaux de production ou de transport d'énergie au sein d'un réseau régional de distribution.

**1(3)** À l'alinéa (2)b), « **organisme de normalisation** » s'entend d'un organisme, d'une organisation représentant l'industrie ou d'une entité qui établit ou approuve des normes ou des critères applicables au Manitoba et ailleurs à l'égard de l'exploitation ou de la fiabilité des installations ou des réseaux de production ou de transport d'énergie.

**Obligation d'aviser le ministre en cas d'utilisation de charbon**

**2(1)** Hydro-Manitoba est tenue d'aviser le ministre dès que possible si elle utilise du charbon pour produire de l'énergie au Manitoba, à moins que cette mesure ne serve à garder des centrales alimentées au charbon prêtes à fonctionner en cas de situation d'urgence ou autre.



CHANGEMENTS CLIMATIQUES ET RÉDUCTION  
DES ÉMISSIONS DE GAZ À EFFET DE SERRE

C135 — R.M. 186/2009

**2(2)** Manitoba Hydro must give the minister notice if, due to forecasted water supply conditions, it is of the opinion that it may be necessary to use coal to generate power in Manitoba. The notice must include Manitoba Hydro's rationale for its opinion.

**2(3)** After giving notice under subsection (2), Manitoba Hydro must notify the minister when water supply conditions improve to the point that it no longer expects to use coal to generate power in Manitoba.

**Annual coal operations emergency preparedness plan**

**3** Manitoba Hydro must prepare and submit to the minister an annual coal operations emergency preparedness plan for the 12-month period beginning April 1 of each year. The plan must be submitted to the minister on or before the date specified by the minister.

**Reporting**

**4(1)** Within 30 days after the end of each quarter, Manitoba Hydro must submit a report to the minister setting out the following in respect of each time in the quarter it used coal under subsection 1(1):

- (a) the reason or reasons for the use;
- (b) the start and end date of the use;
- (c) the gross power generated;
- (d) an estimate of the resulting emissions.

**4(2)** In subsection (1), "**quarter**" means the consecutive three-month periods of January to March, April to June, July to September and October to December.

**Coming into force**

**5** This regulation comes into force on January 1, 2010.

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The Queen's Printer  
for the Province of Manitoba

**2(2)** Hydro-Manitoba est tenue de remettre un avis motivé au ministre si elle juge, en raison des conditions prévues au chapitre de l'approvisionnement en eau, qu'elle pourrait devoir utiliser du charbon pour produire de l'énergie au Manitoba.

**2(3)** Après avoir donné l'avis, Hydro-Manitoba est tenue d'aviser le ministre de nouveau lorsque les conditions au chapitre de l'approvisionnement en eau s'améliorent à un point tel qu'elle ne s'attend plus à devoir utiliser du charbon pour produire de l'énergie au Manitoba.

**Plan annuel de préparatifs d'urgence sur l'utilisation du charbon**

**3** Hydro-Manitoba dresse et soumet au ministre, au plus tard à la date limite qu'il fixe, un plan annuel de préparatifs d'urgence sur l'utilisation du charbon visant la période de 12 mois commençant le 1<sup>er</sup> avril.

**Rapport**

**4(1)** Dans les 30 jours suivant la fin d'un trimestre, Hydro-Manitoba soumet au ministre un rapport précisant, à l'égard de chaque utilisation de charbon visée au paragraphe 1(1) au cours de cette période, les renseignements suivants :

- a) les raisons de l'utilisation;
- b) la date où l'utilisation a commencé et pris fin;
- c) l'énergie brute produite;
- d) une évaluation des émissions de gaz à effet de serre produites.

**4(2)** Au paragraphe (1), « **trimestre** » s'entend des périodes consécutives de trois mois allant de janvier à mars, d'avril à juin, de juillet à septembre et d'octobre à décembre.

**Entrée en vigueur**

**5** Le présent règlement entre en vigueur le 1<sup>er</sup> janvier 2010.

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L'Imprimeur de la Reine  
du Manitoba





## **PUBLIC UTILITIES BOARD**

# **Rate Application and Pre-Filed Testimony 1991**

**NOVEMBER, 1990**

**PUB-RA91**

Economic variables, water conditions, weather, or other factors could cause significant deviations from the projected incremental revenues and hamper essential progress towards achievement of minimum target reserve levels.

For these reasons, Manitoba Hydro may apply for a review of and modification to the Public Utilities Board order concerning the rate increases to be implemented if circumstances vary substantially from those currently forecast.

Rate Schedules for 1991/92; 1992/93 and 1993/94

The proposed rate schedules for implementation April 1, 1991, April 1, 1992 and April 1, 1993 incorporate the Manitoba Hydro Board approved rate strategies as follows:

1. Elimination of Special Circumstance Zone rates (transitional rates applicable to customers affected by Rate Zone redefinition).

Currently there are only two such Special Circumstance rates remaining: Winnipeg Buffer moving to Zone 3 and Residential Seasonal Zone 3. These rates are blended into the Residential Zone 3 rate category effective with the 1991/92 rate change. This concludes the program of blending Special Circumstance rate classes which began in 1985 with the establishment of three rate zones.

2. Continuing to move toward a two part (basic charge and single block energy charge) for Residential and General Service Small (non-Demand).

For example, the ratio of the first block rate to runoff rate for Residential customers in Zone 1 will have declined from 1.43 in 1985/86 to 1.22 in 1993/94. The decline in

this ratio will be even more pronounced for General Service Small non-Demand customers (eg., from 1.58 to 1.14 in Zone 1).

3. Continuing to eliminate End-Use rates (eg., Cooking and Heating) by allowing no new applications and by eliminating the first block in the General Service non-Demand rate category (see item 2, above).
4. Moving the Revenue Cost Coverage (RCC) ratio (ratio of revenue received from a rate class to its allocated cost of service) of rate classes into a designated zone of reasonableness. For the first of the proposed rate increases (applying to 1991/92) Residential Class increases are proposed to be slightly higher than average General Service rate class increases, but nevertheless, less than the average 4.5% increase. The overall 4.5% increase includes a substantial increase to full cost Diesel customers. In the subsequent years, the proposed increase for the Residential Class is one-half of a percentage point greater than the overall increase, in keeping with Manitoba Hydro's policy of increasing Residential RCC, but limiting the rate increase differential to less than one percentage point.
5. Continuing to require customers served by isolated diesel facilities and who are not limited to 15 amp service to pay the full cost of service to them.

Some 348 customers are affected, the majority of whom are federal and provincial government accounts. Because of significantly increasing costs over the past two years, these customers will see increases in the range of approximately 48 per cent (excluding government surcharges). During the period July, 1989 through March, 1991 these customers enjoyed rates averaging some 25% lower

**PRESENTATION**  
**TO**  
**THE BOARD OF MANITOBA HYDRO**  
**WEDNESDAY, NOVEMBER 13, 1991**

**PROPOSED RATE SCHEDULES**  
**FOR 1992/93**

**Manitoba Hydro**  
**Rates Department**  
**91 10 30**

SUBJECT

Proposed General Consumer Rate Schedules (excluding Diesel Full Cost) for 1992/93

RECOMMENDATION

That the Board approve the attached Rate Tariffs proposed for General Consumers (excluding Diesel Full Cost) for the 1992/93 fiscal year. These tariffs are based on an increase in overall Revenue Requirement of 3.5% for the year April 1, 1992, to March 31, 1993, apportioned to the General Consumer Rate classes as follows:

|                           |      |
|---------------------------|------|
| Residential               | 3.9% |
| General Service:          |      |
| Small Non-Demand          | 3.0% |
| Small Demand              | 3.9% |
| Medium                    | 3.2% |
| Large                     | 3.2% |
| Area and Roadway Lighting | 0.0% |

BACKGROUND

Proposed Rate Schedules for 1992/93 and Appendix 'A' - Bill Comparisons attached.

JUSTIFICATION

The Proposed Rate Schedules are compatible with Manitoba Hydro's general ratemaking objectives and long-term direction:

1. They move in the direction of improved inter-class equity. Manitoba Hydro's long-term target as approved by the Board in August 1989, is that all class Revenue Cost Coverage ratios should fall within the range 0.90 to 1.10. This process was interrupted last year when the Public Utilities Board in its Order 29/91 reduced the increase to the Residential Class to below that of the overall Revenue Requirement increase of 3.1%.
2. They continue the process of simplification of rate schedules.
3. They are sensitive to the ability of customers to absorb rate increases during a recessionary period.

...2

- 2 -

4. They propose larger than average increases for the run-off energy blocks in the Residential and General Service Small classes compatible with conservation objectives.
5. They have the practical attributes of supporting stability, feasibility of application, understandability, and acceptability as to proper application.

With respect to realignment of Class Revenue Cost Coverages, significant progress has been made over the past several years, particularly in moving the Residential Class Revenue Cost Coverage up and the General Service Small Class Revenue Cost Coverage down into the Zone of Reasonableness. However, General Service Large, and Area and Roadway Lighting Revenue Cost Coverages remain high. The current class rate proposals continue the process of moving all class Revenue Cost Coverages to within the Zone of Reasonableness.

The Corporation has also moved, in recent years, to simplify rate schedules. Last year's rate changes completed the process of blending over 23 "Special Circumstance Rates", affecting 109 000 customers, into regular rate categories. In the current rate proposals, the following simplifications continue to be pursued:

- a) Phase out of Flat Rate Water Heating for both Residential and General Service classes;
- b) Phase out of General Service Cooking and Heating rates;
- c) Blend Residential and General Service Seasonal rates into regular rate categories, although the Seasonal distinction would be retained for billing purposes;
- d) Phase in a two-part rate structure (Basic Charge and single Energy Charge) for Residential and most General Service Small customers;
- e) Continue the smoothing of the cost per kW.h transition between General Service Small Demand and Non-Demand sub-classes.

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## **PUBLIC UTILITIES BOARD**

# **Minimum Filing Requirements 1994**

## **Volume 1**

**NOVEMBER, 1993**

**PUB-MFR94**



- completing the elimination of the Winter Basic Charge to Seasonal Accounts by April 1, 1995.
- completing the phase-out of the Residential Underground Charge which currently stands at \$1.20 per month.

In addition, there is further attrition of participation in the closed rate categories of Flat Rate Water Heating and General Service Cooking and Heating.

- 3) are consistent with conservation objectives, by proposing larger than average increases for the run-off energy blocks in the Residential and General Service-Small classes and greater increases to energy charges than to demand charges in the remaining General Service classes.
- 4) are sensitive to the ability of customers to absorb rate increases during a difficult economic period.

The Residential Class average increase of 1.95% is approximately 0.5 percentage points higher than the overall increase. This is expected to keep the Residential Class average increase below the projected rate of inflation for 1994/95 and 1995/96.

Individual customer bill impacts vary according to consumption patterns and the degree to which they are affected by the transitional measures discussed in (2) and (3) above.

With respect to the 413 full cost accounts in the northern communities served by diesel generation, rate changes are proposed as described in Minimum Filing Requirement (Question F, Attachment 4).

| CLASS                               | 1994/95 | 1995/96     |
|-------------------------------------|---------|-------------|
| <b>Residential:</b>                 | 1.95%   | 1.95%       |
| <b>General Service:</b>             |         |             |
| Small Non-Demand                    | 1.60%   | 1.46%       |
| Small Demand                        | 1.80%   | 1.69%       |
| Medium                              | 1.25%   | 1.15%       |
| Large                               | 1.16%   | 1.01%       |
| <b>Area &amp; Roadway Lighting:</b> | 0%      | 0%          |
| <b>Diesel Full Cost:</b>            | <5.0%>  | No proposal |

The 1994/95 schedules were developed to achieve a 1.5% increase in overall revenue requirement after recognising a reduction in revenue of approximately \$420 000 resulting from proposed Full Cost Diesel Rates. No such reduction (or increase) is assumed to apply as a result of Diesel Full Cost rates in 1995/96.

The Proposed Rate Schedules are compatible with Manitoba Hydro's general ratemaking objectives and long-term direction and:

- 1) contribute towards improved inter-class equity. Manitoba Hydro's long-term target as approved by the Board in August, 1989, is that all class Revenue Cost Coverage (RCC) ratios should fall within the range 0.90 to 1.10. RCC's outside this range in Manitoba Hydro's Prospective 1993/94 Cost of Service Study (issued in March, 1993) include: Residential (0.887); General Service-Medium (1.101); General Service-Large (1.114); and Area and Roadway Lighting (1.17). The proposed differentials in rate increases would go some way towards gradually moving these classes to within the target range.
- 2) continue the process of simplification of rate schedules by:
  - further moving towards a two-part rate structure (Basic Charge and single Energy Charge) for Residential and most General Service-Small customers.



## **PUBLIC UTILITIES BOARD**

# **Rate Application and Pre-Filed Testimony 1996**

NOVEMBER, 1995

PUB-RA96



| Class                               | 1995/96 Prospective Revenue Cost Coverage | Estimated Impact of Proposed Rate Adjustments |         |
|-------------------------------------|---|---|---------|
|                                     |   | 1996/97                                       | 1997/98 |
| <b>Residential:</b>                 | 0.911                                     | 0.918   | 0.920   |
| <b>General Service -Small:</b>      |   |   |         |
| Non-Demand                          | 1.089                                     |   |         |
| Demand                              | 1.063                                     |   |         |
| Total:                              | 1.077                                     | 1.071   | 1.063   |
| <b>General Service Medium:</b>      | 1.024                                     | 1.023   | 1.021   |
| <b>General Service Large:</b>       | 1.068                                     | 1.059   | 1.050   |
| <b>Area &amp; Roadway Lighting:</b> | 1.125                                     | 1.090   | 1.090   |

2. In conformity with the principles of gradualism and sensitivity to customer impacts, annual adjustments to revenues by customer class are less than two percentage points greater than the overall 2% increase in total revenue.
  
3. Consistent with estimates of incremental costs, the schedules propose larger than average increases for the run-off energy blocks in the Residential and General Service-Small classes and greater increases to energy charges than to demand charges in the remaining General Service classes. It is also proposed to phase out the practice of establishing minimum billing demand to General Service Medium and Large customers on the basis of 80% of the highest demand established during the previous December, January or February and to replace this "ratchet" provision with seasonally different rates for demand and energy.

**1996/97 and 1997/98 Rate Schedules**

The proposed rate schedules for 1996/97 and 1997/98 are included with the Application along with tables of bill comparisons and a Proof of Revenue. These are described in more detail in response to Minimum Filing Requirement (Questions F (a) and F(b)). The average 2.0% rate increases for each of the years 1996/97 and 1997/98 are apportioned to the General Consumer rate classes as follows:

| CLASS                               | 1996/97 | 1997/98 |
|-------------------------------------|---------|---------|
| <b>Residential:</b>                 | 3.18%   | 3.16%   |
| <b>General Service:</b>             |         |         |
| Small Non-Demand                    | 1.58%   | 1.49%   |
| Small Demand                        | 1.74%   | 1.76%   |
| Medium                              | 1.95%   | 1.94%   |
| Large                               | 0.92%   | 0.55%   |
| <b>Area &amp; Roadway Lighting:</b> | -5.0%   | 0%      |

The Proposed Rate Schedules are compatible with Manitoba Hydro's general ratemaking objectives and long-term direction:

1. They contribute towards improved inter-class equity. Manitoba Hydro's long-term target as approved by the Board in August, 1989, and modified in October, 1995, is that all class Revenue Cost Coverage (RCC) ratios should be in the range of 0.90 to 1.10 and further, that all classes should be gradually moved toward RCC's of unity. With the exception of Area and Roadway Lighting, all class RCC's are within the approved range. As shown below, the proposed rate changes will move the RCC for Area and Roadway Lighting to within the approved range and will contribute to the target of moving all RCC's toward unity.



## **PUBLIC UTILITIES BOARD**

# **GENERAL RATE APPLICATION**

## **VOLUME 1**

**JANUARY 2004**

As indicated in Tab 1 of this Application, Manitoba Hydro last appeared before the PUB with respect to a rate increase in February 1996, after which two consecutive rate increases averaging 1.5% and 1.3% were approved effective April 1, 1996 and April 1, 1997 respectively. Manitoba Hydro also appeared before the PUB in 2002 as part of the Status Update filing which provided information updates regarding financial results, forecasts, methodologies, processes, and other matters relating to sales rates charged by Manitoba Hydro. As a result of this filing the PUB issued Board Orders 7/03 and 154/03 which directed Manitoba Hydro to reduce rates for the General Service Small and Large >30 kV customers effective April 1, 2003, as well as reduce the winter ratchet for all Medium and Large demand customers to 70%. These reductions have resulted in an overall reduction to General Consumers Revenue of 0.72% for fiscal year 2003/04.

In addition to the rate increases proposed for April 1, 2004 and April 1, 2005, Manitoba Hydro is requesting:

- A two-year extension to the Terms and Conditions of the Surplus Energy Program

These items, as well as details of the specific rate changes by customer class, are discussed in Section 9.3.

The PUB has approved, on an *ex parte* basis, several interim applications filed by Manitoba Hydro with respect to the Curtailable Rate Program, Surplus Energy Program and various other rate matters. Manitoba Hydro is now requesting final approval of these Orders, a listing of which is included in Section 9.5.

## **9.2 RATE OBJECTIVES**

The proposed rate schedules are compatible with Manitoba Hydro's general rate making objectives and long-term direction as follows:

1. They contribute towards improved inter-class equity. Manitoba Hydro's long-term target is to have all class Revenue Cost Coverage (RCC) ratios in the range of 95% to 105%, and further that all classes should be gradually moved toward RCC's of unity.



2. In conformity with the principles of gradualism and sensitivity to customer impacts, annual adjustments to revenues by customer class are less than two percentage points greater than the overall 3.0% and 2.5% proposed increases in total revenue.

3. Consistent with conservation objectives and current relative costs, the schedules propose larger than average increases for the run-off energy blocks in the Residential and General Service Small classes and greater increases to energy charges than to demand charges in the remaining General Service classes.

4. The process of simplification of rate schedules is continued by:

- a) Blending the first block rate and run-off rate for the Residential class by April 1, 2005
- b) Blending the first and second energy blocks for the General Service Small class by April 1, 2005

5. The combined impact of proposed class average rate increases and adjustments to rate structures results in customer monthly impacts which fall within Manitoba Hydro's guidelines:

- For Residential customers, no customer will experience a bill increase which exceeds the greater of \$3.00 per month or three percentage points more than the class average increase.
- For General Service customers, no customer will experience an increase in average monthly bill over a year which exceeds the greater of \$5.00 per month or five percentage points more than the class average increase.

### **9.3 PROPOSED RATE CHANGES BY CUSTOMER CLASS**

The rates proposed in Appendix 9.2 are based on increases in the overall Revenue Requirement of 3.0% for the year April 1, 2004 to March 31, 2005, and 2.5% for the year April 1, 2005 to March 31, 2006, apportioned to the General Consumer rate classes as follows:

TAB 10

MANITOBA HYDRO  
2008/09 RATE INCREASE APPLICATION

PROPOSED RATES AND CUSTOMER IMPACTS

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|      |   |    |
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| 10.6 | Rate Comparisons With Other Utilities .....                               | 17 |

- 1       – A minor modification to the Terms and Conditions of the Curtailable Rate Program
- 2       effective April 1, 2008.; and
- 3
- 4       – Modification to the Terms and Conditions of the Short Term Power Rate.
- 5

6       These items, as well as details of the specific rate changes by customer class are  
7       discussed in Section 10.2 of this Tab.

8

9       The PUB has approved, on an interim basis, several applications filed by Manitoba  
10       Hydro with respect to General Consumers rate increases, Diesel Rate Applications, the  
11       Limited Use of Billing Demand Rate option, the Curtailable Rate Program and the  
12       Surplus Energy Program. Manitoba Hydro is now requesting final approval of these  
13       Orders, a listing of which is included in Appendix 10.6.

## 14

### 15   **10.1   RATE OBJECTIVES**

## 16

17       The proposed rate schedules are compatible with Manitoba Hydro's general rate making  
18       objectives and long-term direction as follows:

- 19
- 20       1.       Manitoba Hydro's long-term target is to have all class Revenue Cost Coverage
- 21       (RCC) ratios in the range of 95% to 105%, and further that all classes should be
- 22       gradually moved toward RCC's of unity.
- 23
- 24       2.       In conformity with the principles of gradualism and sensitivity to customer
- 25       impacts, annual adjustments to revenues by customer class are less than two
- 26       percentage points greater than the overall 2.9% proposed increase in total revenue
- 27       for the year.
- 28
- 29       3.       Consistent with conservation objectives, the rate schedules propose an inverted
- 30       rate for the Residential and greater increases to energy charges than demand
- 31       charges for the General Service Small Demand, Medium and Large classes.
- 32
- 33       4.       The combined impact of proposed class average rate increases and adjustments to
- 34       rate structure results in customer monthly impacts which fall within Manitoba
- 35       Hydro's guidelines:
- 36

- For Residential customers, no customer will experience a bill increase which exceeds the greater of \$3.00 per month or three percentage points more than the class average increase.
- For General Service customer, no customer will experience an increase in their average monthly bill over a year which exceeds the greater of \$5.00 per month or five percentage points more than the class average increase.

## **10.2 PROPOSED RATE CHANGES BY CUSTOMER CLASS**

Rate proposals for April 1, 2008 include some redesign in rate structure and changes to Terms and Conditions as described in this section under the appropriate rate class. Manitoba Hydro believes these changes are consistent with rate design principles in addition to addressing concerns of the Board cited in Orders 117/06 and 20/07.

All customer classes will receive a 2.9% increase in rates with the exception of Area and Roadway Lighting which will have a 1.0% rate increase applied.

A detailed Proof of Revenue is included in Appendix 10.1. Appendix 10.2 includes Rate Schedules for rates effective April 1, 2008. Appendix 10.3 includes Bill Calculations comparing the current rates to those proposed for April 1, 2008.

### **Residential**

For rates effective April 1, 2008 the monthly Basic Charge will remain unchanged at \$6.24 per month. The increase in revenue will be derived solely from the Energy Charge. Manitoba Hydro is proposing to eliminate the declining block rate structure, replacing it with an inverted rate whereby the first 900 kW.h per month will be at the lower rate of 5.98¢/kW.h. All energy consumed in excess of 900 kW.h per month will be at the higher rate of 6.01¢/kW.h. This inverted rate structure is consistent with Manitoba Hydro's objective of promoting energy conservation as well as complying with Directives from the PUB's Order 117/06 which directed Manitoba Hydro to exam phasing out or eliminating declining block rate schedules.

TAB 10

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MANITOBA HYDRO

2010/11 & 2011/12 RATE INCREASE APPLICATION

PROPOSED RATES AND CUSTOMER IMPACTS

INDEX

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1

| <b>Customer Class</b>   | <b>2010/11<br/>Increase in Revenue</b> | <b>2011/12<br/>Increase in Revenue</b> |
|-------------------------|--|--|
| Residential             | \$13.8 million                         | \$14.3 million                         |
| GS Small                | 7.1 million                            | 7.0 million                            |
| GS Medium               | 4.2 million                            | 4.9 million                            |
| GS Large                | 8.3 million                            | 9.3 million                            |
| Area / Roadway Lighting | 0.6 million                            | 0.6 million                            |
| Miscellaneous           | 0.2 million                            | 0.2 million                            |
| DSM                     | (0.9) million                          | (1.3) million                          |
| <b>Total</b>            | <b>\$33.4 million</b>                  | <b>\$35.1 million</b>                  |

2

3 A Proof of Revenue for each fiscal year detailing the total increase by customer class is  
4 provided in Appendices 10.1 and 10.2

5

## 6 **10.1 RATE OBJECTIVES**

7

8 The proposed rate schedules are compatible with Manitoba Hydro's general rate making  
9 objectives and long-term direction as follows:

10

- 11 1. Manitoba Hydro's long-term target is to have all class Revenue Cost Coverage  
12 (RCC) ratios in the range of 95% to 105%, and further that all classes should be  
13 gradually moved toward RCC's of unity. Attainment of this objective will take  
14 longer than anticipated given the across-the-board increases being proposed in  
15 this Application. Manitoba Hydro intends on having an external review done of  
16 the Cost of Service Study methodologies before relying on the results of the study  
17 for rate design.
- 18 2. In conformity with the principles of gradualism and sensitivity to customer  
19 impacts, annual adjustments to revenues by customer class are less than two  
20 percentage points greater than the overall 2.9% proposed increases in total  
21 revenue for each year.
- 22 3. Consistent with conservation objectives, the rate schedules propose the  
23 continuation of an inverted rate for the Residential class and greater increases to  
24 energy charges than demand charges for the General Service Small Demand,  
25 Medium and Large classes.

26

1  
2 4. The combined impact of proposed class average rate increases and adjustments to  
3 rate structure results in customer monthly impacts which fall within Manitoba  
4 Hydro's guidelines:

5  
6 – For Residential customers, no customer will experience a bill increase which  
7 exceeds the greater of \$3.00 per month or three percentage points more than  
8 the class average increase.

9  
10 – For General Service customer, no customer will experience an increase in  
11 their average monthly bill over a year which exceeds the greater of \$5.00 per  
12 month or five percentage points more than the class average increase.

13  
14 **10.2 PROPOSED RATE CHANGES BY CUSTOMER CLASS**

15  
16 All customer classes will receive approximately a 2.9% increase in rates for each of the  
17 two test years.

18  
19 Detailed Proof of Revenues are included in Appendices 10.1 and 10.2. Appendices 10.3  
20 and 10.4 include Rate Schedules for rates effective April 1, 2010 and April 1, 2011.  
21 Appendices 10.5 and 10.6 include Bill Comparisons for both test years.

22  
23 Residential

24  
25 For rates effective April 1, 2010 the monthly Basic Charge will decrease by \$1.00 per  
26 month to \$5.85, and for rates effective April 1, 2011 the Basic Charge will drop an  
27 additional \$1.00 per month to \$4.85. These decreases are being proposed to assist low  
28 income customers with low metered monthly consumption. Seasonal residential  
29 customers will maintain their current Annual Basic Charge of \$82.20

30  
31 The total increase in class revenue will be derived solely from the Energy Charge.  
32 Consistent with the intention of promoting energy conservation, the gap between the first  
33 block rate and tail block rate will be larger than the current rate structure. For rates  
34 effective April 1, 2010, the first block rate will increase by 1.9% to 6.37¢/kW.h, whereas  
35 all energy consumed in excess of 900 kW.h per month will be at the higher rate of  
36 6.75¢/kW.h, representing an increase of 7.1% from current rates. In year two of the rate





**CAC/MSOS/MH I-193****Subject: Temporary Billing Demand Concessions****Reference: Appendix 13.1****Tab 1, page 2****c) Please provide a schedule that for each account (name withheld) lists:**

- **The average range of monthly load factors and the overall average load factor for the period September 2006 to August 2008.**
- **The applicable 2009 rate schedule**
- **The average per unit cost of energy based on the overall average load factor (September 2006 – August 2008) and 2009 rates**
- **The months the accounts received the billing demand concession**
- **The range of load factors and the overall average load factor for the eligible months to-date**
- **The average unit energy cost that would have been paid based on standard rates over these months**
- **The average unit cost of energy actually paid over these months.**

**ANSWER:**

The information requested is of a commercially-sensitive nature and specific to customers for whom energy expense represents a significant portion of overall operating costs. The small number of customers located in Manitoba within specific industry sectors tends to make this type of information transparent to knowledgeable individuals. Given this sensitivity and respecting the privacy of commercially-sensitive information as it relates to customer-specific operations, Manitoba Hydro needs to provide answers on an aggregated basis by rate class.

Manitoba Hydro has applied for the deferrals granted to eligible customers under PUB Board Order 126/09 to be converted into concessions. At present amounts deferred under the program are subject to repayment in accordance with the terms specified under the order.

**Range of Load Factors and Average Load Factor for Accounts Participating in the Distressed Industry Billing Demand Deferral Program during the Billing Periods of Sep 2006 - Aug 2008**

| Rate Class          | Program Participants | Range of Load Factors |       |       |
|---------------------|----------------------|-----------------------|-------|-------|
|                     |                      | Min                   | Avg   | Max   |
| GSL > 100 kV        | 4                    | 0.224                 | 0.722 | 0.938 |
| GSL 30 kV to 100 kV | 2                    | 0.481                 | 0.787 | 0.892 |
| GSL 750 V to 30 kV  | 5                    | 0.120                 | 0.417 | 0.714 |
| GSM                 | 13                   | 0.105                 | 0.365 | 0.702 |

**Applicable 2009 Rate Schedules**

The applicable 2009 rate schedules for General Service Large (GSL) and General Service Medium Customers can be found on Manitoba Hydro's corporate web site at [http://www.hydro.mb.ca/regulatory\\_affairs/energy\\_rates/electricity/historical.shtml](http://www.hydro.mb.ca/regulatory_affairs/energy_rates/electricity/historical.shtml)

**Average Unit Energy Cost for Accounts Participating in the Distressed Industry Billing Demand Deferral Program Based on 2009 Rates and Overall Average Load Factor during the Billing Periods of Sep 2006 - Aug 2008**

| Rate Class          | Unit Energy Cost (average) |
|---------------------|----------------------------|
| GSL > 100 kV        | \$0.0354                   |
| GSL 30 kV to 100 kV | \$0.0363                   |
| GSL 750 V to 30 kV  | \$0.0505                   |
| GSM                 | \$0.0607                   |

**Months that Accounts Received Billing Demand Deferrals by Rate Class**

(See attached table outlining program participation)

**Range of Load Factors and Average Load Factor for Accounts Participating in the Distressed Industry Billing Demand Deferral Program during the Billing Periods of Jun 2009 - Nov 2009**

| Rate Class          | Program Participants | Range of Load Factors |       |       |
|---------------------|----------------------|-----------------------|-------|-------|
|                     |                      | Min                   | Avg   | Max   |
| GSL > 100 kV        | 4                    | 0.263                 | 0.314 | 0.651 |
| GSL 30 kV to 100 kV | 2                    | 0.157                 | 0.461 | 0.875 |
| GSL 750 V to 30 kV  | 5                    | 0.099                 | 0.259 | 0.450 |
| GSM                 | 13                   | 0.100                 | 0.274 | 0.581 |

**Average Unit Energy Costs Based on Standard 2009 Rates and Average Load Factor**

| Rate Class          | Unit Energy Cost (average) |
|---------------------|----------------------------|
| GSL > 100 kV        | \$0.0489                   |
| GSL 30 kV to 100 kV | \$0.0437                   |
| GSL 750 V to 30 kV  | \$0.0646                   |
| GSM                 | \$0.0720                   |

**Average Unit Energy Costs Paid After Distressed Industry Billing Demand Deferrals**

| Rate Class          | Unit Energy Cost (average) |
|---------------------|----------------------------|
| GSL > 100 kV        | \$0.0436                   |
| GSL 30 kV to 100 kV | \$0.0390                   |
| GSL 750 V to 30 kV  | \$0.0567                   |
| GSM                 | \$0.0656                   |

**Note:** It is important to recognize that lower unit energy costs are the direct result of deferrals applied to customer accounts. Customer savings, resulting from lower unit costs, are dependent on the deferral being converted into a concession per Manitoba Hydro's application to the PUB.

**APPROVED BILLING DEMAND DEFERRALS BY RATE CLASS**  
**(June 2009 to November 2009 Billing Periods)**

| Rate Class   | JUNE 2009               |           |                |                | JULY 2009    |           |                |               | AUGUST 2009   |           |                |               |
|--------------|-------------------------|-----------|----------------|----------------|--------------|-----------|----------------|---------------|---------------|-----------|----------------|---------------|
|              | Accounts                |           | Deferral Amt   |                | Accounts     |           | Deferral Amt   |               | Accounts      |           | Deferral Amt   |               |
|              | Eligible                | Approved  | \$             | kV.A           | Eligible     | Approved  | \$             | kV.A          | Eligible      | Approved  | \$             | kV.A          |
| Medium       | 38                      | 8         | 4,885          | 586            | 45           | 11        | 6,386          | 766           | 48            | 13        | 9,306          | 1,116         |
| L <30        | 10                      | 4         | 23,213         | 3,689          | 12           | 4         | 28,688         | 4,428         | 12            | 5         | 37,811         | 5,891         |
| L 30-100     | 0                       | 0         | -              | -              | 2            | 2         | 28,822         | 4,756         | 2             | 2         | 31,154         | 5,141         |
| L >100       | 5                       | 5         | 190,750        | 35,324         | 5            | 5         | 466,168        | 86,327        | 5             | 5         | 141,946        | 26,286        |
| <b>Total</b> | <b>53</b>               | <b>17</b> | <b>218,848</b> | <b>39,599</b>  | <b>64</b>    | <b>22</b> | <b>530,064</b> | <b>96,277</b> | <b>67</b>     | <b>25</b> | <b>220,217</b> | <b>38,434</b> |
| Rate Class   | SEPTEMBER 2009          |           |                |                | OCTOBER 2009 |           |                |               | NOVEMBER 2009 |           |                |               |
|              | Accounts                |           | Deferral Amt   |                | Accounts     |           | Deferral Amt   |               | Accounts      |           | Deferral Amt   |               |
|              | Eligible                | Approved  | \$             | kV.A           | Eligible     | Approved  | \$             | kV.A          | Eligible      | Approved  | \$             | kV.A          |
| Medium       | 48                      | 10        | 5,739          | 688            | 44           | 12        | 8,387          | 1,006         | 45            | 9         | 6,361          | 763           |
| L <30        | 10                      | 4         | 28,052         | 3,962          | 10           | 5         | 30,078         | 4,248         | 10            | 5         | 23,475         | 3,316         |
| L 30-100     | 2                       | 2         | 6,185          | 1,021          | 2            | 2         | 12,889         | 2,127         | 2             | 2         | 17,744         | 2,928         |
| L >100       | 2                       | 2         | 17,793         | 3,295          | 3            | 3         | 81,192         | 15,035        | 3             | 3         | 84,166         | 15,586        |
| <b>Total</b> | <b>63</b>               | <b>18</b> | <b>57,769</b>  | <b>8,966</b>   | <b>61</b>    | <b>22</b> | <b>132,546</b> | <b>22,416</b> | <b>61</b>     | <b>19</b> | <b>131,746</b> | <b>22,593</b> |
| Rate Class   | TOTAL (June - November) |           |                |                |              |           |                |               |               |           |                |               |
|              | Deferral Amounts        |           |                |                |              |           |                |               |               |           |                |               |
|              | \$                      |           |                | kV.A           |              |           |                |               |               |           |                |               |
| Medium       | 41,064                  |           |                | 4,925          |              |           |                |               |               |           |                |               |
| L <30        | 171,317                 |           |                | 25,534         |              |           |                |               |               |           |                |               |
| L 30-100     | 96,794                  |           |                | 15,973         |              |           |                |               |               |           |                |               |
| L >100       | 982,015                 |           |                | 181,853        |              |           |                |               |               |           |                |               |
| <b>Total</b> | <b>1,291,190</b>        |           |                | <b>228,285</b> |              |           |                |               |               |           |                |               |

**CAC/MSOS/MH I-193****Subject: Temporary Billing Demand Concessions****Reference: Appendix 13.1****Tab 1, page 2**

- d) With respect to Appendix 13.1, for each month please indicate the average unit energy cost for the customers in each class. Please also indicate the actual cost of energy under the SEP for each month.

**ANSWER:**

**Average Unit Energy Cost (prior to deferrals) for Accounts Participating in the Distressed Industry Billing Demand Deferral Program by Month for the Billing Periods of Jun 2009 - Nov 2009**

| <b>Billing Period</b> | <b>Average Unit Energy Cost (\$/kWh)</b> |                        |                          |            |
|-----------------------|--|------------------------|--------------------------|------------|
|                       | <b>GSL &gt; 100 kV</b>                   | <b>GSL 30 - 100 kV</b> | <b>GSL 750 V - 30 kV</b> | <b>GSM</b> |
| Jun 09                | \$ 0.0433                                | \$ 0.0367              | \$ 0.0620                | \$ 0.0694  |
| Jul 09                | \$ 0.0711                                | \$ 0.0536              | \$ 0.0623                | \$ 0.0717  |
| Aug 09                | \$ 0.0421                                | \$ 0.0548              | \$ 0.0778                | \$ 0.0765  |
| Sep 09                | \$ 0.0500                                | \$ 0.0414              | \$ 0.0630                | \$ 0.0701  |
| Oct 09                | \$ 0.0507                                | \$ 0.0435              | \$ 0.0640                | \$ 0.0737  |
| Nov 09                | \$ 0.0551                                | \$ 0.0456              | \$ 0.0623                | \$ 0.0718  |

**Average Actual Unit Energy Costs under the Surplus Energy Program for Corresponding Months of the Distressed Industry Billing Demand Deferral Program**

| <b>Billing Period</b> | <b>GSL &gt; 100 kV (SEP)</b> |                 |                 |
|-----------------------|------------------------------|-----------------|-----------------|
|                       | <b>On-Peak</b>               | <b>Shoulder</b> | <b>Off-Peak</b> |
| Jun 09                | \$ 0.0290                    | \$ 0.0215       | \$ 0.0086       |
| Jul 09                | \$ 0.0334                    | \$ 0.0238       | \$ 0.0092       |
| Aug 09                | \$ 0.0325                    | \$ 0.0202       | \$ 0.0076       |
| Sep 09                | \$ 0.0264                    | \$ 0.0186       | \$ 0.0062       |
| Oct 09                | \$ 0.0259                    | \$ 0.0191       | \$ 0.0084       |
| Nov 09                | \$ 0.0353                    | \$ 0.0260       | \$ 0.0157       |

| <b>Billing Period</b> | <b>GSL 30 - 100 kV (SEP)</b> |                 |                 |
|-----------------------|------------------------------|-----------------|-----------------|
|                       | <b>On-Peak</b>               | <b>Shoulder</b> | <b>Off-Peak</b> |
| Jun 09                | \$ 0.0294                    | \$ 0.0218       | \$ 0.0087       |
| Jul 09                | \$ 0.0339                    | \$ 0.0242       | \$ 0.0094       |
| Aug 09                | \$ 0.0330                    | \$ 0.0205       | \$ 0.0077       |
| Sep 09                | \$ 0.0268                    | \$ 0.0189       | \$ 0.0062       |
| Oct 09                | \$ 0.0262                    | \$ 0.0193       | \$ 0.0086       |
| Nov 09                | \$ 0.0358                    | \$ 0.0264       | \$ 0.0160       |

| <b>Billing Period</b> | <b>GSL 750 V - 30 kV (SEP)</b> |                 |                 |
|-----------------------|--------------------------------|-----------------|-----------------|
|                       | <b>On-Peak</b>                 | <b>Shoulder</b> | <b>Off-Peak</b> |
| Jun 09                | \$ 0.0301                      | \$ 0.0223       | \$ 0.0089       |
| Jul 09                | \$ 0.0347                      | \$ 0.0248       | \$ 0.0096       |
| Aug 09                | \$ 0.0338                      | \$ 0.0210       | \$ 0.0079       |
| Sep 09                | \$ 0.0274                      | \$ 0.0194       | \$ 0.0064       |
| Oct 09                | \$ 0.0269                      | \$ 0.0198       | \$ 0.0088       |
| Nov 09                | \$ 0.0367                      | \$ 0.0270       | \$ 0.0164       |

| <b>Billing Period</b> | <b>GSM (SEP)</b> |                 |                 |
|-----------------------|------------------|-----------------|-----------------|
|                       | <b>On-Peak</b>   | <b>Shoulder</b> | <b>Off-Peak</b> |
| Jun 09                | \$ 0.0306        | \$ 0.0226       | \$ 0.0091       |
| Jul 09                | \$ 0.0352        | \$ 0.0251       | \$ 0.0097       |
| Aug 09                | \$ 0.0343        | \$ 0.0213       | \$ 0.0080       |
| Sep 09                | \$ 0.0278        | \$ 0.0196       | \$ 0.0065       |
| Oct 09                | \$ 0.0273        | \$ 0.0201       | \$ 0.0089       |
| Nov 09                | \$ 0.0372        | \$ 0.0274       | \$ 0.0166       |

Note: The Distressed Industry Billing Demand Deferral Program did not provide deferrals against energy charges. The intent of the program was to mitigate the impact of “fixed” demand charges during periods of production curtailment, thereby decreasing the average unit cost of energy.

SEP rates are specific to time of day and week, and do not include distribution costs. Available energy is of an interruptible nature and period specific rates are set weekly by Manitoba Hydro based on availability of energy, market conditions and associated costs of supply. These rates are approved by the PUB on a weekly basis.

For purposes of this analysis, PUB approved weekly SEP rates were averaged over monthly billing periods and presented based on the specific time of day during which they applied.

**CAC/MSOS/MH I-193****Subject: Temporary Billing Demand Concessions****Reference: Appendix 13.1****Tab 1, page 2**

e) **With respect to Appendix 13.1 please provide a total across all customer classes for each of the following:**

- **Total kWhs subject to Billing Demand Concession**
- **Total Revenues under the Billing Demand Concession**
- **Total Estimated Revenues assuming the equivalent energy was sold at SEP rates during the same month.**
- **Total Estimate Revenues assuming the equivalent energy was sold at SEP rates (recalibrated to actual costs) during the same month.**

**ANSWER:**

The Distressed Industry Billing Demand Deferral Program was not intended to provide relief for the energy charge Manitoba Hydro applies against energy consumed. The purpose of the program was to mitigate the impact of “fixed” demand charges on the customer’s average cost of energy as production was curtailed to balance inventories with demand for the customer’s products and/or services. Therefore, kWh’s were not subject to deferral under the program.

The total revenues subject to deferral under the Distressed Industry Billing Demand Deferral Program are shown by rate class and month in the accompanying table.

Energy charges were not subject to deferral under the Distressed Industry Billing Demand Deferral Program. As result, there is no value for equivalent energy sold at SEP rates (posted or actual).



**APPROVED BILLING DEMAND DEFERRALS BY RATE CLASS**  
**(June 2009 to November 2009 Billing Periods)**

| Rate Class   | JUNE 2009               |           |                |                | JULY 2009    |           |                |               | AUGUST 2009   |           |                |               |
|--------------|-------------------------|-----------|----------------|----------------|--------------|-----------|----------------|---------------|---------------|-----------|----------------|---------------|
|              | Accounts                |           | Deferral Amt   |                | Accounts     |           | Deferral Amt   |               | Accounts      |           | Deferral Amt   |               |
|              | Eligible                | Approved  | \$             | kV.A           | Eligible     | Approved  | \$             | kV.A          | Eligible      | Approved  | \$             | kV.A          |
| Medium       | 38                      | 8         | 4,885          | 586            | 45           | 11        | 6,386          | 766           | 48            | 13        | 9,306          | 1,116         |
| L <30        | 10                      | 4         | 23,213         | 3,689          | 12           | 4         | 28,688         | 4,428         | 12            | 5         | 37,811         | 5,891         |
| L 30-100     | 0                       | 0         | -              | -              | 2            | 2         | 28,822         | 4,756         | 2             | 2         | 31,154         | 5,141         |
| L >100       | 5                       | 5         | 190,750        | 35,324         | 5            | 5         | 466,168        | 86,327        | 5             | 5         | 141,946        | 26,286        |
| <b>Total</b> | <b>53</b>               | <b>17</b> | <b>218,848</b> | <b>39,599</b>  | <b>64</b>    | <b>22</b> | <b>530,064</b> | <b>96,277</b> | <b>67</b>     | <b>25</b> | <b>220,217</b> | <b>38,434</b> |
| Rate Class   | SEPTEMBER 2009          |           |                |                | OCTOBER 2009 |           |                |               | NOVEMBER 2009 |           |                |               |
|              | Accounts                |           | Deferral Amt   |                | Accounts     |           | Deferral Amt   |               | Accounts      |           | Deferral Amt   |               |
|              | Eligible                | Approved  | \$             | kV.A           | Eligible     | Approved  | \$             | kV.A          | Eligible      | Approved  | \$             | kV.A          |
| Medium       | 48                      | 10        | 5,739          | 688            | 44           | 12        | 8,387          | 1,006         | 45            | 9         | 6,361          | 763           |
| L <30        | 10                      | 4         | 28,052         | 3,962          | 10           | 5         | 30,078         | 4,248         | 10            | 5         | 23,475         | 3,316         |
| L 30-100     | 2                       | 2         | 6,185          | 1,021          | 2            | 2         | 12,889         | 2,127         | 2             | 2         | 17,744         | 2,928         |
| L >100       | 2                       | 2         | 17,793         | 3,295          | 3            | 3         | 81,192         | 15,035        | 3             | 3         | 84,166         | 15,586        |
| <b>Total</b> | <b>63</b>               | <b>18</b> | <b>57,769</b>  | <b>8,966</b>   | <b>61</b>    | <b>22</b> | <b>132,546</b> | <b>22,416</b> | <b>61</b>     | <b>19</b> | <b>131,746</b> | <b>22,593</b> |
| Rate Class   | TOTAL (June - November) |           |                |                |              |           |                |               |               |           |                |               |
|              | Deferral Amounts        |           |                |                |              |           |                |               |               |           |                |               |
|              | \$                      |           |                | kV.A           |              |           |                |               |               |           |                |               |
| Medium       | 41,064                  |           |                | 4,925          |              |           |                |               |               |           |                |               |
| L <30        | 171,317                 |           |                | 25,534         |              |           |                |               |               |           |                |               |
| L 30-100     | 96,794                  |           |                | 15,973         |              |           |                |               |               |           |                |               |
| L >100       | 982,015                 |           |                | 181,853        |              |           |                |               |               |           |                |               |
| <b>Total</b> | <b>1,291,190</b>        |           |                | <b>228,285</b> |              |           |                |               |               |           |                |               |



**CAC/MSOS/MH II-80****Subject: Temporary Billing Demand Concession****Reference: CAC/MSOS/MH I-193 d)**

a) Please confirm whether the first table presented in the response is the average unit energy cost before or after the granting of the concession.

- If “before”, please provide a comparable table the sets out the average unit energy cost “after” the concession was granted.
- If “after”, please provide a comparable table that sets out the average unit energy cost “before” the concession was granted.

**ANSWER:**

The first table provided in the response to CAC/MSOS/MH I-193(d) shows the average unit cost of energy “before” the application of the billing demand deferral. The table below shows the average unit cost of energy “after” application of the billing demand deferrals.

Average Unit Energy Cost (**after deferrals**) for Accounts Participating in the Distressed Industry Billing Demand Deferral Program by Month for the Billing Periods of Jun 2009 - Nov 2009

| <b>Billing Period</b> | <b>Average Unit Energy Cost (\$/kWh)</b> |                        |                          |            |
|-----------------------|--|------------------------|--------------------------|------------|
|                       | <b>GSL &gt; 100 kV</b>                   | <b>GSL 30 - 100 kV</b> | <b>GSL 750 V - 30 kV</b> | <b>GSM</b> |
| Jun 09                | \$ 0.0391                                | \$ 0.0367              | \$ 0.0560                | \$ 0.0651  |
| Jul 09                | \$ 0.0429                                | \$ 0.0402              | \$ 0.0550                | \$ 0.0658  |
| Aug 09                | \$ 0.0391                                | \$ 0.0400              | \$ 0.0637                | \$ 0.0668  |
| Sep 09                | \$ 0.0494                                | \$ 0.0399              | \$ 0.0557                | \$ 0.0649  |
| Oct 09                | \$ 0.0475                                | \$ 0.0399              | \$ 0.0558                | \$ 0.0652  |
| Nov 09                | \$ 0.0513                                | \$ 0.0399              | \$ 0.0562                | \$ 0.0656  |



**MIPUG/MH II-12****Demand Billing Concessions****Reference: PUB/MH I-170(a)**

- b) **Please confirm, as stated in the letter from P.J. Ramage to G. Gaudreau dated November 18, 2009, attached to the response to PUB/MH 1-170 (a), that certain customers who would otherwise have been eligible for the program elected not to apply given uncertainty with respect to whether the demand concession would be forgiven or require repayment.**

**ANSWER:**

Concern about the deferral aspect of the Billing Demand Deferral Program was raised by many customers inquiring about the program. A key aspect of this concern was related to the fact that the “deferral” remained as a liability from a financial perspective, with the potential to increase future unit energy costs.

Due to this concern, several companies chose not participate in the Billing Demand Deferral Program, reducing the effectiveness of the program in assisting customers that were experiencing high unit energy costs during periods of curtailed operation resulting from the economic downturn.



**MIPUG/MH I-21****Demand Billing Concessions**

- a) **Without providing information specific to any one customer's load, please provide a detailed sample calculation of the demand billing concession for each eligible class and subclass. For clarity, the calculation should illustrate:**
- i. **The demand and energy billing determinants, including both metered demand and ratcheted demand**
  - ii. **The applicable demand and energy rates.**
  - iii. **The customer's bill before any concession is applied.**
  - iv. **The calculation of the demand concession.**
  - v. **The customer's bill following application of the concession.**

**ANSWER:**

- i. Demand and Energy Billing Determinants (as shown in attached worksheets)

Energy Consumed (kWh) per Billing Period

Recorded Demand (kVA) per Billing Period

Billing Demand (kVA) per Billing Period (includes ratchet amount as requested)

- ii. Approved 2009 rates for General Service Large (GSL) and General Service Medium rates classes and subclasses as shown on Manitoba Hydro's website were used to calculate the applicable revenues and deferrals.

[http://www.hydro.mb.ca/regulatory\\_affairs/energy\\_rates/electricity/historical.shtml](http://www.hydro.mb.ca/regulatory_affairs/energy_rates/electricity/historical.shtml)

- iii. Customer's Bill, minus applicable municipal, provincial and federal taxes and other adjustments, prior to application of deferral is shown in the attached worksheet in the column, "Revenue 2009 Rates"
- iv. Calculation of the Monthly Demand Deferral is based on the following formula:

$$\text{Deferral Threshold} = \text{Avg Unit Energy Cost (Sep 06 - Aug 08)} \times 1.10$$

The deferral threshold is determined based on the average unit energy cost during the 24 month period ending with the August 2008 billing period, increased by 10 percent to account for variances in production levels.

$$\text{Average Unit Energy Cost} = \text{Revenue (2009 Rates)} / \text{Energy Consumed}$$

The average unit energy cost is determined for each billing period by dividing the total revenue obtained from fixed, energy and demand charges by the total energy consumed during the billing period.

$$\text{Demand Deferral (kVA)} = \frac{\text{Energy Consumed} \times (\text{Avg Unit Energy Cost} - \text{Deferral Threshold})}{\text{Unit Demand Charge (at 2009 Rates)}}$$

- v. Calculation of the customer's bill is determined by subtracting the amount of the Billing Deferral from the combined value of the fixed, energy and demand charges applied to the customer energy and demand for each billing period. Applicable municipal, provincial, federal taxes and other adjustments are then applied.

$$\text{Billing Deferral (\$)} = \text{Energy Consumed} \times (\text{Avg Unit Energy Cost} - \text{Deferral Threshold})$$

Deferral analysis worksheets providing detailed billing deferral calculations for each eligible class and subclass are attached for information.



## Energy Consumption, Average Unit Cost and Billing Deferral Information

## GSM - All

| Billing Period  | Srvc Count | Bill Days    | Energy Consumed (kWh) | Recorded Demand (kVA) | Billing Demand (kVA) | Load Factor | Revenue 2009 Rates | Average Unit Energy (\$/kWh) | Deferral Threshold (\$/kWh) | Demand Deferral (kVA) | Billing Deferral (\$) | Period Description |
|---|------------|--------------|-----------------------|-----------------------|----------------------|-------------|--------------------|------------------------------|-----------------------------|-----------------------|-----------------------|--------------------|
| Rate Class: GSM - All   |            |              |                       |                       |                      |             |                    |                              |                             |                       |                       |                    |
| 2009, NOV   | 1          | 30           | 14,086,065            | 36,625                | 36,625               | 0.534       | \$ 708,451.77      | \$ 0.05029                   | \$ 0.04943                  | 1,453                 | \$ 12,114.02          | Deferral Period    |
| 2009, OCT   | 1          | 31           | 14,086,330            | 36,774                | 36,774               | 0.515       | \$ 709,704.10      | \$ 0.05038                   | \$ 0.04943                  | 1,605                 | \$ 13,382.01          |                    |
| 2009, SEP   | 1          | 30           | 9,399,474             | 36,518                | 36,518               | 0.357       | \$ 573,527.05      | \$ 0.06102                   | \$ 0.04943                  | 13,062                | \$ 108,939.90         |                    |
| 2009, AUG   | 1          | 31           | 1,788,769             | 4,930                 | 25,679               | 0.094       | \$ 265,459.88      | \$ 0.14840                   | \$ 0.04943                  | 21,227                | \$ 177,034.45         |                    |
| 2009, JUL   | 1          | 31           | 1,799,083             | 4,858                 | 25,679               | 0.094       | \$ 265,754.85      | \$ 0.14772                   | \$ 0.04943                  | 21,203                | \$ 176,831.82         |                    |
| 2009, JUN   | 1          | 30           | 10,360,326            | 37,016                | 37,016               | 0.389       | \$ 605,160.74      | \$ 0.05841                   | \$ 0.04943                  | 11,155                | \$ 93,035.72          |                    |
| 2009, MAY   | 1          | 31           | 5,771,280             | 34,981                | 34,981               | 0.222       | \$ 456,937.96      | \$ 0.07917                   | \$ 0.04943                  |                       |                       |                    |
| 2009, APR   | 1          | 30           | 8,242,538             | 34,935                | 34,935               | 0.328       | \$ 527,234.38      | \$ 0.06397                   | \$ 0.04943                  |                       |                       |                    |
| 2009, MAR   | 1          | 31           | 11,222,012            | 34,829                | 34,829               | 0.433       | \$ 611,559.13      | \$ 0.05450                   | \$ 0.04943                  |                       |                       |                    |
| 2009, FEB   | 1          | 28           | 9,755,023             | 36,684                | 36,684               | 0.396       | \$ 585,078.12      | \$ 0.05998                   | \$ 0.04943                  |                       |                       |                    |
| 2009, JAN   | 1          | 31           | 17,999,364            | 36,612                | 36,612               | 0.661       | \$ 820,265.79      | \$ 0.04557                   | \$ 0.04943                  |                       |                       |                    |
| 2008, DEC   | 1          | 31           | 6,016,778             | 36,645                | 36,645               | 0.221       | \$ 477,839.04      | \$ 0.07942                   | \$ 0.04943                  |                       |                       |                    |
| 2008, NOV   | 1          | 30           | 18,739,182            | 36,630                | 36,630               | 0.711       | \$ 841,574.72      | \$ 0.04491                   | \$ 0.04943                  |                       |                       |                    |
| 2008, OCT   | 1          | 31           | 20,232,875            | 36,579                | 36,579               | 0.743       | \$ 883,868.99      | \$ 0.04368                   | \$ 0.04943                  |                       |                       |                    |
| 2008, SEP   | 1          | 30           | 18,524,084            | 38,081                | 38,081               | 0.676       | \$ 847,526.33      | \$ 0.04575                   | \$ 0.04943                  |                       |                       |                    |
| 2008, AUG   | 1          | 31           | 20,130,562            | 36,802                | 36,802               | 0.735       | \$ 882,800.56      | \$ 0.04385                   | \$ 0.04943                  |                       |                       |                    |
| 2008, JUL   | 1          | 31           | 11,848,923            | 36,678                | 36,678               | 0.434       | \$ 644,913.62      | \$ 0.05443                   | \$ 0.04943                  |                       |                       |                    |
| 2008, JUN   | 1          | 30           | 19,341,998            | 35,697                | 35,697               | 0.753       | \$ 851,034.03      | \$ 0.04400                   | \$ 0.04943                  |                       |                       |                    |
| 2008, MAY   | 1          | 31           | 19,783,270            | 35,852                | 35,852               | 0.742       | \$ 864,949.20      | \$ 0.04372                   | \$ 0.04943                  |                       |                       |                    |
| 2008, APR   | 1          | 30           | 18,957,775            | 35,963                | 35,963               | 0.732       | \$ 842,265.78      | \$ 0.04443                   | \$ 0.04943                  |                       |                       |                    |
| 2008, MAR   | 1          | 31           | 19,670,762            | 35,712                | 35,712               | 0.740       | \$ 860,561.78      | \$ 0.04375                   | \$ 0.04943                  |                       |                       |                    |
| 2008, FEB   | 1          | 29           | 18,441,305            | 35,516                | 35,516               | 0.746       | \$ 823,766.74      | \$ 0.04467                   | \$ 0.04943                  |                       |                       |                    |
| 2008, JAN   | 1          | 31           | 19,498,137            | 45,409                | 35,727               | 0.577       | \$ 936,495.59      | \$ 0.04803                   | \$ 0.04943                  |                       |                       |                    |
| 2007, DEC   | 1          | 31           | 18,495,730            | 35,864                | 35,864               | 0.693       | \$ 828,219.36      | \$ 0.04478                   | \$ 0.04943                  |                       |                       |                    |
| 2007, NOV   | 1          | 30           | 19,254,432            | 35,860                | 35,860               | 0.746       | \$ 849,886.97      | \$ 0.04414                   | \$ 0.04943                  |                       |                       |                    |
| 2007, OCT   | 1          | 31           | 19,951,447            | 36,059                | 36,059               | 0.744       | \$ 871,485.43      | \$ 0.04368                   | \$ 0.04943                  |                       |                       |                    |
| 2007, SEP   | 1          | 30           | 18,514,210            | 35,606                | 35,606               | 0.722       | \$ 826,596.16      | \$ 0.04465                   | \$ 0.04943                  |                       |                       |                    |
| 2007, AUG   | 1          | 31           | 19,349,432            | 35,988                | 35,988               | 0.723       | \$ 853,673.58      | \$ 0.04412                   | \$ 0.04943                  |                       |                       |                    |
| 2007, JUL   | 1          | 31           | 11,135,585            | 35,437                | 35,437               | 0.422       | \$ 614,160.12      | \$ 0.05515                   | \$ 0.04943                  |                       |                       |                    |
| 2007, JUN   | 1          | 30           | 18,899,470            | 35,721                | 35,721               | 0.735       | \$ 838,577.87      | \$ 0.04437                   | \$ 0.04943                  |                       |                       |                    |
| 2007, MAY   | 1          | 31           | 18,691,571            | 35,792                | 35,792               | 0.702       | \$ 833,219.95      | \$ 0.04458                   | \$ 0.04943                  |                       |                       |                    |
| 2007, APR   | 1          | 30           | 19,473,620            | 35,438                | 35,438               | 0.763       | \$ 852,640.44      | \$ 0.04378                   | \$ 0.04943                  |                       |                       |                    |
| 2007, MAR   | 1          | 31           | 19,950,626            | 35,703                | 35,703               | 0.751       | \$ 868,490.81      | \$ 0.04353                   | \$ 0.04943                  |                       |                       |                    |
| 2007, FEB   | 1          | 28           | 18,013,059            | 35,475                | 35,475               | 0.756       | \$ 811,174.89      | \$ 0.04503                   | \$ 0.04943                  |                       |                       |                    |
| 2007, JAN   | 1          | 31           | 19,439,446            | 36,091                | 36,091               | 0.724       | \$ 857,104.90      | \$ 0.04409                   | \$ 0.04943                  |                       |                       |                    |
| 2006, DEC   | 1          | 31           | 16,029,685            | 35,606                | 35,606               | 0.605       | \$ 755,545.01      | \$ 0.04713                   | \$ 0.04943                  |                       |                       |                    |
| 2006, NOV   | 1          | 30           | 19,386,569            | 35,601                | 35,601               | 0.756       | \$ 851,508.11      | \$ 0.04392                   | \$ 0.04943                  |                       |                       |                    |
| 2006, OCT   | 1          | 31           | 19,812,138            | 35,333                | 35,333               | 0.754       | \$ 861,440.11      | \$ 0.04348                   | \$ 0.04943                  |                       |                       |                    |
| 2006, SEP   | 1          | 30           | 19,502,628            | 35,256                | 35,256               | 0.768       | \$ 851,950.10      | \$ 0.04368                   | \$ 0.04943                  |                       |                       |                    |
| 24 Month Base Line Analysis for Determination of Per Unit Cost Deferral Threshold |            |              |                       |                       |                      |             |                    |                              |                             |                       |                       |                    |
|   | Srvc Count | Billing Days | Energy Consumed (kWh) | Recorded Demand (kVA) | Billing Demand (kVA) | Load Factor | Revenue 2009 Rates | Average Unit Energy (\$/kWh) | Deferral Threshold (\$/kWh) |                       |                       |                    |
| 24 Mth Sum  | 24.0       | 731.0        | 443,572,379           | 868,457               | 858,776              |             | \$ 19,932,461.11   |                              |                             |                       |                       |                    |
| 24 Mth Avg  | 1.0        | 30.5         |                       | 36,186                | 35,782               | 0.699       |                    | \$ 0.04494                   | \$ 0.04943                  |                       |                       |                    |

## Energy Consumption, Average Unit Cost and Billing Deferral Information

## GSL - 750 to 30 kV

| Billing Period  | Srvc Count | Bill Days    | Energy Consumed (kWh) | Recorded Demand (kVA) | Billing Demand (kVA) | Load Factor | Revenue 2009 Rates | Average Unit Energy (\$/kWh) | Deferral Threshold (\$/kWh) | Demand Deferral (kVA)   | Billing Deferral (\$) | Period Description |
|---|------------|--------------|-----------------------|-----------------------|----------------------|-------------|--------------------|------------------------------|-----------------------------|---|-----------------------|--------------------|
| Rate Class:      GSL - 750 to 30 kV   |            |              |                       |                       |                      |             |                    |                              |                             |   |                       |                    |
| 2009, NOV   | 1          | 30           | 14,086,065            | 36,625                | 36,625               | 0.534       | \$    643,852.80   | \$   0.04571                 | \$   0.04511                | 1,194   | \$   8,451.64         | Deferral Period    |
| 2009, OCT   | 1          | 31           | 14,086,330            | 36,774                | 36,774               | 0.515       | \$    644,916.73   | \$   0.04578                 | \$   0.04511                | 1,333   | \$   9,437.84         |                    |
| 2009, SEP   | 1          | 30           | 9,399,474             | 36,518                | 36,518               | 0.357       | \$    515,154.84   | \$   0.05481                 | \$   0.04511                | 12,878  | \$   91,174.89        |                    |
| 2009, AUG   | 1          | 31           | 1,788,769             | 4,930                 | 25,679               | 0.094       | \$    230,639.29   | \$   0.12894                 | \$   0.04511                | 21,180  | \$   149,952.49       |                    |
| 2009, JUL   | 1          | 31           | 1,799,083             | 4,858                 | 25,679               | 0.094       | \$    230,920.86   | \$   0.12835                 | \$   0.04511                | 21,152  | \$   149,755.63       |                    |
| 2009, JUN   | 1          | 30           | 10,360,326            | 37,016                | 37,016               | 0.389       | \$    544,911.94   | \$   0.05260                 | \$   0.04511                | 10,960  | \$   77,598.84        |                    |
| 2009, MAY   | 1          | 31           | 5,771,280             | 34,981                | 34,981               | 0.222       | \$    405,219.65   | \$   0.07021                 | \$   0.04511                |   |                       |                    |
| 2009, APR   | 1          | 30           | 8,242,538             | 34,935                | 34,935               | 0.328       | \$    472,361.08   | \$   0.05731                 | \$   0.04511                |   |                       |                    |
| 2009, MAR   | 1          | 31           | 11,222,012            | 34,829                | 34,829               | 0.433       | \$    552,946.71   | \$   0.04927                 | \$   0.04511                |   |                       |                    |
| 2009, FEB   | 1          | 28           | 9,755,023             | 36,684                | 36,684               | 0.396       | \$    526,034.85   | \$   0.05392                 | \$   0.04511                |   |                       |                    |
| 2009, JAN   | 1          | 31           | 17,999,364            | 36,612                | 36,612               | 0.661       | \$    750,595.60   | \$   0.04170                 | \$   0.04511                |   |                       |                    |
| 2008, DEC   | 1          | 31           | 6,016,778             | 36,645                | 36,645               | 0.221       | \$    423,704.63   | \$   0.07042                 | \$   0.04511                |   |                       |                    |
| 2008, NOV   | 1          | 30           | 18,739,182            | 36,630                | 36,630               | 0.711       | \$    770,920.08   | \$   0.04114                 | \$   0.04511                |   |                       |                    |
| 2008, OCT   | 1          | 31           | 20,232,875            | 36,579                | 36,579               | 0.743       | \$    811,336.81   | \$   0.04010                 | \$   0.04511                |   |                       |                    |
| 2008, SEP   | 1          | 30           | 18,524,084            | 38,081                | 38,081               | 0.676       | \$    775,322.74   | \$   0.04185                 | \$   0.04511                | 24 Month Deferral Threshold Period<br>(used to determine baseline threshold for deferral calculation) |                       |                    |
| 2008, AUG   | 1          | 31           | 20,130,562            | 36,802                | 36,802               | 0.735       | \$    810,120.72   | \$   0.04024                 | \$   0.04511                |   |                       |                    |
| 2008, JUL   | 1          | 31           | 11,848,923            | 36,678                | 36,678               | 0.434       | \$    583,155.84   | \$   0.04922                 | \$   0.04511                |   |                       |                    |
| 2008, JUN   | 1          | 30           | 19,341,998            | 35,697                | 35,697               | 0.753       | \$    780,771.32   | \$   0.04037                 | \$   0.04511                |   |                       |                    |
| 2008, MAY   | 1          | 31           | 19,783,270            | 35,852                | 35,852               | 0.742       | \$    793,917.21   | \$   0.04013                 | \$   0.04511                |   |                       |                    |
| 2008, APR   | 1          | 30           | 18,957,775            | 35,963                | 35,963               | 0.732       | \$    772,167.07   | \$   0.04073                 | \$   0.04511                |   |                       |                    |
| 2008, MAR   | 1          | 31           | 19,670,762            | 35,712                | 35,712               | 0.740       | \$    789,852.77   | \$   0.04015                 | \$   0.04511                |   |                       |                    |
| 2008, FEB   | 1          | 29           | 18,441,305            | 35,516                | 35,516               | 0.746       | \$    754,902.67   | \$   0.04094                 | \$   0.04511                |   |                       |                    |
| 2008, JAN   | 1          | 31           | 19,498,137            | 45,409                | 35,727               | 0.734       | \$    785,246.29   | \$   0.04027                 | \$   0.04511                |   |                       |                    |
| 2007, DEC   | 1          | 31           | 18,495,730            | 35,864                | 35,864               | 0.693       | \$    758,847.00   | \$   0.04103                 | \$   0.04511                |   |                       |                    |
| 2007, NOV   | 1          | 30           | 19,254,432            | 35,860                | 35,860               | 0.746       | \$    779,533.02   | \$   0.04049                 | \$   0.04511                |   |                       |                    |
| 2007, OCT   | 1          | 31           | 19,951,447            | 36,059                | 36,059               | 0.744       | \$    799,974.00   | \$   0.04010                 | \$   0.04511                |   |                       |                    |
| 2007, SEP   | 1          | 30           | 18,514,210            | 35,606                | 35,606               | 0.722       | \$    757,524.86   | \$   0.04092                 | \$   0.04511                |   |                       |                    |
| 2007, AUG   | 1          | 31           | 19,349,432            | 35,988                | 35,988               | 0.723       | \$    783,034.53   | \$   0.04047                 | \$   0.04511                |   |                       |                    |
| 2007, JUL   | 1          | 31           | 11,135,585            | 35,437                | 35,437               | 0.422       | \$    554,893.66   | \$   0.04983                 | \$   0.04511                |   |                       |                    |
| 2007, JUN   | 1          | 30           | 18,899,470            | 35,721                | 35,721               | 0.735       | \$    768,860.20   | \$   0.04068                 | \$   0.04511                |   |                       |                    |
| 2007, MAY   | 1          | 31           | 18,691,571            | 35,792                | 35,792               | 0.702       | \$    763,683.71   | \$   0.04086                 | \$   0.04511                |   |                       |                    |
| 2007, APR   | 1          | 30           | 19,473,620            | 35,438                | 35,438               | 0.763       | \$    782,532.64   | \$   0.04018                 | \$   0.04511                |   |                       |                    |
| 2007, MAR   | 1          | 31           | 19,950,626            | 35,703                | 35,703               | 0.751       | \$    797,429.32   | \$   0.03997                 | \$   0.04511                |   |                       |                    |
| 2007, FEB   | 1          | 28           | 18,013,059            | 35,475                | 35,475               | 0.756       | \$    742,919.52   | \$   0.04124                 | \$   0.04511                |   |                       |                    |
| 2007, JAN   | 1          | 31           | 19,439,446            | 36,091                | 36,091               | 0.724       | \$    786,219.37   | \$   0.04044                 | \$   0.04511                |   |                       |                    |
| 2006, DEC   | 1          | 31           | 16,029,685            | 35,606                | 35,606               | 0.605       | \$    689,702.65   | \$   0.04303                 | \$   0.04511                |   |                       |                    |
| 2006, NOV   | 1          | 30           | 19,386,569            | 35,601                | 35,601               | 0.756       | \$    781,308.41   | \$   0.04030                 | \$   0.04511                |   |                       |                    |
| 2006, OCT   | 1          | 31           | 19,812,138            | 35,333                | 35,333               | 0.754       | \$    791,025.48   | \$   0.03993                 | \$   0.04511                |   |                       |                    |
| 2006, SEP   | 1          | 30           | 19,502,628            | 35,256                | 35,256               | 0.768       | \$    782,034.22   | \$   0.04010                 | \$   0.04511                |   |                       |                    |
| 24 Month Base Line Analysis for Determination of Per Unit Cost Deferral Threshold |            |              |                       |                       |                      |             |                    |                              |                             |   |                       |                    |
|   | Srvc Count | Billing Days | Energy Consumed (kWh) | Recorded Demand (kVA) | Billing Demand (kVA) | Load Factor | Revenue 2009 Rates | Average Unit Energy (\$/kWh) | Deferral Threshold (\$/kWh) |   |                       |                    |
| 24 Mth Sum  | 24.0       | 731.0        | 443,572,379           | 868,457               | 858,776              |             | \$   18,189,656.48 |                              |                             |   |                       |                    |
| 24 Mth Avg  | 1.0        | 30.5         |                       | 36,186                | 35,782               | 0.707       |                    | \$   0.04101                 | \$   0.04511                |   |                       |                    |

## Energy Consumption, Average Unit Cost and Billing Deferral Information

## GSL - 30 to 100 kV

| Billing Period  | Srvc Count | Bill Days    | Energy Consumed (kWh) | Recorded Demand (kVA) | Billing Demand (kVA) | Load Factor | Revenue 2009 Rates | Average Unit Energy (\$/kWh) | Deferral Threshold (\$/kWh) | Demand Deferral (kVA)   | Billing Deferral (\$) | Period Description |  |  |  |
|---|------------|--------------|-----------------------|-----------------------|----------------------|-------------|--------------------|------------------------------|-----------------------------|---|-----------------------|--------------------|--|--|--|
| Rate Class:      GSL - 30 to 100 kV   |            |              |                       |                       |                      |             |                    |                              |                             |   |                       |                    |  |  |  |
| 2009, NOV   | 1          | 30           | 14,086,065            | 36,625                | 36,625               | 0.534       | \$    585,366.46   | \$   0.04156                 | \$   0.04128                | 651   | \$   3,944.10         | Deferral Period    |  |  |  |
| 2009, OCT   | 1          | 31           | 14,086,330            | 36,774                | 36,774               | 0.515       | \$    586,277.76   | \$   0.04162                 | \$   0.04128                | 790   | \$   4,789.35         |                    |  |  |  |
| 2009, SEP   | 1          | 30           | 9,399,474             | 36,518                | 36,518               | 0.357       | \$    463,807.01   | \$   0.04934                 | \$   0.04128                | 12,502  | \$   75,759.76        |                    |  |  |  |
| 2009, AUG   | 1          | 31           | 1,788,769             | 4,930                 | 25,679               | 0.094       | \$    201,763.76   | \$   0.11279                 | \$   0.04128                | 21,108  | \$   127,914.86       |                    |  |  |  |
| 2009, JUL   | 1          | 31           | 1,799,083             | 4,858                 | 25,679               | 0.094       | \$    202,029.86   | \$   0.11230                 | \$   0.04128                | 21,084  | \$   127,770.84       |                    |  |  |  |
| 2009, JUN   | 1          | 30           | 10,360,326            | 37,016                | 37,016               | 0.389       | \$    491,614.88   | \$   0.04745                 | \$   0.04128                | 10,548  | \$   63,923.21        |                    |  |  |  |
| 2009, MAY   | 1          | 31           | 5,771,280             | 34,981                | 34,981               | 0.222       | \$    360,882.37   | \$   0.06253                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2009, APR   | 1          | 30           | 8,242,538             | 34,935                | 34,935               | 0.328       | \$    424,363.57   | \$   0.05148                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2009, MAR   | 1          | 31           | 11,222,012            | 34,829                | 34,829               | 0.433       | \$    500,588.62   | \$   0.04461                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2009, FEB   | 1          | 28           | 9,755,023             | 36,684                | 36,684               | 0.396       | \$    473,984.64   | \$   0.04859                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2009, JAN   | 1          | 31           | 17,999,364            | 36,612                | 36,612               | 0.661       | \$    686,252.31   | \$   0.03813                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2008, DEC   | 1          | 31           | 6,016,778             | 36,645                | 36,645               | 0.221       | \$    377,301.56   | \$   0.06271                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2008, NOV   | 1          | 30           | 18,739,182            | 36,630                | 36,630               | 0.711       | \$    705,448.71   | \$   0.03765                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2008, OCT   | 1          | 31           | 20,232,875            | 36,579                | 36,579               | 0.743       | \$    743,676.92   | \$   0.03676                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2008, SEP   | 1          | 30           | 18,524,084            | 38,081                | 38,081               | 0.676       | \$    708,693.74   | \$   0.03826                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2008, AUG   | 1          | 31           | 20,130,562            | 36,802                | 36,802               | 0.735       | \$    742,387.09   | \$   0.03688                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2008, JUL   | 1          | 31           | 11,848,923            | 36,678                | 36,678               | 0.434       | \$    527,970.90   | \$   0.04456                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2008, JUN   | 1          | 30           | 19,341,998            | 35,697                | 35,697               | 0.753       | \$    715,347.38   | \$   0.03698                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2008, MAY   | 1          | 31           | 19,783,270            | 35,852                | 35,852               | 0.742       | \$    727,673.01   | \$   0.03678                 | \$   0.04128                | 24 Month Deferral Threshold Period<br>(used to determine baseline threshold for deferral calculation) |                       |                    |  |  |  |
| 2008, APR   | 1          | 30           | 18,957,775            | 35,963                | 35,963               | 0.732       | \$    707,047.90   | \$   0.03730                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2008, MAR   | 1          | 31           | 19,670,762            | 35,712                | 35,712               | 0.740       | \$    723,920.39   | \$   0.03680                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2008, FEB   | 1          | 29           | 18,441,305            | 35,516                | 35,516               | 0.746       | \$    691,014.14   | \$   0.03747                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2008, JAN   | 1          | 31           | 19,498,137            | 45,409                | 35,727               | 0.734       | \$    719,557.55   | \$   0.03690                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, DEC   | 1          | 31           | 18,495,730            | 35,864                | 35,864               | 0.693       | \$    694,522.63   | \$   0.03755                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, NOV   | 1          | 30           | 19,254,432            | 35,860                | 35,860               | 0.746       | \$    714,074.43   | \$   0.03709                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, OCT   | 1          | 31           | 19,951,447            | 36,059                | 36,059               | 0.744       | \$    733,266.39   | \$   0.03675                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, SEP   | 1          | 30           | 18,514,210            | 35,606                | 35,606               | 0.722       | \$    693,435.94   | \$   0.03745                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, AUG   | 1          | 31           | 19,349,432            | 35,988                | 35,988               | 0.723       | \$    717,302.63   | \$   0.03707                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, JUL   | 1          | 31           | 11,135,585            | 35,437                | 35,437               | 0.422       | \$    502,044.79   | \$   0.04508                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, JUN   | 1          | 30           | 18,899,470            | 35,721                | 35,721               | 0.735       | \$    704,075.58   | \$   0.03725                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, MAY   | 1          | 31           | 18,691,571            | 35,792                | 35,792               | 0.702       | \$    699,139.03   | \$   0.03740                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, APR   | 1          | 30           | 19,473,620            | 35,438                | 35,438               | 0.763       | \$    717,175.19   | \$   0.03683                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, MAR   | 1          | 31           | 19,950,626            | 35,703                | 35,703               | 0.751       | \$    731,086.32   | \$   0.03664                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, FEB   | 1          | 28           | 18,013,059            | 35,475                | 35,475               | 0.756       | \$    679,715.43   | \$   0.03773                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2007, JAN   | 1          | 31           | 19,439,446            | 36,091                | 36,091               | 0.724       | \$    720,247.64   | \$   0.03705                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2006, DEC   | 1          | 31           | 16,029,685            | 35,606                | 35,606               | 0.605       | \$    629,339.74   | \$   0.03926                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2006, NOV   | 1          | 30           | 19,386,569            | 35,601                | 35,601               | 0.756       | \$    715,915.54   | \$   0.03693                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2006, OCT   | 1          | 31           | 19,812,138            | 35,333                | 35,333               | 0.754       | \$    725,268.12   | \$   0.03661                 | \$   0.04128                |   |                       |                    |  |  |  |
| 2006, SEP   | 1          | 30           | 19,502,628            | 35,256                | 35,256               | 0.768       | \$    716,819.16   | \$   0.03676                 | \$   0.04128                |   |                       |                    |  |  |  |
| 24 Month Base Line Analysis for Determination of Per Unit Cost Deferral Threshold |            |              |                       |                       |                      |             |                    |                              |                             |   |                       |                    |  |  |  |
|   | Srvc Count | Billing Days | Energy Consumed (kWh) | Recorded Demand (kVA) | Billing Demand (kVA) | Load Factor | Revenue 2009 Rates | Average Unit Energy (\$/kWh) | Deferral Threshold (\$/kWh) |   |                       |                    |  |  |  |
| 24 Mth Sum  | 24.0       | 731.0        | 443,572,379           | 868,457               | 858,776              |             | \$   16,648,346.92 |                              |                             |   |                       |                    |  |  |  |
| 24 Mth Avg  | 1.0        | 30.5         |                       | 36,186                | 35,782               | 0.707       |                    | \$   0.03753                 | \$   0.04128                |   |                       |                    |  |  |  |

## Energy Consumption, Average Unit Cost and Billing Deferral Information

## GSL - &gt;100 kV

| Billing Period  | Srvc Count | Bill Days    | Energy Consumed (kWh) | Recorded Demand (kVA) | Billing Demand (kVA) | Load Factor | Revenue 2009 Rates | Average Unit Energy (\$/kWh) | Deferral Threshold (\$/kWh) | Demand Deferral (kVA)   | Billing Deferral (\$) | Period Description |
|---|------------|--------------|-----------------------|-----------------------|----------------------|-------------|--------------------|------------------------------|-----------------------------|---|-----------------------|--------------------|
| Rate Class:      GSL - >100 kV  |            |              |                       |                       |                      |             |                    |                              |                             |   |                       |                    |
| 2009, NOV   | 1          | 30           | 14,086,065            | 36,625                | 36,625               | 0.534       | \$    552,742.49   | \$   0.03924                 | \$   0.03922                | 52  | \$    281.72          | Deferral Period    |
| 2009, OCT   | 1          | 31           | 14,086,330            | 36,774                | 36,774               | 0.515       | \$    553,555.12   | \$   0.03930                 | \$   0.03922                | 209   | \$   1,126.91         |                    |
| 2009, SEP   | 1          | 30           | 9,399,474             | 36,518                | 36,518               | 0.357       | \$    434,065.28   | \$   0.04618                 | \$   0.03922                | 12,115  | \$   65,420.34        |                    |
| 2009, AUG   | 1          | 31           | 1,788,769             | 4,930                 | 25,679               | 0.094       | \$    183,742.50   | \$   0.10272                 | \$   0.03922                | 21,035  | \$   113,586.82       |                    |
| 2009, JUL   | 1          | 31           | 1,799,083             | 4,858                 | 25,679               | 0.094       | \$    184,002.40   | \$   0.10228                 | \$   0.03922                | 21,009  | \$   113,450.15       |                    |
| 2009, JUN   | 1          | 30           | 10,360,326            | 37,016                | 37,016               | 0.389       | \$    460,967.96   | \$   0.04449                 | \$   0.03922                | 10,111  | \$   54,598.92        |                    |
| 2009, MAY   | 1          | 31           | 5,771,280             | 34,981                | 34,981               | 0.222       | \$    334,332.31   | \$   0.05793                 | \$   0.03922                |   |                       |                    |
| 2009, APR   | 1          | 30           | 8,242,538             | 34,935                | 34,935               | 0.328       | \$    396,360.95   | \$   0.04809                 | \$   0.03922                |   |                       |                    |
| 2009, MAR   | 1          | 31           | 11,222,012            | 34,829                | 34,829               | 0.433       | \$    470,868.60   | \$   0.04196                 | \$   0.03922                |   |                       |                    |
| 2009, FEB   | 1          | 28           | 9,755,023             | 36,684                | 36,684               | 0.396       | \$    443,920.18   | \$   0.04551                 | \$   0.03922                |   |                       |                    |
| 2009, JAN   | 1          | 31           | 17,999,364            | 36,612                | 36,612               | 0.661       | \$    651,288.77   | \$   0.03618                 | \$   0.03922                |   |                       |                    |
| 2008, DEC   | 1          | 31           | 6,016,778             | 36,645                | 36,645               | 0.221       | \$    349,505.80   | \$   0.05809                 | \$   0.03922                |   |                       |                    |
| 2008, NOV   | 1          | 30           | 18,739,182            | 36,630                | 36,630               | 0.711       | \$    670,029.40   | \$   0.03576                 | \$   0.03922                |   |                       |                    |
| 2008, OCT   | 1          | 31           | 20,232,875            | 36,579                | 36,579               | 0.743       | \$    707,395.06   | \$   0.03496                 | \$   0.03922                |   |                       |                    |
| 2008, SEP   | 1          | 30           | 18,524,084            | 38,081                | 38,081               | 0.676       | \$    672,445.67   | \$   0.03630                 | \$   0.03922                | 24 Month Deferral Threshold Period<br>(used to determine baseline threshold for deferral calculation) |                       |                    |
| 2008, AUG   | 1          | 31           | 20,130,562            | 36,802                | 36,802               | 0.735       | \$    706,019.60   | \$   0.03507                 | \$   0.03922                |   |                       |                    |
| 2008, JUL   | 1          | 31           | 11,848,923            | 36,678                | 36,678               | 0.434       | \$    496,654.06   | \$   0.04192                 | \$   0.03922                |   |                       |                    |
| 2008, JUN   | 1          | 30           | 19,341,998            | 35,697                | 35,697               | 0.753       | \$    680,182.16   | \$   0.03517                 | \$   0.03922                |   |                       |                    |
| 2008, MAY   | 1          | 31           | 19,783,270            | 35,852                | 35,852               | 0.742       | \$    692,140.56   | \$   0.03499                 | \$   0.03922                |   |                       |                    |
| 2008, APR   | 1          | 30           | 18,957,775            | 35,963                | 35,963               | 0.732       | \$    671,937.49   | \$   0.03544                 | \$   0.03922                |   |                       |                    |
| 2008, MAR   | 1          | 31           | 19,670,762            | 35,712                | 35,712               | 0.740       | \$    688,548.01   | \$   0.03500                 | \$   0.03922                |   |                       |                    |
| 2008, FEB   | 1          | 29           | 18,441,305            | 35,516                | 35,516               | 0.746       | \$    656,508.63   | \$   0.03560                 | \$   0.03922                |   |                       |                    |
| 2008, JAN   | 1          | 31           | 19,498,137            | 45,409                | 35,727               | 0.734       | \$    684,278.85   | \$   0.03509                 | \$   0.03922                |   |                       |                    |
| 2007, DEC   | 1          | 31           | 18,495,730            | 35,864                | 35,864               | 0.693       | \$    659,755.29   | \$   0.03567                 | \$   0.03922                |   |                       |                    |
| 2007, NOV   | 1          | 30           | 19,254,432            | 35,860                | 35,860               | 0.746       | \$    678,854.34   | \$   0.03526                 | \$   0.03922                |   |                       |                    |
| 2007, OCT   | 1          | 31           | 19,951,447            | 36,059                | 36,059               | 0.744       | \$    697,496.42   | \$   0.03496                 | \$   0.03922                |   |                       |                    |
| 2007, SEP   | 1          | 30           | 18,514,210            | 35,606                | 35,606               | 0.722       | \$    658,827.78   | \$   0.03558                 | \$   0.03922                |   |                       |                    |
| 2007, AUG   | 1          | 31           | 19,349,432            | 35,988                | 35,988               | 0.723       | \$    681,940.89   | \$   0.03524                 | \$   0.03922                |   |                       |                    |
| 2007, JUL   | 1          | 31           | 11,135,585            | 35,437                | 35,437               | 0.422       | \$    471,975.19   | \$   0.04238                 | \$   0.03922                |   |                       |                    |
| 2007, JUN   | 1          | 30           | 18,899,470            | 35,721                | 35,721               | 0.735       | \$    669,160.03   | \$   0.03541                 | \$   0.03922                |   |                       |                    |
| 2007, MAY   | 1          | 31           | 18,691,571            | 35,792                | 35,792               | 0.702       | \$    664,301.69   | \$   0.03554                 | \$   0.03922                |   |                       |                    |
| 2007, APR   | 1          | 30           | 19,473,620            | 35,438                | 35,438               | 0.763       | \$    682,101.77   | \$   0.03503                 | \$   0.03922                |   |                       |                    |
| 2007, MAR   | 1          | 31           | 19,950,626            | 35,703                | 35,703               | 0.751       | \$    695,551.97   | \$   0.03486                 | \$   0.03922                |   |                       |                    |
| 2007, FEB   | 1          | 28           | 18,013,059            | 35,475                | 35,475               | 0.756       | \$    645,494.09   | \$   0.03583                 | \$   0.03922                |   |                       |                    |
| 2007, JAN   | 1          | 31           | 19,439,446            | 36,091                | 36,091               | 0.724       | \$    684,764.08   | \$   0.03523                 | \$   0.03922                |   |                       |                    |
| 2006, DEC   | 1          | 31           | 16,029,685            | 35,606                | 35,606               | 0.605       | \$    596,221.81   | \$   0.03719                 | \$   0.03922                |   |                       |                    |
| 2006, NOV   | 1          | 30           | 19,386,569            | 35,601                | 35,601               | 0.756       | \$    680,786.93   | \$   0.03512                 | \$   0.03922                |   |                       |                    |
| 2006, OCT   | 1          | 31           | 19,812,138            | 35,333                | 35,333               | 0.754       | \$    690,061.39   | \$   0.03483                 | \$   0.03922                |   |                       |                    |
| 2006, SEP   | 1          | 30           | 19,502,628            | 35,256                | 35,256               | 0.768       | \$    681,848.63   | \$   0.03496                 | \$   0.03922                |   |                       |                    |
| 24 Month Base Line Analysis for Determination of Per Unit Cost Deferral Threshold |            |              |                       |                       |                      |             |                    |                              |                             |   |                       |                    |
|   | Srvc Count | Billing Days | Energy Consumed (kWh) | Recorded Demand (kVA) | Billing Demand (kVA) | Load Factor | Revenue 2009 Rates | Average Unit Energy (\$/kWh) | Deferral Threshold (\$/kWh) |   |                       |                    |
| 24 Mth Sum  | 24.0       | 731.0        | 443,572,379           | 868,457               | 858,776              |             | \$   15,815,411.66 |                              |                             |   |                       |                    |
| 24 Mth Avg  | 1.0        | 30.5         |                       | 36,186                | 35,782               | 0.707       |                    | \$   0.03565                 | \$   0.03922                |   |                       |                    |

| Rate Class Type    | Monthly Charge | Energy Block 1 | Energy Block 2 | Energy Block 3 | Demand Charge |
|--------------------|----------------|----------------|----------------|----------------|---------------|
|                    | \$/Mth         | \$/kWh         | \$/kWh         | \$/kWh         | \$/kVA        |
| GSM - All          | \$27.60        | \$0.0642       | \$0.0448       | \$0.0286       | \$8.34        |
| GSL - 750 to 30 kV | \$0.00         | \$0.0273       |                |                | \$7.08        |
| GSL - 30 to 100 kV | \$0.00         | \$0.0258       |                |                | \$6.06        |
| GSL - >100 kV      | \$0.00         | \$0.0252       |                |                | \$5.40        |



**PUB/MH I-167****Subject: Tab 13: PUB Directives****Reference: Tab 13.1 (2) Demand Billing Concessions**

- a) Please detail the reasons MH now seeks “forgiveness” of the demand billing deferrals.

**ANSWER:**

It is Manitoba Hydro’s opinion that billing demand concessions were necessary to retain operations in Manitoba, at a time when companies with facilities in multiple jurisdictions, were closing the facilities with higher cost of operations in an effort to reduce costs and match inventories with global demand for their products. Retention of these operating facilities in Manitoba enables facilities to return to normal operation as market conditions improve, protecting Manitoba Hydro’s investment in the infrastructure already deployed to service these customers. Additionally, opportunities for employment and provincial economic activity are retained maintaining the benefit to the Province.

In reviewing Manitoba Hydro’s initial application, the PUB expressed considerable concern about the unpredictable aspect of the total value of concessions that Manitoba Hydro might provide under the program. With the conclusion of the program in November 2009, Manitoba Hydro has clearly established its liabilities as they relate to the deferrals provided to eligible customers. These liabilities are well within the range of estimates provided by Manitoba Hydro in its initial application and subsequent supporting information, providing known impacts on revenues. As a result, impact on rates is less than originally anticipated.

Customers have indicated that simply deferring payments of portions of their bills does not meet their need of relief from higher unit energy costs, as expense is simply transferred to other periods via the deferral. In fact, costs are further increased by the application of interest to these outstanding amounts. As such, these liabilities must be maintained in the evaluation of operating costs for future production activities. Converting deferrals into concessions provides customers with the ability to maintain competitive energy costs on a going-forward basis as markets strengthen and operations return to normal.

**PUB/MH I-167****Subject: Tab 13: PUB Directives****Reference: Tab 13.1 (2) Demand Billing Concessions**

- b) In addition to MH's response to (a), please provide detailed information in response to the possible additional information listed in items (a) through (n) [both inclusive] on pages 14 through 24 of Order 126/09.

**ANSWER:**

Possible additional information referenced in items (a) through (i) on pages 14 through 24 of Order 126/09 are addressed in the responses below:

- a) The Distressed Industry Billing Demand Deferral Program was intended to address potentially negative impacts of Manitoba Hydro's billing structure on unit energy costs in instances where operations were curtailed for the specific purpose of matching output to market demand. Customers able to mitigate this impact by reducing electrical demand in relation to energy consumption were not negatively impacted by Manitoba Hydro's rate structure and therefore not harmed by increasing unit energy costs. The capability to match electrical demand to energy consumption does not exist in all industry sectors due to process requirements that establish electrical demand levels irrespective of production volume.

The intent of Manitoba Hydro's application was to address the negative cost implications of its rate structure on companies striving to maintain competitiveness in their markets. A company's profitability may be impacted by additional factors beyond energy costs. Manitoba Hydro's products and/or services may not directly relate to those factors. The Corporation's objective in providing for relief was to ensure that energy costs, which are universal to operations in all jurisdictions, not contribute negatively to the competitiveness of a Manitoba-based operation.

There was therefore, no requirement for a qualifying customer to file, or have reviewed, its financial information.



- b) Manitoba Hydro concluded the Distressed Industry Billing Demand Deferral program with the Nov 09 billing period. Based on applications received and approved for deferral, it is known that the Corporation's liability for outstanding deferrals totals \$1,291,190.

The total amount of deferral is distributed by rate type and subclass as follows:

| <b>Rate Type (subclass)</b> | <b>Deferral (\$)</b> |
|-----------------------------|----------------------|
| GSM                         | \$ 41,064            |
| GSL 750 V - 30 kV           | \$ 171,317           |
| GSL 30 - 100 kV             | \$ 96,794            |
| GSL > 100 kV                | \$ 982,015           |

Reductions in consumption and revenues were evaluated based on analysis of participating customers' energy consumption and revenues (at 2009 rates w/o taxes) during previous fiscal periods relative to the Jun 09 - Nov 09 period during which the billing demand deferral program was available. Combined reduction in energy consumption were estimated at 339,868,443 kWh, with a corresponding decline in revenues (at 2009 rates) of \$ 9,352,471,

The approximate reductions in consumption and revenues by rate class for the period during which the billing demand deferral program operated are provided in the table below:

| <b>Rate Type (subclass)</b> | <b>kWh Reduction</b> | <b>Revenue Reduction</b> |
|-----------------------------|----------------------|--------------------------|
| GSM                         | 10,661,780           | \$ 350,000               |
| GSL 750 V - 30 kV           | 25,572,023           | \$ 835,000               |
| GSL 30 - 100 kV             | 20,557,997           | \$ 593,000               |
| GSL > 100 kV                | 283,076,643          | \$ 7,575,000             |

In its Order 126/09, the PUB noted the financial cost or benefit of energy sold on the domestic market versus that sold on the export market as a result of the economic downturn.

The value of energy not sold to domestic customers participating in the billing demand deferral program was examined using surplus energy rates posted by the Corporation on a weekly basis, as approved by the PUB. An estimation of this impact, indicates that approximately \$6.7 million in revenue would be received had this energy been sold on the export spot market using SEP prices for the period, compared to the \$9.4 million noted above as total energy and revenue loss.

The accompanying table provides a summary of this analysis by rate class:

| <b>Rate Type (subclass)</b> | <b>SEP (\$)</b> |
|-----------------------------|-----------------|
| GSM                         | \$ 243,000      |
| GSL 750 V - 30 kV           | \$ 536,000      |
| GSL 30 - 100 kV             | \$ 415,000      |
| GSL > 100 kV                | \$ 5,573,000    |

- c) The duration and impact of the current economic recession on Manitoba Hydro's customers varies depending on the industry sector and general trends within specific markets. No general statement covers the entire experience of a diverse group of companies and industrial sectors.

Conditions within the pulp and paper sector remain difficult, with no near-term relief anticipated through increased market demand and strengthening prices. Some companies within the metals and mining sectors are experiencing slow and gradual recovery in demand for their products as global inventories of raw materials and finished products stabilize, resulting in increased production of products incorporating metal components. Several companies within the mining sector are moving forward with plans to expand product capacity in anticipation of strengthened global demand for their products. Many manufacturing companies are indicating expectations of recovering markets in the second quarter of 2010 with continued improvement through year-end, although such expectations are not universal. In all cases, recognition exists that recovery is fragile and rate of improvement susceptible to significant variation.

- d) Manitoba Hydro has offered technical assistance to customers participating in the billing demand deferral program, in order to assist these companies in evaluating

alternate technologies and processes that will improve the competitiveness of these companies as they ramp up production in response to improvements in market conditions.

Manitoba Hydro is not aware of the specific nature of assistance provided to resource-based companies in Northern Manitoba.

- e) Manitoba Hydro is only aware of one other utility that has offered some form of rate relief to customers during the economic recession. The Quebec government authorized industrial customers whose power demand exceeded 50 MW to benefit, once, from an exceptional reduction in contract power during the period April 1, 2009 to March 31, 2010. Hydro Quebec also offers a Load Retention Rate (in place since 1993) to large customers (5000 kW or more) that are experiencing financial difficulties and who can demonstrate that they are obtaining nonrefundable reductions from their other suppliers.

Manitoba Hydro's GSL and GSM rate structures are designed around typical load factors that have historical basis for customers in these rate classes. These load factors have proven to be relatively stable under normal market conditions. Manitoba Hydro's rates are among the lowest in North America under these conditions.

The global economic downturn created abnormal market conditions that forced companies to significantly curtail production in attempts to reduce inventories and match output to market demand. In some cases, implementing these curtailments resulted in significant reductions in load factor due to the "fixed" nature of electrical demand levels, which remained relatively static despite significant reductions in energy consumption. The structure of Manitoba Hydro's GSL and GSM rates under these conditions resulted in higher unit energy costs. Manitoba Hydro adopted a minimum requirement of a 10 percent increase in unit energy costs to attain eligibility for the program in order to filter out variations resulting from normal fluctuations in load factor.

Examples of normal (historic), actual, and billed (after deferral) unit energy costs are provided in the table below:

| <b>Rate Type<br/>(subclass)</b> | <b>Actual<br/>(\$/kWh)</b> | <b>Normal<br/>(\$/kWh)</b> | <b>Billed<br/>(\$/kWh)</b> |
|---------------------------------|----------------------------|----------------------------|----------------------------|
| GSL > 100 kV                    | \$ 0.0458                  | \$ 0.0364                  | \$ 0.0400                  |
| GSL 30 - 100 kV                 | \$ 0.0574                  | \$ 0.0361                  | \$ 0.0397                  |
| GSL 750 V - 30 kV               | \$ 0.0637                  | \$ 0.0554                  | \$ 0.0610                  |
| GSM                             | \$ 0.0683                  | \$ 0.0527                  | \$ 0.0580                  |

The implementation of the EIIR was not a consideration in the design of the Distressed Industry Billing Demand Deferral Program as the potential growth targeted by that initiative was not evident among during the period in which the program was available.

- f) All reports with respect to Low Income have been filed, or will be filed, during the course of the current proceeding. As noted in response to CAC/MSOS/Manitoba Hydro I-88 no further diesel reports have been filed other than those from November 16, 2009 as an application for revised rates in the Diesel Zone is currently being reviewed internally prior to making application to the PUB.
- g) Manitoba Hydro granted the following concessions to customers participating in the billing demand deferral program:

| <b>Concession Type</b> | <b>Amount</b> | <b>Value<br/>(before taxes)</b> | <b>Rationale</b>  |
|------------------------|---------------|---------------------------------|-------------------|
| Demand                 | 426 kVA       | \$2,300.99                      | Equipment Testing |

Any bill reduction or concession granted by MH was accounted for prior to the determination of the billing demand deferral amount available under the program.

- h) Manitoba Hydro is aware that some industries faced the consequences of the global recession earlier than others. The Jun 09 - Nov 09 period during which billing demand deferrals were provided was determined by the timing of customer-initiated communication requesting relief from anticipated higher unit energy costs that would arise as operations were curtailed in an attempt to match inventories with demand.

- i) Manitoba Hydro has no additional submissions from interested parties, which were unknown during the Ex Parte proceeding.



SCHEDULE B2  
Customer, Demand, Energy Cost Analysis

Manitoba Hydro  
Prospective Cost Of Service Study - March 31, 2011  
Customer, Demand, Energy Cost Analysis

**SUMMARY**

| CUSTOMER                         |              |                     |                    | DEMAND       |            |                     | ENERGY           |              |                    |                 |
|----------------------------------|--------------|---------------------|--------------------|--------------|------------|---------------------|------------------|--------------|--------------------|-----------------|
| Class                            | Cost (\$000) | Number of Customers | Unit Cost \$/Month | Cost (\$000) | % Recovery | Billable Demand MVA | Unit Cost \$/KVA | Cost (\$000) | Metered Energy mWh | Unit Cost ¢/kWh |
| Residential                      | 121,464      | 470,975             | 21.49              | 201,202      | 0%         | n/a                 | n/a              | 197,163      | 6,771,781          | 5.88 **         |
| GS Small - Non Demand            | 23,721       | 53,170              | 37.18              | 41,769       | 0%         | n/a                 | n/a              | 48,756       | 1,571,227          | 5.76 **         |
| GS Small - Demand                | 7,335        | 11,451              | 53.38              | 46,112       | 38%        | 2,100               | 8.34             | 57,316       | 1,883,200          | 4.56            |
| General Service - Medium         | 6,325        | 1,867               | 282.36             | 67,099       | 87%        | 6,978               | 8.40             | 88,794       | 3,015,078          | 3.23            |
| General Service - Large <30kV    | 3,153        | 259                 | n/a                | 29,553       | 100%       | 3,646               | 8.97 *           | 44,535       | 1,538,688          | 2.89            |
| General Service - Large 30-100kV | 2,156        | 30                  | n/a                | 7,597        | 100%       | 1,681               | 5.80 *           | 21,921       | 846,683            | 2.59            |
| General Service - Large >100kV   | 2,231        | 14                  | n/a                | 29,035       | 100%       | 8,969               | 3.49 *           | 135,576      | 5,310,790          | 2.55            |
| SEP                              | 261          | 23                  | 946.48             | 159          | 0%         | n/a                 | n/a              | 587          | 15,200             | 4.90 **         |
| Area & Roadway Lighting          | 14,342       | 154,961             | 7.71               | 2,664        | 0%         | n/a                 | n/a              | 2,309        | 101,099            | 4.92 **         |
| Total General Consumers          | 180,988      | 692,750             |                    | 425,189      |            | 23,374              |                  | 596,956      | 21,053,746         |                 |
| Diesel                           | 273          | 760                 | 29.91              | 409          | 0%         | n/a                 | n/a              | 11,217       | 13,664             | 85.08 **        |
| Export                           | n/a          | n/a                 | n/a                | 46,327       | 0%         | n/a                 | n/a              | 290,925      | 7,122,000          | 4.74 ***        |
| Total System                     | 181,261      | 693,510             |                    | 471,925      |            | 23,374              |                  | 899,098      | 28,189,411         |                 |

\* - includes recovery of customer costs

\*\* - includes recovery of demand costs

\*\*\* -includes recovery of customer and demand costs





## Monthly Bill Comparison

| Residential Customer Monthly Bill <sup>1</sup>           |               |               |
|--|---------------|---------------|
| NOT exceeding 200 Amp                                    | 1000 kWh      | 500 kWh       |
| <b>Monthly Basic Charge:</b>                             |               |               |
| Customer Charge  | \$ 6.85       | \$ 6.85       |
| <i>PLUS</i>  |               |               |
| <b>Energy Cost:</b>                                      |               |               |
| Rate first 900 kWh (¢/kWh) @                             | 0.0638        | 0.0638        |
| Balance of kWh (¢/kWh) @                                 | 0.0657        |               |
| Energy Usage (kWh)                                       | 1,000         | 500           |
| <b>Total Energy Cost</b>                                 | \$ 63.99      | \$ 31.90      |
|  |               |               |
| <b>Total Monthly Bill</b>                                | \$ 70.84      | \$ 38.75      |
|  |               |               |
| <b>Average Cost (¢/kWh)</b>                              | 7.08          | 7.75          |
| % Change   |               | 9.40%         |
|  |               |               |
| Industrial Customer Monthly Bill (GSL >100) <sup>2</sup> |               |               |
|  | 3,000,000 kWh | 1,500,000 kWh |
| <b>Monthly Basic Charge:</b>                             |               |               |
| Demand (kV.A)  | 5,000         | 5,000         |
| Demand Charge  | \$ 5.40       | \$ 5.40       |
| <b>Total Demand Charge</b>                               | \$ 27,000.00  | \$ 27,000.00  |
| <i>PLUS</i>  |               |               |
| <b>Energy Cost</b>                                       |               |               |
| Energy Usage (kWh)                                       | 3,000,000     | 1,500,000     |
| Energy Charge (¢/kWh) @                                  | 0.0262        | 0.0262        |
| <b>Total Energy Cost</b>                                 | \$ 78,600.00  | \$ 39,300.00  |
|  |               |               |
| <b>Total Monthly Bill</b>                                | \$ 105,600.00 | \$ 66,300.00  |
|  |               |               |
| <b>Average Cost (¢/kWh)</b>                              | 3.52          | 4.42          |
| % Change   |               | 25.57%        |

Note: Rates effective as of April 1, 2010

1 - Minimum monthly charge is the Basic Charge

2- Minimum monthly bill is the Demand Charge



**PUB/MH I-170**

**Subject: Tab 13: PUB Directives**

**Reference: Tab 13.1(2) Demand Billing Concessions Correspondence**

**Please file a copy of the following correspondence related to the Demand Billing Concession matter:**

- a) MH's letter to the Board dated November 18, 2009;**

**ANSWER:**

Please see the following attachment.



PO Box 815 • Winnipeg Manitoba Canada • R3C 2P4  
Street Location for DELIVERY: 22<sup>nd</sup> floor – 360 Portage Avenue  
Telephone / N° de téléphone : (204) 360-3946 • Fax / N° de télécopieur : (204) 360-6147  
pjramage@hydro.mb.ca

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November 18, 2009

**DELIVERED**

Mr. G. Gaudreau  
THE PUBLIC UTILITIES BOARD  
400 - 330 Portage Avenue  
WINNIPEG, Manitoba R3C 0C4

Dear Mr. Gaudreau:

**RE: DIRECTIVE 3, ORDER 126/09**

As discussed on Monday, November 16, 2009, Manitoba Hydro is writing in order to report to the Public Utilities Board, pursuant to Order 126/09, Directive 3, on the status of customer uptake and Demand Billing Deferrals approved and expected to be approved to November 30, 2009.

Manitoba Hydro advised all customers who may qualify for the Demand Billing Deferral by letters issued in late September. Key Account, Major Account and Retail Operations staff followed up with each eligible customer.

To date, nine customers, involving ten accounts, have requested the demand billing deferral and the first bills incorporating that deferral will issue on or about the end of November, 2009. Manitoba Hydro estimates that the total of deferrals to November 30, 2009 will be approximately \$2.0 million. Further details are provided in the attachment to this letter.

Manitoba Hydro has not yet determined whether or not it will extend this program beyond November 30, 2009, but will make this determination prior to that date and will advise the Public Utilities Board of its decision. If the program is extended, Manitoba Hydro's best current estimate of Demand Billing Deferrals for the period December 1, 2009 through March 31, 2010, is \$1.0 - \$1.25 million.

Manitoba Hydro would like to take this opportunity to advise the Public Utilities Board, that a number of customers have expressed concern that the program has been approved for billing deferral only and not for a full Concession. These customers indicate that deferral does not allow

The Public Utilities Board

November 18, 2009

Page 2

Attachment 1

Page 2 of 3

them to incorporate the cost reduction into their bidding on new orders, since it remains a liability on their books. Some customers have indicated that, while they may be eligible for the program, they are opting not to apply because of the uncertainty regarding the concession.

Yours truly,

**MANITOBA HYDRO LAW DEPARTMENT**

Per:



**PATRICIA J. RAMAGE**

Barrister & Solicitor

PJR/

encl.

**Manitoba Hydro Demand Billing Deferrals Pursuant to Order 126/09**  
**General Service Large and Medium Demand Billing Deferrals Estimated to November 30, 2009**

| <b>Manitoba Hydro Rate Class</b>         | <b># of<br/>Accounts</b> | <b>Demand Billing Deferrals by Customer Class (actuals)</b> |                   |                   |                   |                   | <b>Total to<br/>30-Oct</b> | <b>November<br/>estimated</b> | <b>Total to<br/>30-Nov</b> |
|--|--------------------------|---|-------------------|-------------------|-------------------|-------------------|----------------------------|-------------------------------|----------------------------|
|  |                          | <b>June</b>   | <b>July</b>       | <b>August</b>     | <b>September</b>  | <b>October</b>    |                            |                               |                            |
| <b>General Service Medium</b>            | 0                        | \$ -  | \$ -              | \$ -              | \$ -              | \$ -              | \$ -                       |                               | \$ -                       |
| <b>General Service Large &lt;30 kV</b>   | 4                        | \$ 20,816   | \$ 26,358         | \$ 35,181         | \$ 24,653         | \$ 26,971         | \$ 133,979                 | \$ 34,000                     | \$ 167,979                 |
| <b>General Service Large 30 - 100 kV</b> | 1                        | \$ -  | \$ 28,328         | \$ 23,244         | \$ 2,900          | \$ 5,551          | \$ 60,023                  | \$ 6,500                      | \$ 66,523                  |
| <b>General Service Large &gt; 100 kV</b> | 5                        | \$ 190,750  | \$ 466,168        | \$ 141,946        | \$ 272,790        | \$ 335,862        | \$ 1,407,516               | \$ 380,000                    | \$ 1,787,516               |
| <b>Total Demand Billing Deferrals</b>    | <b>10</b>                | <b>\$ 211,566</b>   | <b>\$ 520,854</b> | <b>\$ 200,371</b> | <b>\$ 300,343</b> | <b>\$ 368,384</b> | <b>\$ 1,601,518</b>        | <b>\$ 420,500</b>             | <b>\$ 2,022,018</b>        |

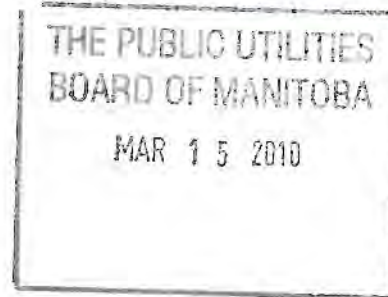


311 S. Wacker, Suite 5300 | Chicago, IL 60606

(312) 922-4511 tel | (312) 922-4517 fax | [www.amstedrail.com](http://www.amstedrail.com)

March 1, 2010

Mr G. Gaudreau  
 The Public Utilities Board  
 400-330 Portage Avenue  
 Winnipeg, Manitoba R3C 0C4



Dear Mr. Gaudreau:

Griffin Wheel Company operates four railroad freight car wheel manufacturing facilities in North America. Griffin's business environment has changed dramatically as a result of the worldwide economic downturn which has affected the railroad market to an unprecedented degree. As a result, we idled our Winnipeg wheel plant in October 2009, which enabled us to retain key staff that would be critical to successfully returning to full production. We also reduced the operating schedules of our remaining facilities which are located in Iowa, Ohio, and Kansas. If the Winnipeg plant is to continue operation, improvements in the competitiveness and productivity must be realized. Since idling, we have renegotiated the labor agreement in Winnipeg and are underway with an \$8 million transformer upgrade, but the market has not yet recovered and further actions must be taken to ensure the viability of the Winnipeg operation.

Our goal is to keep our plants operating, and to keep our employees at work. We took advantage of the Demand Deferral program offered by Manitoba Hydro which enabled us to maintain our plant in a state of readiness. Keeping four plants running at low operating levels is not a viable solution. We have recently met with Manitoba Hydro and also with the Provincial Government and are discussing hurdles faced by our Winnipeg facility that our US facilities do not have to overcome.

Our plan is to restart the Winnipeg facility especially in light of the commitment from our employees which was signaled by their ratification of a new three year agreement. We are also moving ahead under the premise that Hydro and the Province will help and have reason to be encouraged. We are now reaching out to you.

We ask for your consideration to make the Demand Deferral program a concession versus a potential loan. While Manitoba Hydro decided not to extend the program past November 2009, we further ask that consideration be given to extending this concession until May of 2010 for Griffin Wheel and other companies in Manitoba who are still struggling with the economic recovery. We are a large user of energy, but the peak demand charges that must be paid during periods of reduced plant operation erodes our ability to compete with offshore competitors.

cc G. Gaudreau



311 S. Wacker, Suite 5300 | Chicago, IL 60606

(312) 922-4511 tel | (312) 922-4517 fax | [www.amstedrail.com](http://www.amstedrail.com)

Griffin Wheel Company has a long standing history, and has been operating the Winnipeg plant since 1958. We are very dedicated to our employees; providing an attractive wage and benefit package. We are moving ahead with implementation of our plan to restart our Winnipeg plant based on the assumption that you, the PUB, will assist with the aforementioned requests.

We would like to request a meeting to meet with you personally to discuss the issues presented above.

Sincerely,

Mark Shirley

A handwritten signature in black ink, appearing to read "Mark Shirley", written over a light blue horizontal line.

Chief Operating Officer  
Amsted Rail

cc. Kathleen McCallum, Project Manager, CEDC  
Bob Brennan, President & CEO, Manitoba Hydro  
Roy Kirkwood, Works Manager, Griffin Wheel – Winnipeg  
Dave Schade, Director of Finance, Amsted Rail



**Exhibit # MH-77**  
**Transcript Page #3791**

**Manitoba Hydro Undertaking #79**

**Manitoba Hydro to provide the Board the payments to government in the years following the in-service of Keeyask and Conawapa.**

The table below summarizes the payments to government and the percentage of those payments to gross revenue to 2029/30, with the forecast information being based on the 20 Year Outlook from IFF10. As the table demonstrates, the total payments to government as a percentage of gross revenue will range between 14% to 15% after the in-service of Keeyask and 11% to 14% after the in-service of Conawapa.

| <b>Year</b>   | <b>Payments</b> | <b>% of Gross Revenue</b> |
|---------------|-----------------|---------------------------|
| 2005 Actual   | \$228 M         | 15%                       |
| 2006 Actual   | \$235 M         | 13%                       |
| 2007 Actual   | \$221 M         | 14%                       |
| 2008 Actual   | \$237 M         | 14%                       |
| 2009 Actual   | \$239 M         | 14%                       |
| 2010 Actual   | \$244 M         | 15%                       |
| 2011 Forecast | \$259 M         | 16%                       |
| 2012 Forecast | \$261 M         | 15%                       |
| 2013 Forecast | \$266 M         | 15%                       |
| 2014 Forecast | \$277 M         | 15%                       |
| 2015 Forecast | \$289 M         | 15%                       |
| 2016 Forecast | \$309 M         | 14%                       |
| 2017 Forecast | \$332 M         | 15%                       |
| 2018 Forecast | \$353 M         | 15%                       |
| 2019 Forecast | \$379 M         | 16%                       |
| 2020 Forecast | \$401 M         | 15%                       |
| 2021 Forecast | \$409 M         | 14%                       |
| 2022 Forecast | \$432 M         | 14%                       |
| 2023 Forecast | \$445 M         | 14%                       |
| 2024 Forecast | \$461 M         | 14%                       |
| 2025 Forecast | \$482 M         | 13%                       |
| 2026 Forecast | \$489 M         | 12%                       |
| 2027 Forecast | \$488 M         | 12%                       |
| 2028 Forecast | \$489 M         | 12%                       |
| 2029 Forecast | \$491 M         | 11%                       |
| 2030 Forecast | \$493 M         | 11%                       |



**Manitoba Hydro Undertaking # 17**

**Provide actual payment to Provincial government for fiscal year 2010.**

The following table details the actual payments to the Provincial government in fiscal 2010.

**Fiscal 2010 Payments to the Province**

|              | <b><u>Actual</u></b> |
|--------------|----------------------|
| Water Rental | 114                  |
| PGF          | 72                   |
| Sinking Fund | 1                    |
| Capital Tax  | 46                   |
| Payroll Tax  | <u>10</u>            |
|              | 243                  |



**PUB/MH I-24****Subject: Tab 4: Financial Results & Forecast****Reference: Tab 4 Page 21 & 22 of 29 Payments to Governments**

- a) Please provide a schedule that details all payments to municipalities and the Province by year for the fiscal years 2000 through 2009 and forecast for 2010, 2011 and 2012.

**ANSWER:**

Please see the attached schedule for all payments to municipalities and the Province for 2005 through 2012.

**Payments to the Province and Municipalities (Millions)**

| Fiscal Year Ended | Water Rentals | Provincial Guarantee Fee | Sinking Fund Admin. Fee | Capital Taxes | Payroll Taxes | Provincial Mitigation or Settlement Obligations (1) | Municipal GILT and Business Taxes | Gross Electricity Operations Revenue | Gross Export Revenue |
|-------------------|---------------|--------------------------|-------------------------|---------------|---------------|---|-----------------------------------|--------------------------------------|----------------------|
| 2005              | \$ 104        | \$ 68                    | \$ 1                    | \$ 35         | \$ 7          | \$ 13   | \$ 10                             | \$ 1,508                             | \$ 554               |
| 2006              | 124           | 66                       | 0                       | 36            | 7             | 2   | 10                                | 1,828                                | 827                  |
| 2007              | 106           | 68                       | 0                       | 37            | 8             | 2   | 10                                | 1,632                                | 592                  |
| 2008              | 117           | 70                       | 1                       | 39            | 8             | 2   | 11                                | 1,707                                | 625                  |
| 2009              | 115           | 70                       | 1                       | 44            | 9             | 0   | 11                                | 1,765                                | 623                  |
| 2010              | 111           | 72                       | 1                       | 45            | 9             | 2   | 15                                | 1,581                                | 414                  |
| 2011              | 102           | 78                       | 0                       | 47            | 9             | 8   | 15                                | 1,584                                | 383                  |
| 2012              | 100           | 83                       | 0                       | 48            | 9             | 0   | 15                                | 1,808                                | 554                  |
| 2013              | 103           | 89                       | 0                       | 50            | 10            | 1   | 15                                | 1,895                                | 583                  |
| 2014              | 104           | 93                       | 0                       | 55            | 10            | 0   | 16                                | 1,987                                | 615                  |
| 2015              | 103           | 101                      | 0                       | 61            | 10            | 0   | 16                                | 2,039                                | 590                  |
| 2016              | 103           | 114                      | 0                       | 69            | 10            | 0   | 16                                | 2,219                                | 701                  |
| 2017              | 104           | 131                      | 0                       | 77            | 10            | 0   | 17                                | 2,320                                | 729                  |
| 2018              | 103           | 147                      | 0                       | 82            | 11            | 0   | 17                                | 2,404                                | 742                  |
| 2019              | 103           | 159                      | 1                       | 88            | 11            | 0   | 17                                | 2,628                                | 894                  |
| 2020              | 112           | 166                      | 0                       | 91            | 11            | 0   | 18                                | 2,907                                | 1,093                |

(1) Hydro entered into an agreement with the Province whereby the Corporation assumed obligations of the Province with respect to certain northern development projects. Obligations totaling \$143 million were assumed, with respect to which water rental charges had been fixed until March 31, 2001. Of these obligations, \$11 million remain to be paid in fiscal 2010 and future years.

**PUB/MH I-24****Subject: Tab 4: Financial Results & Forecast****Reference: Tab 4 Page 21 & 22 of 29 Payments to Governments**

**b) Please provide a schedule that details the calculation of the debt guarantee fee for the fiscal years 2000 through 2009 and forecast for 2010, 2011 and 2012.**

**ANSWER:****PUB/MH I - 24(b)**

Provincial Debt Guarantee Fee Calculations  
(\$ millions)

|                                     | Actual<br>2005<br>(1) | Actual<br>2006<br>(1) | Actual<br>2007<br>(1) | Actual<br>2008<br>(1) | Actual<br>2009<br>(1) | Actual<br>2010<br>(1) (2) | Forecast<br>2011<br>(3) | Forecast<br>2012<br>(3) |
|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|-------------------------|-------------------------|
| Long Term Debt Balance              | 7,311                 | 7,141                 | 7,108                 | 7,160                 | 7,486                 | 8,132                     | 8,104                   | 8,623                   |
| Short Term Debt Balance             | 94                    | 59                    | -                     | 148                   | -                     | 100                       | 48                      | 40                      |
| Trust Investment from Pre-Financing |                       |                       |                       |                       | (122)                 | (166)                     |                         |                         |
| PDGF Assessed On                    | 7,405                 | 7,200                 | 7,108                 | 7,308                 | 7,364                 | 8,066                     | 8,152                   | 8,663                   |
| Guarantee Fee Rate                  | 0.95%                 | 0.95%                 | 1.00%                 | 1.00%                 | 1.00%                 | 1.00%                     | 1.00%                   | 1.00%                   |
| Amount Paid to Province             | 70                    | 68                    | 71                    | 73                    | 74                    | 76                        | 82                      | 87                      |
| Portion Allocated to Centra         | (3)                   | (3)                   | (3)                   | (3)                   | (3)                   | (3)                       | (3)                     | (4)                     |
| Net Hydro Guarantee Fee             | 68                    | 66                    | 68                    | 70                    | 70                    | 72                        | 78                      | 83                      |

- Notes:
- (1) The fee calculation is based on ending debt balances at March 31 of the prior fiscal year. Manitoba Hydro is not assessed the debt guarantee fee on bonds issued for mitigation purposes. The long term debt balance presented in PUB 24(b) represents that amount of debt upon which the Provincial Debt Guarantee Fee was paid or is payable.
  - (2) The PDGF on US debt is paid in US dollars using the stated PDGF rate. For presentation purposes, US debt balances are translated to a Canadian equivalent using the year end exchange rate. The presentation of the US long term debt balance at March 31, 2009 was translated at the year end exchange rate of 1.2602 although the US dollar PDGF payment was made at a 1.05036 exchange rate utilizing FX forward contracts. Therefore, the Canadian equivalent of the amount paid to the Province for this year is less than 1%.
  - (3) US Dollar long term debt balance converted at forecast year end rate of 1.06 at March 31, 2010 for 2011 and US Dollar long term debt balance converted at forecast year end rate of 1.07 at March 31, 2011 for 2012.

**PUB/MH I-24**

**Subject: Tab 4: Financial Results & Forecast**

**Reference: Tab 4 Page 21 & 22 of 29 Payments to Governments**

- c) **Please provide a schedule that details the calculation of water rental payments for the fiscal years 2000 through 2009 and forecast for 2010, 2011 and 2012.**

**ANSWER:**

Please see the following schedule for the water rental payment calculation for the years 2005 through 2012.



**Water Rental Calculation**

|  | <b>Actual<br/>2005</b> | <b>Actual<br/>2006</b> | <b>Actual<br/>2007</b> | <b>Actual<br/>2008</b> | <b>Actual<br/>2009</b> | <b>Forecast<br/>2010</b> | <b>Forecast<br/>2011</b> | <b>Forecast<br/>2012</b> |
|--|------------------------|------------------------|------------------------|------------------------|------------------------|--------------------------|--------------------------|--------------------------|
| Megawatt-Hours Generated<br>(million mWh)      | 31.1                   | 37.2                   | 31.6                   | 34.9                   | 34.2                   | 33.1                     | 30.5                     | 30.1                     |
| Converted to Horsepower-years                  | 5.1                    | 6.1                    | 5.2                    | 5.7                    | 5.6                    | 5.4                      | 5.0                      | 4.9 (1)                  |
| Rental Rate per Horsepower-year                | 20.32                  | 20.32                  | 20.32                  | 20.32                  | 20.32                  | 20.32                    | 20.32                    | 20.32 (2)                |
| Calculated Water Annual Rental<br>(\$ million) | \$ 104.1               | \$ 124.4               | \$ 105.7               | \$ 116.7               | \$ 114.3               | \$ 110.7                 | \$ 102.0                 | \$ 100.5                 |
| Minimum Rental Adjustment                      |                        |                        |                        |                        | 0.2                    | 0.5                      | 0.3                      | (3)                      |
| Other Adjustment                               |                        |                        |                        | 0.3                    |                        |                          |                          | (4)                      |
| Total Water Rentals                            | \$ 104.1               | \$ 124.4               | \$ 105.7               | \$ 117.0               | \$ 114.5               | \$ 111.2                 | \$ 102.3                 | \$ 100.5                 |

(1) The Water Power Act defines "Horsepower-year" as kW.h/6535 X 1.075.

(2) The water rental fee was calculated at a rate of 9.90 per Horsepower-year generated up to March 31, 2001. Effective April 1, 2001 the rate was increased to its current level of \$20.32 per Horsepower-year.

(3) The Water Power Act of Manitoba provides that the water rentals charged for each generation site be the greater of (a) a fixed rate multiplied by the installed capacity of that site and (b) a fixed rate multiplied by the electrical output for the year of that site. Generally, the calculation under (b) based on actual output results in the greatest amount for each generation site. In some years, such as 2009 it is necessary to adjust the amounts calculated under the (b) calculation for some specific sites to bring the total up to the amount calculated under the (a) installed capacity calculation method.

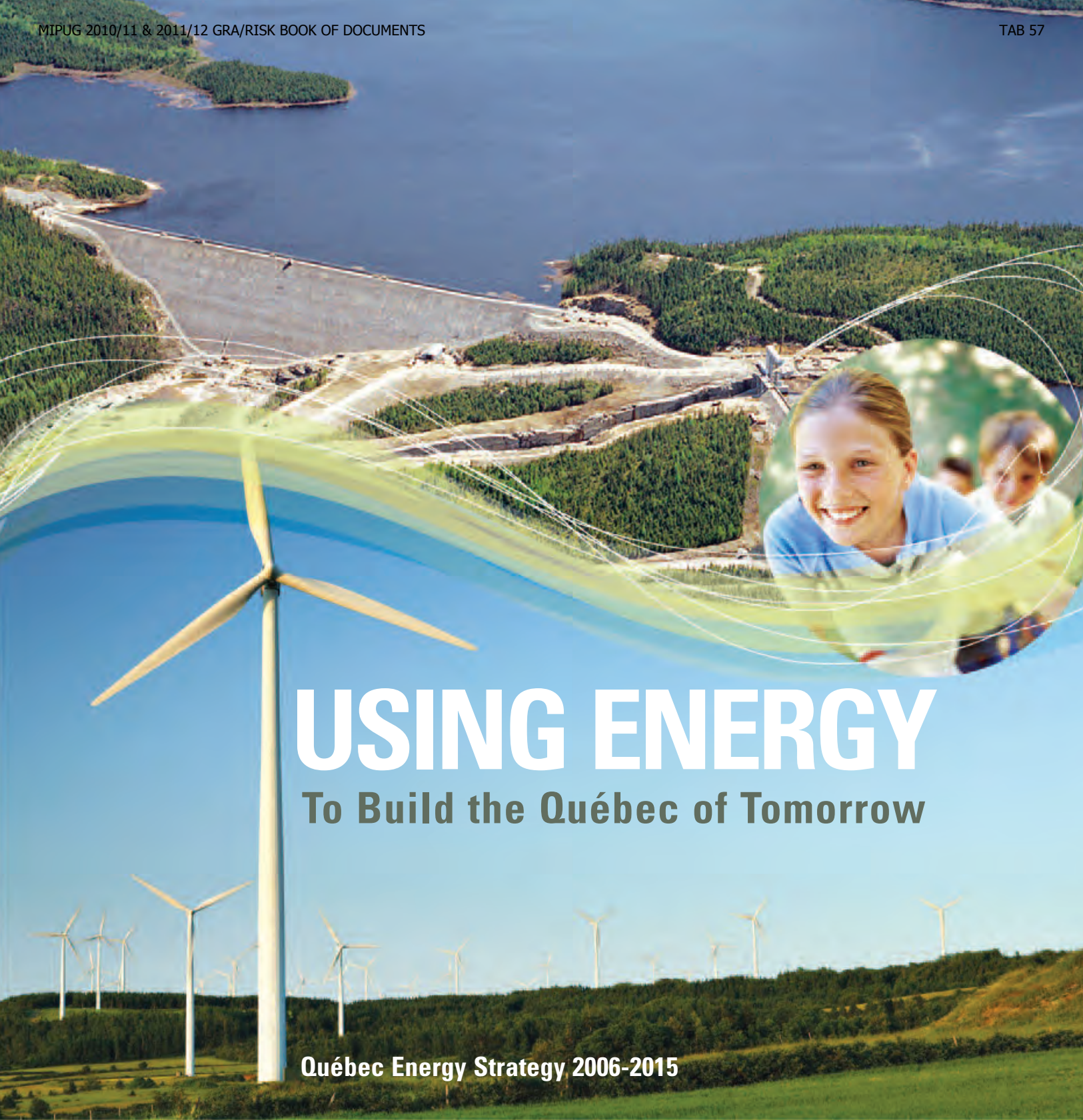
(4) Due to a rounding difference.

**PUB/MH I-24****Subject: Tab 4: Financial Results & Forecast****Reference: Tab 4 Page 21 & 22 of 29 Payments to Governments**

- d) Please explain whether MH has received any indication from the Province that there will be changes to the water rental change, the provincial guarantee fee or any other government charges for 2010, 2011 and 2012.

**ANSWER:**

The Province has provided no indication regarding planned changes to government charges with respect to 2010, 2011 or 2012.



# USING ENERGY

To Build the Québec of Tomorrow

Québec Energy Strategy 2006-2015

**WATER POWER CHARGES**

The users of private or public water power are required to pay charges, or royalties, on the electricity they produce. The charges allow all Quebecers to benefit from the joint wealth that our water resources represent.

- The Government confirms that the current system of charges for the private sector will be maintained, and existing contracts will be honoured. The allocation of water power in the domain of the State to industrial self-generators is a powerful lever for economic development in the regions. Self-generators can rely on stable, foreseeable production costs, and the message sent out by the Government concerning water power charges helps reinforce this stability.
- Self-generators must, however, respect their commitments to society. If they reduce or terminate the industrial activities based on the use of the electricity they generate, the Government will re-assess the conditions on which they use public water power. In particular, the Government will not tolerate self-generators selling or exporting, outside Québec, any quantity of electricity made available by reducing their industrial activities in Québec.
- The Government will re-assess the conditions on which self-generators use public water power if they cease to supply their customers at the regulatory rate in order to sell the electricity concerned on the open market.
- During the public hearings that preceded the drafting of the energy strategy, many participants stressed the need to ensure that the collective wealth represented by our water resources benefits society as a whole.

In response to this recommendation, the Government recently announced its intention to implement three measures:

—first, as indicated in the *2006-2007 Budget Speech*, the Government will require Hydro-Québec to pay the same royalties as private producers, namely the statutory and contractual royalties prescribed by the *Watercourses Act*. The royalties will come into effect gradually over a two-year period, beginning on January 1, 2007, and will be index-linked, like those for private producers.

Hydro-Québec will be asked to absorb the additional cost through efficiency gains and increased export revenues;

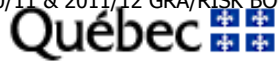
—second, the new revenue for the Québec state – estimated at around \$500 million per year – will be entirely paid into the Generations Fund, whose creation was announced by the Minister of Finance in the *2006-2007 Budget Speech*. The Generations Fund is a tool created by the Government to reduce the burden of the public debt;

—third, the Government will pay into the Generations Fund all the royalties currently paid by private hydroelectric producers. This amount of \$80 million per year will be allocated to the Fund, beginning on January 1, 2007.

**4) LIMIT THE ROLE PLAYED BY NUCLEAR ENERGY IN QUÉBEC BY DEVELOPING HYDROELECTRIC RESOURCES**

By making a clear choice in favour of hydroelectricity, Québec has not had to invest massively in nuclear generation, unlike Ontario and certain European countries. Gentilly-2, with an installed capacity of 675 MW,<sup>4</sup> is the only operating nuclear power station in Québec, whereas Ontario, to meet its electricity needs, currently relies on three nuclear power stations with a total capacity of 11,400 MW.

4. Gentilly-2 produces 5.2 TWh, with a usage factor of 90 % (2004 data).



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Updated to 1 October 2010  
This document has official status.

## R.S.Q., chapter R-6.01

# An Act respecting the Régie de l'énergie

### CHAPTER I APPLICATION

1. This Act applies to the supply, transmission and distribution of electric power and to the supply, transmission, distribution and storage of natural gas delivered or intended for delivery by pipeline to a consumer.

This Act also applies to any other energy matter to the extent provided for herein.

1996, c. 61, s. 1; 2000, c. 22, s. 1.

2. In this Act, unless the context indicates otherwise,

“electric power carrier” means Hydro-Québec when carrying on electric power transmission activities;

“electric power distribution system” means a network of installations for the distribution of electric power once it leaves transformation substations, including distribution lines at voltages below 44 kV and any equipment located between such lines and connecting points to consumer installations and, in the case of independent electric power distribution systems of the electric power distributor, a network of works, machinery, equipment and installations used for the production, transmission and distribution of electric power;

“electric power distributor” means Hydro-Québec when carrying on electric power distribution activities;

“electric power supplier” means any electric power producer or trader supplying electric power;

“electric power supply” means electric power made available or sold to the electric power distributor by a supplier or a representative;

“electric power supply contract” means a contract entered into between the electric power distributor and a supplier for the purpose of meeting the electric power needs of Québec markets;



1996, c. 61, s. 52; 2000, c. 22, s. 14.

*This section came into force on 2 June 1997 as it applies to natural gas. Order in Council 714-97 dated 28 May 1997, (1997) 129 G.O. 2, 2475.*

52.1. When fixing or modifying rates chargeable by the electric power distributor to a consumer or a class of consumers, the Régie shall consider the cost of the electric power to the electric power distributor and the transmission costs, as fixed by the transmission tariff, borne by the electric power distributor, the revenues required for the operation of the electric power distribution system and the factors set out in subparagraphs 6 to 10 of the first paragraph of section 49 and in the second and third paragraphs of that section, with the necessary modifications.

The Régie may use any other method it considers appropriate when fixing or modifying a demand-side management tariff or an emergency power tariff. A demand-side management tariff is a tariff applied to a consumer by the electric power distributor at the consumer's request, according to which the cost of electric power is based on the market price or according to which service to the consumer may be interrupted by the distributor.

Rates applicable to a class of consumers must be uniform throughout the electric power distribution system, with the exception of independent electric power distribution systems north of the 53rd parallel.

The Régie shall not modify the rates applicable to a class of consumers in order to alleviate the cross-subsidization of rates applicable to classes of consumers.

The fourth paragraph does not apply where the Régie fixes or modifies a transition rate in respect of a consumer that is transferring to another class of consumers.

2000, c. 22, s. 15; 2006, c. 46, s. 39.

52.2. The cost of electric power referred to in section 52.1 shall be established by the Régie by adding the cost of heritage pool electricity and the actual costs to the electric power distributor of the supply contracts entered into to meet the needs of Québec markets in excess of the heritage pool, or the needs to be supplied out of an energy block determined by the Government in a regulation under subparagraph 2.1 of the first paragraph of section 112. The cost of electric power shall be attributed to the various classes of consumers according to their consumption characteristics, that is, utilization factors and power losses attributable to the transmission and distribution system.

For the purposes of the first paragraph, the cost of heritage pool electricity shall be established by totalling the products obtained by multiplying the consumption of heritage pool electricity attributable to each class of consumers by the cost attributed to that class

(1) that the annual heritage pool corresponds to the net consumption by Québec markets, up to 165 terawatt-hours, exclusive of consumption under demand-side management or emergency power tariffs, consumption attributed to independent electric power systems and consumption out of the energy blocks determined by regulation of the Government;

(2) that the cost attributed to each class of consumers is based on an average heritage pool electricity cost of 2.79 cents per kilowatt-hour and corresponds

(i) for the year 2000, to the cost stated in Schedule I;

(ii) for subsequent years until such time as heritage pool consumption reaches 165 terawatt-hours, to the cost determined by the Régie on the proposal of the electric power distributor, based on Schedule I, changes in rate classes and the consumption characteristics referred to in the first paragraph; and

(iii) for the following years, to the cost determined by the Government.

In the case of special contracts entered into under the Hydro-Québec Act (chapter H-5), the cost of electric power corresponds to the rate stipulated in the contract, less the transmission and distribution costs applicable according to consumption characteristics, and does not affect the cost to the electric power distributor applicable to other classes of consumers for the purposes of section 52.1.

The heritage pool electricity cost attributed to a class of consumers may only be modified subject to the conditions provided in section 24.1 of the Hydro-Québec Act. Subsequent to any such modification, the modified heritage pool electricity cost is the cost to be used by the Régie for the purposes of this section.

2000, c. 22, s. 15.

52.3. The revenues required for the operation of the electric power distribution system shall be established having regard to the provisions of subparagraphs 1 to 10 of the first paragraph of section 49, the last paragraph of that section and sections 50 and 51, with the necessary modifications.

2000, c. 22, s. 15.

53. The electric power carrier or distributor or a natural gas distributor may not, in respect of a consumer, impose or agree to a rate or to conditions other than those fixed by the Régie or the Government.

Nor may the electric power carrier or distributor or a natural gas distributor discontinue or interrupt service to a consumer because of his refusal to pay an amount other than the amount resulting from the application of a rate or condition fixed by the Régie or





**PUB/MH I-149****Subject: Tab 12: Corporate Risk Management****Reference: ICF Report, Chapter IV (Page 18)**

- a) **Please provide specific example (s) of MH's arbitrage merchant trading transaction (e.g., MISO purchase/Ontario sale) to illustrate how this differs from non-arbitrage merchant trading.**

**ANSWER:**

Arbitrage is the practice of taking advantage of a price differential between two or more markets: striking a combination of matching deals that capitalize upon the imbalance, the profit being the difference between the market prices. An arbitrage transaction(s) is entered into with the expectation of profit.

Example of an arbitrage merchant transaction:

Manitoba Hydro submits an offer to sell the Ontario market (IESO) 50 MW for the hour ending 7:00 a.m. at a price of C\$50/MWh. The IESO accepts the energy offer at 4:00 a.m. (two hours prior to the delivery hour). Given the commitment to sell to the IESO, at 5:10 a.m., Manitoba Hydro purchases power from the MISO Real Time market to be delivered to the IESO Real Time market via firm transmission capacity. Market participants are unable to specify a purchase price in the MISO Real Time market but, in this example, the MISO market has recently been trading in the US\$30-US\$35/MWh range for hour ending 7:00 a.m. The MISO market ends up settling at US\$30/MWh for hour ending 7:00 a.m. In this example, with a US/Cdn exchange rate of 1.02, Manitoba Hydro would realize a profit of C\$1,029.41 ( $C\$50 - (US\$30/1.02) \times 50 \text{ MW}$ ).

Example of a non-arbitrage merchant transaction:

A company sells energy forward at the forward market price in the California market for the upcoming summer period with an expectation that it will purchase the power at a favorable price at a later date. In this case, the seller is betting against the market. There exists a significant risk that the seller's expectations will not be realized and a loss will occur.

**CAC/MSOS/MH I-24****Subject: Fuel and Power Purchased****Reference: Tab 4, pages 23-24**

- h) For the period 2007/08 to 2011/12, what are the annual purchase volumes in each year that are associated with simultaneous back to back export sales?**

**ANSWER:**

The actual and forecasted net revenues associated with arbitrage merchant transactions are summarized in the following table where Net Revenues recognizes all revenues and associated costs.

| <b>Net Merchant<br/>Revenues (CAD\$)</b> |             |          |
|--|-------------|----------|
| <b>2007/08</b>                           | \$7,136,715 | Actual   |
| <b>2008/09</b>                           | \$7,481,401 | Actual   |
| <b>2009/10</b>                           | \$4,413,000 | Forecast |
| <b>2010/11</b>                           | \$3,816,000 | Forecast |
| <b>2011/12<br/>and<br/>thereafter</b>    | \$0         | Forecast |

Manitoba Hydro enters into back to back arbitrage transactions when the market price differential is favorable. For the forecast period, Manitoba Hydro only forecasts the net revenues and doesn't forecast the volumes involved. Therefore, for comparability, only net revenues are shown for 2007/08 and 2008/09.

Rights, Auction Revenue Rights and virtual bids and offers into standard markets such as the MISO Day 2 Market are done via computer interface on a secured network.

Oversight for System Financial Products is provided by the Power Sales and Operations Market Committee (PSOMC). The PSOMC consists of the Power Trading Department Manager, Export Power Marketing Manager and the Division Manager of Power Sales and Operations.

The PSOMC would approve strategies used to purchase, nominate or sell FTRs or ARRs, make virtual supply or demand bids, and for the use of call and put options, contracts for differences and swaps. The PSOMC would also approve transactions for monthly, seasonal and yearly Financial Transmission Rights or Auction Revenue Rights, based on analysis from staff in Export Power Marketing and Power Trading departments. A complete list of approval authorities for System Financial Products is outlined in the Approval Authority Table.

### **Merchant Transactions**

Merchant Transactions include transactions of Energy and Financial Products that do not involve power directly from or to Manitoba Hydro's system and fit into one of following categories:

1. Related Merchant Transactions involve the resale of power purchased from third parties, and which either flows over transmission owned or reserved by/for Manitoba Hydro, or was purchased for Manitoba Hydro system requirements and has subsequently been deemed surplus.
2. Pure Merchant Transactions involve the purchase of power by Manitoba Hydro from one or more parties for resale to one or more parties.

#### **Management Control Objective:**

- To ensure Manitoba Hydro is not put at unnecessary risk or harm as a result of individuals engaging in unauthorized business transactions.
- To ensure any Merchant Transactions Manitoba Hydro enters into have a strong expectation of profit.
- To ensure transactions are billed and recorded in a timely and accurate manner.

#### **MCP:**

The portfolio of controls in Manitoba Hydro developed to protect the Corporation from unauthorized business System Transactions would apply to all Merchant Transactions.

The Energy and Financial Products used for System and Merchant Transactions are the same. The difference between System and Merchant Transactions is that System Transactions involve power either sourced from Manitoba Hydro resources or procured to meet domestic or existing system export obligations and Merchant Transactions do

not. The approval authority for all Merchant Transactions is outlined in the Approval Authority Table.

The initial intent for Merchant Transactions is to have smaller scale merchant activity that would allow Manitoba Hydro's power trading staff to attain knowledge of and experience with evolving energy markets which is transferable to the management and optimization of Manitoba Hydro's core export sales activity. The MCP for Merchant Transactions limits the scale of merchant activity to minimize risk exposure for Manitoba Hydro.

Transaction limits for Related Merchant Transactions are:

- A maximum net power position of 1000 GWh.
- Fixed price to fixed price transactions may be entered into only if there is a positive profit margin.
- All other transactions may be entered into only if there is a positive expected value and with a term no more than three days in duration.

Transaction limits for Pure Merchant Transactions are:

- A Stop Loss Limit of US\$500,000. In other words, all Pure Merchant Transactions would stop if the net losses for the year reached \$500,000 US. A report would be immediately sent to the EPRMC.
- At any point in time, the Value at Risk (VaR) in the portfolio must be less than the Stop Loss Limit. This VaR would be calculated on a daily basis.
- Fixed price to fixed price transactions may be entered into only if there is a positive profit margin.
- All other transactions may be entered into only if there is a positive expected value and with a term no more than three days in duration.

All Merchant Transactions shall have a maximum duration of six months.

### **General Transaction Controls**

The underlying framework for bilateral transactions is the Master or Interchange Agreement, which defines the standard terms and conditions for power transactions entered into with each customer. Transactions are only to be made with customers who have been deemed creditworthy and for which there is a Master Agreement in place. All transactions are subject to Manitoba Hydro's Contract Documentation and Review Procedures which establishes a review process to minimize contract documentation risk. For transactions into a standard electricity market such as MISO or IESO, there is a similar Market Participant Agreement with the market operator that defines the market products and the rules binding both parties.

Secured computer networks and digital certificates are used to submit transactions into standard markets. Telephone lines of staff responsible for System and Merchant Transactions are recorded to ensure proper power trading conduct and to aid in dispute resolution as required.

Page 3661

1 could in carrying out negotiations for long-term export  
2 contracts.

3 In the opinion of KPMG -- this is a very -  
4 - a -- a more specific issue here -- does Manitoba Hydro  
5 have qualified people and seek infor -- information as  
6 and when appropriate to carry out those negotiations?

7 MR. ANURAG GUPTA: It is our opinion that  
8 Manitoba Hydro brings the right level of people to the  
9 negotiations with the right level of experience and the  
10 background necessary, and they do go out and seek  
11 information as required to help them in -- in the  
12 negotiation's process.

13 MR. ANTOINE HACAULT: Thank you. Does  
14 KPMG have any recommendations on additional information  
15 which Manitoba Hydro should have going forward in  
16 negotiating such term sheets and contracts?

17 MR. ANURAG GUPTA: I think our -- our  
18 recommendations are as they are in the report; I don't  
19 think we have anything further than what -- what we wrote  
20 up in -- in our April report.

21 MR. ANTOINE HACAULT: Thank you. The  
22 second area of questioning deals with whether Manitoba  
23 Hydro's approach to risk management is appropriate for a  
24 Crown owned regulated public utility. And I'd like to  
25 direct your attention to pages 254 to -- up to 257. It's

Page 3662

1 the section dealing with merchant trading. This is in  
2 the April report.

3

4 (BRIEF PAUSE)

5

6 MR. ANTOINE HACAULT: The first question  
7 is for my own education. On page 255 there is a table,  
8 Exhibit 6-4, and one (1) line is entitled, "Related  
9 Merchant," and the next line is entitled, "Pure  
10 Merchant." Could somebody from the panel educate me as  
11 to what the difference is between the two (2).

12 MR. FRANK CHEN: On page 254 there's a  
13 footnote denoted number 27 that provide respective  
14 definitions for related merchant and pure merchant  
15 transactions that hopefully will provide a -- a summary  
16 description and understanding of the difference.

17 MR. ANTOINE HACAULT: Is it possible to  
18 give me an example which might help me understand this  
19 technical wording that's at the bottom of page 254?

20 MR. FRANK CHEN: Some merchant gen --  
21 general merchant transactions are essentially sales and -  
22 - and purchase of electricity with third parties on an  
23 opportunistic basis. It's the sale of excess supply  
24 energy on a short-term basis with third parties that do  
25 not -- are not intended to -- to serve load. It's -- the

Page 3663

1 intent is to crease incremental revenue by selling off  
2 excess supply once the load has already been served or  
3 met. These are short-term transactions with third  
4 parties and con -- typically, bilateral tran --  
5 transactions with -- directly made with either the ISO or  
6 the MISO specifically, or with commercial counterparties.

7 MR. ANTOINE HACAULT: Now, could you  
8 explain the difference in the risk between a related  
9 merchant transaction and what's been defined as a pure  
10 merchant transaction?

11 MR. FRANK CHEN: Essentially, the risk is  
12 -- is essentially the same; there's no difference in  
13 magnitude or risk. The inherent risk in both type of  
14 transactions are pretty much the same.

15 MR. ANTOINE HACAULT: That's the inherent  
16 risk. Is there more control in a related merchant  
17 transaction as compared to a pure merchant transaction?

18 MR. FRANK CHEN: The pure merchant  
19 transactions, as indicated by the stop loss limit, have -  
20 - or carry incremental greater risk given that the stop  
21 loss limit -- I'm sorry, the related merchant  
22 transactions carry a greater amount of risk given the  
23 lower stop loss limit, and the mer -- pure merchant  
24 transactions carry a lesser degree of risk given the  
25 larger stop loss limit.

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1 MR. ANTOINE HACAULT: In Mr. Rose's  
2 testimony on behalf of ICF he uses the words "arbitrage  
3 transactions" and "non-arbitrage transactions." Is there  
4 any equivalency between the terms that were used in the  
5 report to the terms used by Mr. Rose, do you know?

6 MR. FRANK CHEN: Arbitrage is intended as  
7 -- as a descriptive -- or term used as -- as a type of  
8 transacting strategy. And I would say just -- that that  
9 type of strategy would fall under the merchant type --  
10 the merchant transaction type.

11 MR. ANTOINE HACAULT: And is there an  
12 industry meaning that people would ascribe to a non-  
13 arbitrage transaction then? Wou -- that wouldn't be  
14 related to either one of these headings, or would it?

15 MR. FRANK CHEN: An arbitrage -- well, to  
16 make the distinction for everyone's understanding, an  
17 arbitrage is essentially a low risk type transacting  
18 strategy to take advantage of pricing differences, either  
19 locationally or -- or by quality type. And that's just  
20 due to market inefficiencies and -- and transfer of  
21 information or one (1) party having better information  
22 than ano -- another, where a similar product has  
23 different pricing discrepancies, and then a market  
24 participant is able to take advantage of a spread.

25 A non-arbitrage is then a full



Page 3665

1    universitive (phonetic) type transactions that are  
2    considered just non-arbitrage, so they may greater risk,  
3    or they may have similar risk or less risk. Non -- non-  
4    arbitrage is a pretty broad term.

5                    MR. ANTOINE HACAULT:    So there's some  
6    comment here as to what Hydro does engage in. Would you  
7    qualify Hydro's engagement in this market as arbitrage or  
8    non-arbitrage?

9  
10                    (BRIEF PAUSE)

11  
12                    MR. FRANK CHEN:    At the moment when we  
13    did this and at the time that these limits were  
14    developed, all these transactions were arbitrage related,  
15    which were the -- the lower risk type.

16                    MR. ANTOINE HACAULT:    Thank you. Am I  
17    right in understanding your answers, that merchant  
18    trading activity, whether it's what you qualified as a  
19    pure merchant trading activity or related merchant  
20    trading activity introduces risks to Manitoba Hydro which  
21    are different than those that it experiences in -- I'm  
22    going to say the pure export power business.

23                    MR. FRANK CHEN:    My understanding is with  
24    respect to these type of merchant transactions -- again,  
25    these transactions are solely related to selling excess

Page 3666

1 supply. And to the extent that excess supply is exported  
2 out to a counterparty then they're -- they could be  
3 overlapping; meaning a related or pure merchant  
4 transaction can be considered an export sale as well,  
5 depending on who that counterparty is on the other side  
6 of the transaction.

7 MR. ANTOINE HACAULT: What I was trying  
8 to distinguish between was Manitoba Hydro selling its own  
9 power, which is asset-based into the export markets from  
10 what I understood to be a different function being  
11 undertaken by Manitoba Hydro and its merchant trading.

12 MR. FRANK CHEN: The related merchant  
13 transactions could be power that's generated, you know,  
14 off their equity system and sold to a counterparty  
15 that's, you know, across border as an export sale.

16 The pure merchant transaction, just to  
17 clarify, again that's where Hydro may act as a middle  
18 pers -- middleman or as a broker-type participant to  
19 match up two (2) parties and earns a spread off of that  
20 transaction with no -- where that energy is not  
21 necessarily generated from their equity -- equity  
22 generation assets are off system.

23 MR. ANTOINE HACAULT: Sir, and here it  
24 may just be a question of definition, that's why I was  
25 trying to understand it. Because to the uneducated

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1 fellow like me, I thought I heard in Manitoba's Hy --  
2 Hydro's direct evidence, or in cross-examination, that  
3 some of the transactions it undertook were exactly of the  
4 nature you just immediately described in your previous  
5 answer, was that they would know there was a spread with  
6 a certain amount of certainty because of their knowledge  
7 of the market and they felt that they had a certain  
8 measure of sophistication which would guarantee them some  
9 kind of a profit on the transaction, and that was between  
10 two (2) positions.

11 Say, for example, in the MISO market there  
12 might be certain amount of energy available at a certain  
13 price and they knew they could get a better price in  
14 Ontario and then they would engage in that transaction  
15 with the hope of generating a profit.

16 Is that what you would qualify as a pure  
17 merchant transaction?

18 MR. FRANK CHEN: No, that transaction is  
19 -- that type of strategy or arbitra -- arbitrage strategy  
20 is with power that Manitoba Hydro is generating. So  
21 that's a related merchant transaction.

22 Merchant transactions are aware -- the  
23 transaction involves power that's not generated at all by  
24 the system and where Mano -- Manitoba Hydro is matching  
25 up two (2) parties as part of a transaction and earning a

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1 spread off of that transaction in which that type of  
2 activity is not currently conducted. The arbitrage is a  
3 related type mer -- merchant transaction where that  
4 excess supply generated off of Hydro's system is sold off  
5 into the export markets to earn that arbitrage or locate  
6 that price diff -- difference.

7 MR. ANTOINE HACAULT: I think I  
8 understand your question. I think there's a disconnect  
9 between what Manitoba Hydro has said it -- or has  
10 communicated to you that it does and the evidence on the  
11 record as to what it says it does, and that's why I was  
12 asking my questions.

13 If -- unless I have misunderstood the  
14 evidence, the evidence on the record is that it does  
15 engage into transactions which do not have hydro coming  
16 from its system at all. It engages in transactions where  
17 it is buying a position of another party and selling it  
18 to a third party. So in my example, a US counterpart.  
19 It's buying that position and then selling it to Ontario.  
20 And that would be a pure merchant transaction.

21 MR. FRANK CHEN: I can't confirm that  
22 except for what I can tell you in -- on page 255 under  
23 footnote 3, that footnote specifically says:

24 "No pu -- no pure merchant transactions  
25 have occurred from 2005 through January

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1                                   2010."

2                                   MR. ANTOINE HACAULT:   And that would have  
3   been based on some discussion and some interpretation by  
4   Hydro staff, but they may have had a different definition  
5   of what that meant, in fairness.  You don't know that?

6                                   MR. FRANK CHEN:   Fair -- in fairness, we  
7   were discussed -- that -- that point was made consistent  
8   with the definition provided on page 254 of what the pure  
9   and related merchant transactions; that's the context of  
10  that discussion and that point.

11                                  MR. ANTOINE HACAULT:   Do you have any  
12  recollection of which manager or position would have  
13  given you that information?

14                                  MR. FRANK CHEN:   The footnote indicates  
15  per the PSO division manager, footnote number 3.

16                                  MR. ANTOINE HACAULT:   Thank you.

17                                  MR. WILL LIPSON:   Yeah, and I think we  
18  heard that from others in the organization as well.  It  
19  wasn't just a single individual.

20

21   (BRIEF PAUSE)

22

23                                  MR. ANTOINE HACAULT:   I'm just trying to  
24  get a little bit of clarity on the record.  If the  
25  evidence on the record is that Manitoba Hydro buys the

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1 position -- hopefully I'm explaining this in correct  
2 terms, of a third-party in the US, with a view of selling  
3 it to a third-party in Ontario, that would be the type of  
4 transaction which KMB -- KPMG is saying should not occur  
5 for this type of utility?

6 MR. FRANK CHEN: We're not -- KPMG has no  
7 position on whether these transactions should or should  
8 not occur. We're saying that the -- the fact that these  
9 transactions do occur and that they're approved  
10 transactions, that limits should be developed to control  
11 those types of act -- the exposure associated with those  
12 types of activities.

13 MR. ANTOINE HACAULT: So then it would be  
14 a matter for others to comment on as to whether or not  
15 getting into this pure merchant type transaction is  
16 something that a Crown utility like Manitoba Hydro should  
17 be doing?

18 MR. FRANK CHEN: That's a business  
19 decision. That's a -- a mana -- senior management and  
20 board decision to decide what activities Manitoba Hydro  
21 should and should not engage in.

22 MR. ROBERT MAYER: The -- this whole line  
23 of question is confusing me, quite frankly. I read what  
24 it says on page 255, that you don't do -- no merchant --  
25 no pure merchant transactions have occurred from 2005

Page 3671

1 through January 2010.

2 I've heard about the same kind of  
3 transactions that -- that Mr. Hacault over here has  
4 talked about. I understand they happen. Are they pure  
5 merchant transactions?

6

7 (BRIEF PAUSE)

8

9 MR. FRANK CHEN: It's my understanding  
10 that the -- the transactions that you're referring to are  
11 -- fit the definition of a related merchant transaction,  
12 and that pure merchant transactions, again, are not, and  
13 have not occurred, according to the footnote, from 2005  
14 through January 2010.

15 MR. ROBERT MAYER: That's not helpful. I  
16 guess we're going to have to get back to, and maybe I  
17 won't pursue it, because My Learned Friend to the left  
18 here probably will, but I thought we had a definition of  
19 pure merchant trading where Manitoba Hydro is not selling  
20 its generated power, is acquiring a position and, in  
21 fact, transporting it into Ontario through US lines.

22 Their power is not involved, tha -- is  
23 that not a pure merchant transaction?

24 MR. FRANK CHEN: That fits the definition  
25 of a pure merchant transaction, but that's not what

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1 Manitoba's Hydro -- that's not what Manitoba Hydro is  
2 doing; that's my understanding.

3 MR. ROBERT MAYER: We'll test that, I  
4 guess, with the Hydro panel when they come back. Thank  
5 you.

6

7 CONTINUED BY MR. ANTOINE HACAULT:

8 MR. ANTOINE HACAULT: Thank you. I think  
9 that last ques -- answer clarifies. Again, if I look at  
10 page 254, the definition of pure merchant transactions  
11 involves the purchase of power by Manitoba Hydro from one  
12 (1) or more parties, so that would be a third party in  
13 the US, for resale to one (1) or more parties; that would  
14 be, for example, transmission through the US to Ontario.

15 So that type of transaction fits squarely  
16 into the definition at the bottom of page 254, doesn't  
17 it?

18 MR. FRANK CHEN: It fits squarely as a  
19 considered pure merchant transaction.

20 MR. ANTOINE HACAULT: Thank you. I'll  
21 move on.

22 MR. JONATHAN ERLING: Actually, I just --  
23 just a point of clarification. I do note that the first  
24 definition, which is the related merchant transmission,  
25 does specify:



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1 "Involve the resale of power purchased  
2 from third parties in which either  
3 flows over transmission owned or  
4 reserved by Manitoba Hydro."

5 So it's possible that that is an issue  
6 that bears on the confusion. We can likely clarify this  
7 at the -- during the break and come back with an  
8 explanation for what is an apparent disconnect, if that's  
9 appropriate.

10 MR. ANTOINE HACAULT: We can do that.

11

12 --- UNDERTAKING NO. 76: Mr. Erling to provide an  
13 explanation for what is an  
14 apparent disconnect re  
15 related merchant  
16 transmission.

17

18 CONTINUED BY MR. ANTOINE HACAULT:

19 MR. ANTOINE HACUALT: The definition of  
20 twenty-seven (27), how is it read at the very end then,  
21 that related merchant transactions at the bottom of page  
22 254 of the April report? And I just remind this panel  
23 that it is providing an independent opinion. I'm  
24 reading, for the record, what it says.

25 "Related merchant transactions involve



**Exhibit # MH-23**  
**Transcript Page #825**

**Manitoba Hydro Undertaking #4**

**Manitoba Hydro to provide the net results of the merchant trading function on an annual basis for the last five (5) years.**

The following table details merchant sales and costs for the period 2003/04 to 2010/11 (to November 2010):

|                       | <b>Fiscal Year</b> |                    |                    |                    |                    |                    |                    |                    |                     |
|-----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
|                       | <b><u>2004</u></b> | <b><u>2005</u></b> | <b><u>2006</u></b> | <b><u>2007</u></b> | <b><u>2008</u></b> | <b><u>2009</u></b> | <b><u>2010</u></b> | <b><u>2011</u></b> | <b><u>Total</u></b> |
| Sales (000 000 \$CDN) | \$0.5              | \$10.5             | \$62.9             | \$60.8             | \$72.7             | \$86.1             | \$26.4             | \$21.0             | <b>\$340.9</b>      |
| Purchases             | 0.5                | 8.1                | 53.1               | 53.7               | 63.2               | 77.3               | 21.8               | 17.3               | <b>295.0</b>        |
| <b>Gross Profit</b>   | <b>\$0.0</b>       | <b>\$2.4</b>       | <b>\$9.8</b>       | <b>\$7.1</b>       | <b>\$9.5</b>       | <b>\$8.8</b>       | <b>\$4.6</b>       | <b>\$3.7</b>       | <b>\$45.9</b>       |
| <i>Other Expenses</i> |                    |                    |                    |                    |                    |                    |                    |                    |                     |
| Transmission          | \$0.3              | \$2.1              | \$4.5              | \$8.5              | \$6.0              | \$5.1              | \$4.8              | \$3.0              | <b>\$34.3</b>       |
| Internal Labour       | 0.0                | 0.4                | 0.4                | 0.4                | 0.4                | 0.4                | 0.4                | 0.3                | <b>2.7</b>          |
| <b>Total Expenses</b> | <b>\$0.3</b>       | <b>\$2.5</b>       | <b>\$4.9</b>       | <b>\$8.9</b>       | <b>\$6.4</b>       | <b>\$5.5</b>       | <b>\$5.2</b>       | <b>\$3.3</b>       | <b>\$37.0</b>       |
| <b>Net Profit</b>     | <b>(\$0.3)</b>     | <b>(\$0.1)</b>     | <b>\$4.9</b>       | <b>(\$1.8)</b>     | <b>\$3.1</b>       | <b>\$3.3</b>       | <b>(\$0.6)</b>     | <b>\$0.4</b>       | <b>\$8.9</b>        |

**Notes:**

- 1) This report has been prepared by allocating subsequent resettlements and adjustments to the fiscal period to which they pertain and therefore will not exactly agree with amounts previously represented.
- 2) The Internal Labour component represents the full cost related to internal staff with merchant trading responsibilities. These staff also provide back-up duties related to extra-provincial trading functions.



**PUB/MH/RISK-99****Reference:** page 47 Exhibit 3–4**Risk Issue:** HERMES Model Validation

- a) Please provide the respective data points for the graph and provide a comparison with actual versus forecast generation.

**ANSWER:**

See table below. These forecasts were produced in late summer or in the fall; hence early months of the fiscal year forecast contained actuals.

| <b>Fiscal Year</b> | <b>Forecast<br/>Date</b> | <b>Forecast<br/>Generation<br/>GWh</b> | <b>Actual<br/>Generation<br/>GWh</b> | <b>Variance<br/>GWh</b> | <b>Variance<br/>%</b> |
|--------------------|--------------------------|--|--------------------------------------|-------------------------|-----------------------|
| 1999/00            | 1999-09-09               | 29347                                  | 30146                                | 799                     | 3                     |
| 2000/01            | 2000-09-27               | 32265                                  | 32687                                | 422                     | 1                     |
| 2001/02            | 2001-09-24               | 33419                                  | 32557                                | -862                    | -3                    |
| 2002/03            | 2002-09-10               | 29924                                  | 29118                                | -806                    | -3                    |
| 2003/04            | 2003-09-10               | 21820                                  | 19369                                | -2451                   | -11                   |
| 2004/05            | 2004-10-08               | 30918                                  | 31534                                | 616                     | 2                     |
| 2005/06            | 2005-08-10               | 36516                                  | 37629                                | 1113                    | 3                     |
| 2006/07            | 2006-08-22               | 33515                                  | 32121                                | -1394                   | -4                    |
| 2007/08            | 2007-10-01               | 34330                                  | 35354                                | 1024                    | 3                     |
| 2008/09            | 2008-09-24               | 34547                                  | 34528                                | -19                     | 0                     |
| <b>Average</b>     |                          | <b>31660</b>                           | <b>31504</b>                         | <b>-156</b>             | <b>0</b>              |



**MANITOBA HYDRO**  
**2010/11 & 2011/12 GENERAL RATE APPLICATION**

**REBUTTAL EVIDENCE**

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**Maximizing Net Revenues versus Minimizing Costs**

In the KM Report and again in response to a CAC/MSOS interrogatory, KM argue that

*“the last thing the citizen shareholder would like to see is the utility using its market power to maximize its rents, especially given the inherent concern about the implicit trade off between domestic load and exports” (KM Report, Page 65),*

and

*“It would be more reasonable and more consistent with its mandate for MH to minimize the cost of the given volume it has to deliver.” (CAC/MSOS/KM-30),*

and

*“Seventh, we would like to formulate the objective function to minimize cost of generation and delivery rather than maximizing net revenues.” (KM Report, Page 65).*

Manitoba Hydro disagrees with KM on these issues. Manitoba Hydro’s first obligation in all of its activities, consistent with its legislative authority established in *The Manitoba Hydro Act*, is *“to provide for the continuance of a supply of energy to meet the needs of the province....”* Given this mandate, there is no risk that Manitoba Hydro power traders may trade off service to Manitobans to maximize rents in the export market. To ensure against that possibility, Manitoba Hydro has separated its merchant function (profit maximization) from its transmission and system operation function (reliability). This separation is prescribed in the Corporation’s “Standard of Conducts for Providing Open Access Transmission and Interconnection Service.”

Further, all Manitoba Hydro export contracts subordinate exports to deliveries to firm Manitoba customers through appropriate curtailment rights. In real-time the availability of surplus electricity to the export market is determined by Manitoba Hydro’s System Control

**MANITOBA HYDRO**  
**2010/11 & 2011/12 GENERAL RATE APPLICATION**

**REBUTTAL EVIDENCE**

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1 Department, having first satisfied itself that the needs of the Province have been met.  
2 Manitoba Hydro has never curtailed firm load in Manitoba in order to continue to serve any  
3 export obligation.

4  
5 Manitoba Hydro disagrees with KM that efficiency should be pursued rather than profit  
6 maximization in order to protect its domestic customers. This is unnecessary as the protection  
7 of domestic customers is enshrined in legislation, Manitoba Hydro policy, and Manitoba  
8 Hydro's export contracts. Manitoba Hydro's inability to tradeoff domestic firm load versus  
9 export load is represented in all its models where Manitoba load is not a decision variable  
10 that could be subject to curtailment.

11  
12 Manitoba Hydro believes that its practices of optimizing net export revenues in its water  
13 management and market activities, benefits its ratepayers. Having done that, it dispatches its  
14 generation resources in the most efficient manner. To do otherwise (i.e. to formulate the  
15 objective function in its models to maximize efficiency and minimize generation and  
16 purchase costs) would cost Manitoba Hydro customers millions in lost profits from foregone  
17 hourly, daily, weekly and seasonal arbitrage activities and result in higher domestic  
18 electricity rates.

19  
20 **Drought is Not an Emergency at Manitoba Hydro**

21  
22 In the KM Report and in response to interrogatories from the PUB (PUB/KM-11;  
23 PUB/KM-50; and PUB/KM-53), KM suggests that Manitoba Hydro does not have Risk  
24 Preparedness Plans, especially one for drought.

25  
26 *"Risk Preparedness Plans and manuals are needed for all costly risks. A Drought*  
27 *Preparedness Plan is a critical necessity. It must be completed and instituted in the*  
28 *working mechanisms of the organization immediately. The preparedness plans should*  
29 *not stop at the Drought Plan. There are many other emergencies and drastic events*  
30 *that may occur that need to be expected and plans made to deal with them. A broad*  
31 *preparedness plan can make substantial contributions to the effectiveness of risk*  
32 *management services and plans at MH."* (KM Report, Page 194)  
33



## REBUTTAL EVIDENCE

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### **Benefits of Additional Reservoir Storage Already Effectively Captured**

In the KM Report (p. 245) KM states:

*“MH should think of keeping a storage level each year as a hedge against a major drought. This amount can be thought of an “insurance premium payment.” There is a minimum level that should remain in storage consistent with dependable energy targets; the level above that minimum should be part of the mitigation strategy and should be adjusted in proportion to deviation of retained earnings from their targeted minimum. The closer the retained earnings are to their minimum desirable value, the higher the water that should be left in storage for drought mitigation purposes.”*

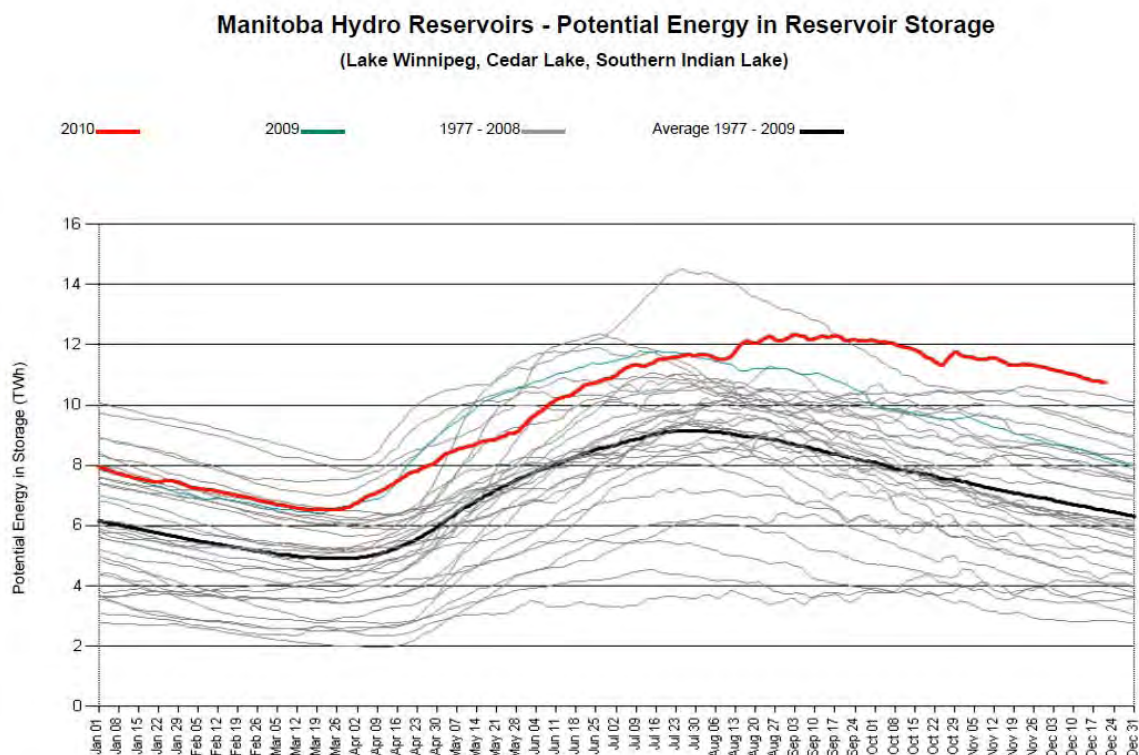
Manitoba Hydro disagrees with KM that it should change its current practice of managing minimum reservoir storages and keep additional storage as a drought buffer as an additional hedge for low flows.

Manitoba Hydro’s storage operating practice is reflected in Figure 4 which indicates the history of Manitoba Hydro controlled reservoir storage for the period since it began regulating Lake Winnipeg and the Churchill River Diversion in 1977. The aggregated storage indicated include Lake Winnipeg, Cedar Lake and Southern Indian Lake, reservoirs over which Manitoba Hydro has complete control.

Figure 4 demonstrates that Manitoba Hydro is already doing what KM is recommending. At the end of each fiscal year, Manitoba Hydro has retained 5 TWh in storage on average, with a range between 2 TWh and 8.1 TWh. Depending upon current circumstances (firm load obligations, upstream storage conditions, thermal availability, in-service dates for new hydro generation), Manitoba Hydro calculates the minimum storage reserves needed to maintain a dependable supply for the upcoming year. For the current year that amount is approximately 3 TWh which is typical for the recent past.

## REBUTTAL EVIDENCE

1 **Figure 4**



2  
3  
4 As indicated on Figure 4, in the majority of the years, reservoir storage is not drawn to the  
5 minimum. This may have been because it was uneconomic to do so or it was physically  
6 impossible to draw reservoir storage to the minimum reserve amount, which are both  
7 impacted by the inefficiency of Lake Winnipeg as a reservoir. It may be uneconomic because  
8 at low levels of Lake Winnipeg, maximum outflows from the lake in the winter are  
9 insufficient to meet load demands without expensive thermal or imports. It may be physically  
10 impossible to draw reservoir storage to minimum storage reserve levels because winter  
11 inflows to the lake exceed maximum outflow capacity, with Lake Winnipeg going up in level  
12 rather than being drawn down.

13  
14 When it is an economic issue, Manitoba Hydro manages the storage on its reservoirs to  
15 maximize net revenues. This optimization normally results in a combination of Lake  
16 Winnipeg and Churchill River Diversion regulation involving maximum outflows in the  
17 winter and carry-over storage. The amount of storage carry-over varies from year to year

## REBUTTAL EVIDENCE

depending upon inflows during the winter season. In situations where the economic management of storage results in carryover storage above the minimum storage reserves, the hedge against drought created by the additional storage is achieved at no cost.

In its financial planning process, Manitoba Hydro's cost of drought calculations recognize the issues and costs associated with the winter inefficiencies of Lake Winnipeg as a reservoir.

### **The Value of Seasonal Diversity Contracts**

Reference PUB/KM-56

a) *"Please confirm that in low flow years, MH's energy shortages could relate to:*

- *Firm contract sales commitments in the summer and winter.*
- *Diversity sales in the summer.*
- *Short-term summer sales.*
- *Day-ahead and real time sales in the summer.*

b) *Please confirm that the above sales may, at times, result in winter energy shortages and that MH may face high import prices.*

c) *Please confirm that the decision to undertake the above sales commitments may well predate MHs anticipation of a drought situation."*

Manitoba Hydro disagrees with KM's response to part a) that *"Diversity sales in the summer are not firm obligations;..."*. Manitoba Hydro's Seasonal Diversity contracts are firm obligations which require both Manitoba Hydro and its counterparties to provide accredited capacity and associated energy according to the terms and conditions established in the contracts. Diversity contracts do not create energy shortages; rather they are at least energy neutral, with each party having the equivalent right to call on energy. In addition Manitoba Hydro's diversity contracts provide for additional energy over firm transmission paths, which, rather than create shortages, enhance the dependable energy supply allowing Manitoba Hydro to avoid the construction of other dependable resources in Manitoba.





the modeling approach is reasonable and appropriately takes into account information that is available at the time of a decision.

### **3.4 Overview of Models**

---

In this section we provide a brief description of each of the three models and how they are used by MH. The descriptions are based on documentation provided by MH and the findings of our interview process.

#### **3.4.1 Description of Models**

---

##### **3.4.1.1 HERMES**

HERMES (Hydro Electric Resource Management Evaluation System) is a planning tool and decision support system used by the Power Sales and Operations group to support hydraulic operations planning. It provides a suggested water release schedule and associated production estimates over the planning horizon of 12 to 16 months. While management uses HERMES as a support tool in making water release decisions, these decisions incorporate broader considerations. HERMES can also be used to identify the probable cost of serving proposed sale transactions.

HERMES takes into consideration a broad set of data in order to model the state of the system. Input data to HERMES includes:

- hydrologic information;
- hydraulic system characteristics;
- generation maintenance schedule;
- load requirements;
- export/import contracts;
- export/import power prices; and
- internal and external transmission characteristics.

Exhibit 3-1 provides a graphic representation of HERMES.



MH-KM - 15

Reference: Chapter 3 - Page 65

“Seventh, we would like to formulate the objective function to minimize cost of generation and delivery rather than maximizing net revenues. The public nature of the utility puts it outside profit maximization strictures. This is not an issue of semantics: the concerns are far deeper. The public utility is a natural monopoly; the last thing the citizen shareholder would like to see is the utility using its market power to maximize its rents, especially given the inherent concern about the implicit trade off between domestic load and exports.”

- a) Please confirm that MH models Manitoba firm load as a constraint such that Manitoba firm load always has priority over any external load obligation, regardless of economics.
- b) If the statement in a) is not confirmed, please describe your understanding of when an external load obligation would be served in priority to Manitoba firm load?
- c) If a) is confirmed, please describe in what circumstances maximization of net revenues would not maximize overall benefits to the domestic ratepayer.

ANSWER:

- a) KM confirms that meeting domestic load is an equality constraint that must be met regardless of economics. But in the same vein, if firm exports were not committed to, any decline in hydro generation that may threaten MH's ability to meet the domestic demand could be met by diverting exports to domestic load. This is done automatically in the case of opportunity exports but its firm exports are different.
- b) Maximization of profit is usually undertaken to the production function that underlies the generation, other balance and upper and lower bound constraints. There is no output constraint. In cost minimization, a given output is stipulated whose costs would be minimized. In rare circumstances are the two the same (except when a saddle point exists). No output constraint in the profit maximization (or sale maximization) may tempt over selling and therefore greater risk exposure.





# Appendix H:

## KPMG's April 2010 Report and Appendices



# Manitoba Hydro – External Quality Review

## Main Report

April 15, 2010

ADVISORY

- Further, even if good data were collected, it is not a straightforward exercise to model how such precipitation will be translated into future water flows. For example, significant amounts of snowfall may sublime (transform back into water vapour) without resulting in additional water flows in downstream rivers and lakes. For snow that does result in run-off, the timing of this run-off is highly uncertain. Modeling difficulties are increased by the large watershed area.

KPMG recognizes that the forecasting methodology should fit the uniqueness of the system. These arguments provided by MH management are reasonable. We have not investigated whether another forecasting approach, such as using weather and detailed hydrologic forecasting would provide more reliable or accurate forecasts. Based on our research, however, there is a considerable body of knowledge around weather and hydrological forecasting for hydro utilities. This body of knowledge will continue to evolve and MH will need to actively monitor developments to assess when implementation of new approaches becomes appropriate.

### **3.7.2.2 Issues with Antecedent Forecasting**

In its reports, the Consultant raises issues regarding the antecedent forecasting process and the use of the antecedent forecasts (*Consultant's Report, December 2006*). Specific points raised were:

1. "The antecedent forecasting method adds a layer of modeling assumptions and operational errors to forecasting."
2. "...the antecedent forecasting can lead to a mistimed anticipatory release of water, or reduction and lowering of lake levels which is an operational mismanagement decision as opposed to a true volumetric risk."

With respect to the first point on an additional "layer" of modeling assumptions, we are unclear as to Consultant's preferred alternative. However, based on nearby references in the document to "baseline volume risk" and "deviations from median or average expected flows", one interpretation is that the Consultant believes that the historical median or average flows should be used as the baseline forecast instead of the results of the antecedent process. Alternatively, the Consultant may simply believe that, in the event that antecedent forecasts continue to be used, risks associated with this methodology should be separately quantified. This reflects the fact that, because MH uses a different forecast from the historical median or average, there is conceivably an additional layer of risk that has been introduced. With respect to these interpretations, we note:

- From a risk quantification perspective, it may make sense to measure pure water flow variability around historical median or average values. However, the main purpose of the HERMES system, and hence the need for flow forecast, is as a tool to assist in operational planning. For this purpose, MH requires forecasts that can best predict the future. In this context, one would use all available information to improve the accuracy of the forecast, including current flows if appropriate.
- From an operations perspective, it is not clear what practical benefit would be obtained from precisely measuring the quantum of risk associated with antecedent forecasting. To the extent that such forecasting improves results on average, it should result in a reduction in risk overall, even though it may have led, in certain instances, to incorrect decisions (which can only be determined with the benefit of hindsight). Based on our analysis below, there is good reason to believe antecedent forecasts do improve decisions and therefore reduce risks overall.

We have conducted a limited review of the regression data that underlie the antecedent forecasting used by MH. The following table presents the R-square, t-statistics and p-values of the regression between the energy-equivalent of flows in a month and the energy-equivalent of flows in the remaining hydrological year. T-statistics and P-values are presented for the coefficient that relates flows in the remainder of the year to the current month. Flow data from all inflows are converted to energy using production coefficients and added up to yield the total available energy in the system.

**Exhibit 3-5: Regression Analysis of Water Inflows**

| Current month | Remaining period<br>in hydrological year | R-sq | t Stat<br>(Slope<br>Coefficient) | p-value<br>(Slope<br>Coefficient) |
|---------------|--|------|----------------------------------|-----------------------------------|
| March         | April to March                           | 0.25 | 5.40                             | 5.7E-07                           |
| April         | May to March                             | 0.35 | 6.84                             | 1.1E-09                           |
| May           | June to March                            | 0.37 | 7.12                             | 2.9E-10                           |
| June          | July to March                            | 0.44 | 8.27                             | 1.4E-12                           |
| July          | August to March                          | 0.53 | 9.92                             | 5.9E-16                           |
| August        | September to March                       | 0.36 | 7.04                             | 4.2E-10                           |
| September     | October to March                         | 0.52 | 9.71                             | 1.5E-15                           |
| October       | November to March                        | 0.50 | 9.37                             | 7.8E-15                           |
| November      | December to March                        | 0.65 | 12.74                            | 1.4E-21                           |
| December      | January to March                         | 0.81 | 19.42                            | 2.2E-33                           |
| January       | February to March                        | 0.71 | 14.42                            | 8.6E-25                           |
| February      | March                                    | 0.53 | 9.91                             | 6.2E-16                           |

*Source: derived from Manitoba Hydro data*

As shown in Exhibit 3-5, the relationship between inflows in a month and inflows in the remaining months of the hydrological year appears to be meaningful at a reasonable level of confidence, with p-values below 0.001. (In statistical hypothesis testing, a p-value is the probability of obtaining a test statistic as least as extreme as the one that is actually observed assuming that the null hypothesis of no regression relationship is true.)

It is beyond the scope of this review to determine whether the antecedent forecasting used by MH is the best methodology. We do, however, observe that there is statistical basis for the use of antecedent forecasting. Given this statistical significant

relationship, it can be expected that antecedent forecasting would provide a better prediction of future flows than simply using long-term historical median flows as the predicted flows. Linear regression has been a standard approach to seasonal streamflow forecasting for almost a century. (*Andrew Wood and John Schaake, "Correcting Errors in Streamflow Forecast Ensemble Mean and Spread", Journal of Hydrometeorology, 2008, Volume 9, p. 132.*)

With respect to the second point on "leading to operational mismanagement", it is certainly true that antecedent forecasting can lead to operational decisions that will prove to be incorrect. However, this is true for all forecasting methodologies, antecedent or otherwise. Compared to using simple historical averages as forecasts, antecedent forecasting is expected to be more accurate on average and hence lead to better operating decisions over time.

### **3.7.2.3 Potential Alternative Methodologies**

An alternative approach to forecasting water flows based on current observed flows is to develop a model that takes actual precipitation data, and potentially also forecasts of future precipitation, and projects future water flows based on full modeling of the flow of water through the environment. Our understanding, based on discussions with an expert in the field, is that this is becoming more practical with the increasing use of satellites to assist in the collection of rainfall data. (*Conversation with C.D.D Howard, February, 2010.*) Satellites can receive data from remote monitoring stations and, ultimately, may be able to measure rainfall directly.

It should be noted that development of such an approach would be a major undertaking and would take a major investment in system development. There are grounds to believe that this approach will be more challenging for MH than for other hydroelectric utilities. This reflects the following:

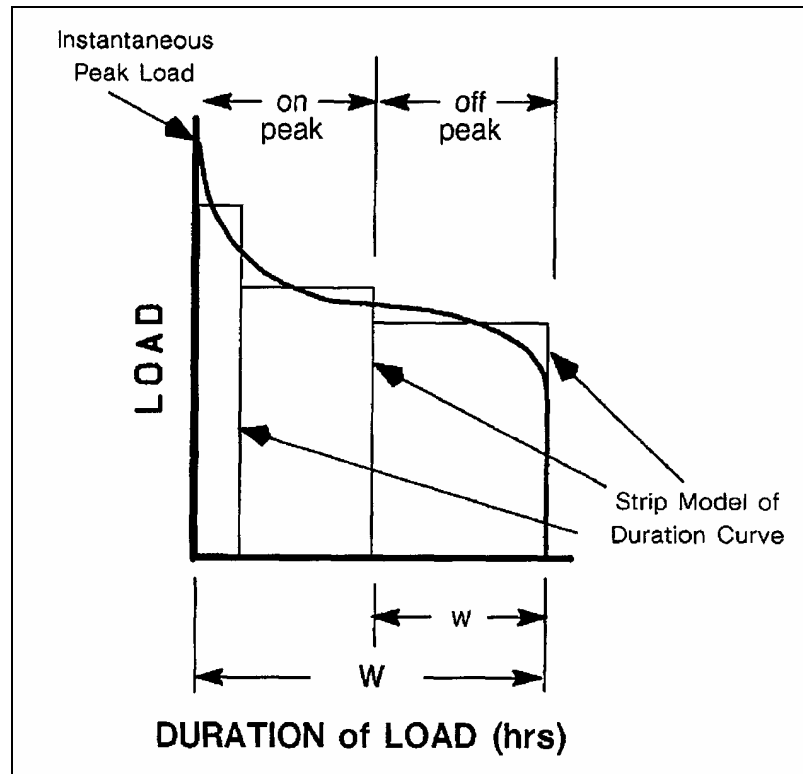
- The watershed of MH covers a particularly large area, meaning that a very large number of monitoring stations is required.
- The nature of the terrain (flat and relatively porous) means that there may be significantly lags in the flow of water through the environment, which increases the challenges of correctly modeling the translation of precipitation into stream flows.
- Our understanding is that models used in this approach need to be continually calibrated and this will require resources for ongoing model update. In addition, the skills and expertise may not be currently available within MH.

# **Manitoba Hydro Risks: An Independent Review**

**Submitted to**  
**The Public Utility Board of Manitoba**

**Submitted By**  
**Dr. Atif Kubursi**  
**and**  
**Dr. Lonnie Magee**

**November 15, 2010**

**Figure 3.4 – Load Duration Curve Model**

Source: P. E. Barritt-Flatt and A.D. Cormie. *A comprehensive Optimization Model for Hydro-Electric Reservoir Operations*. P. 6.

### 3.2.3.3 Forecasting Accuracy of HERMES

“The taste of the pudding is in the eating.” Many forecasters have argued that the utility of a model and its worth are singularly dependent on forecasting accuracy. While this notion has been challenged, it is still valid for forecasting models that seek to calculate future values with accuracy as guides to operations and plans. Forecasting errors arise from two sources—errors in the data used or in the structure (logic) of the model. When input data are checked and validated, it is only then that forecasting errors can be used to validate the structure of the model.

HERMES generates a large set of forecasts from generation to net income. These forecasts are used with other information to plan operations and exports. The accuracy of



the forecasts is not of mere academic interest: the viability and reliability of the system depends upon them.

We have obtained from MH data on the discrepancies between annual forecast values and annual actual values for generation, total revenues, total costs, net revenues and exports between 1999 and 2009.

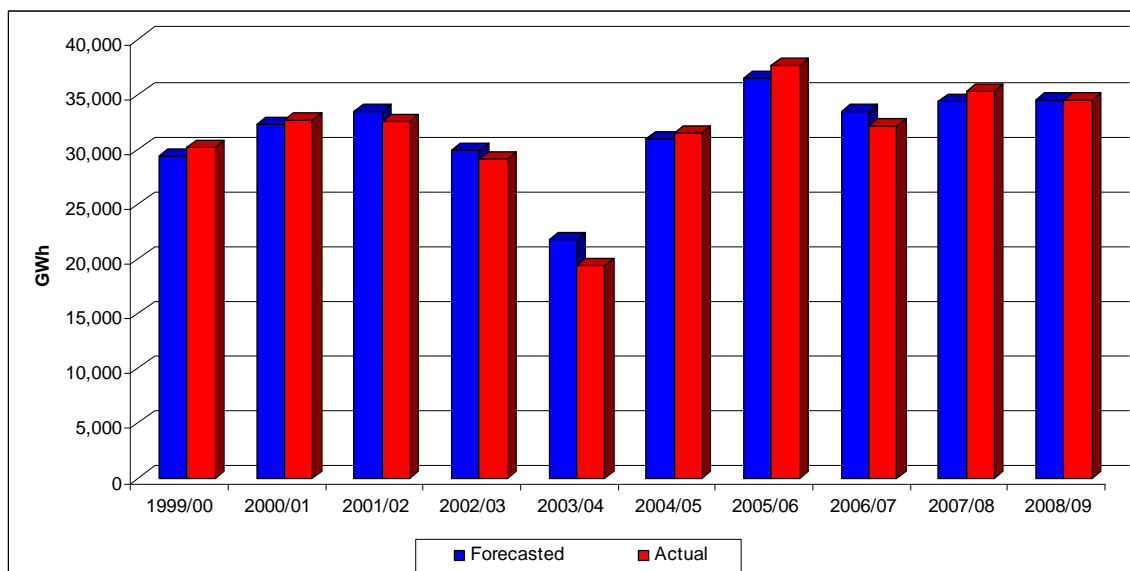
Positive errors (under-predicting) are not equivalent to negative errors (over-predicting). This fact is also contingent on the nature of the variable predicted. For example, under-predicting revenue is not a problem but under-predicting costs are a major problem. This is why different forecasting error measures have been devised to deal with this issue. We will here restrict our presentation to the simple variance of the predicted from the actual values. We will not use the average of the error variance because it is meaningless when positive and negative values are averaged (negative and positive errors cancel each other). A better measure would be one that takes the average of the absolute values of the errors, which in the case of the numbers in Table 3.1 would be an average of 3.3% instead of the 0% reported by MH.

On average the HERMES model predicts annual generation well. It over-predicts almost equally to what it under-predicts. Where it failed, however, was in the crucial period of a critical year of low flow. The error in 2003/04 is large, with over 11% (see Table 3.1 and Figure3.5).

**Table 3.1 – Forecast and Actual Generation, 1999-2009**

| FISCAL YEAR | TOTAL GENERATION |        |          |            |
|-------------|------------------|--------|----------|------------|
| END MAR 31  | FORECASTED       | ACTUAL | Variance | % Variance |
| 1999/00     | 29,347           | 30,146 | 799      | 3%         |
| 2000/01     | 32,265           | 32,687 | 422      | 1%         |
| 2001/02     | 33,419           | 32,557 | -862     | -3%        |
| 2002/03     | 29,924           | 29,118 | -806     | -3%        |
| 2003/04     | 21,820           | 19,369 | -2451    | -11%       |
| 2004/05     | 30,918           | 31,534 | 616      | 2%         |
| 2005/06     | 36,516           | 37,629 | 1113     | 3%         |
| 2006/07     | 33,515           | 32,121 | -1394    | -4%        |
| 2007/08     | 34,330           | 35,354 | 1024     | 3%         |
| 2008/09     | 34,547           | 34,528 | -19      | 0%         |
| Average     | 31,660           | 31,504 | -156     | 0%         |

*Source: Manitoba Hydro. HERMES.*

**Figure 3.5 - Forecast and Actual Generation, 1999-2009**

Source: Manitoba Hydro. HERMES.

HERMES under-predicts total export revenues. For the ten year period of forecasts, it under-predicted three times (3 out of 10) in 2001/02, 2003/04 and 2004/05 (Table 3.2 and Figure 3.6). The overall error is relatively low except in 2003/04 and 2005/06--two widely different years. The average of the absolute errors is 5.1% instead of the 3% reported in Table 3.2.

**Table 3.2 – Forecast and Actual Total Export Revenue, 1999-2009**

| FISCAL YEAR<br>END MAR 31 | TOTAL EXPORT REVENUE |        |          |            |
|---------------------------|----------------------|--------|----------|------------|
|                           | FORECASTED           | ACTUAL | Variance | % Variance |
| 1999/00                   | 365                  | 377    | 12       | 3%         |
| 2000/01                   | 448                  | 481    | 33       | 7%         |
| 2001/02                   | 602                  | 578    | -24      | -4%        |
| 2002/03                   | 485                  | 485    | 0        | 0%         |
| 2003/04                   | 397                  | 357    | -40      | -10%       |
| 2004/05                   | 564                  | 555    | -9       | -2%        |
| 2005/06                   | 748                  | 882    | 134      | 18%        |
| 2006/07                   | 656                  | 657    | 1        | 0%         |
| 2007/08                   | 583                  | 626    | 42       | 7%         |
| 2008/09                   | 621                  | 624    | 3        | 0%         |
| Average                   | 547                  | 562    | 15       | 3%         |

Source: Manitoba Hydro.



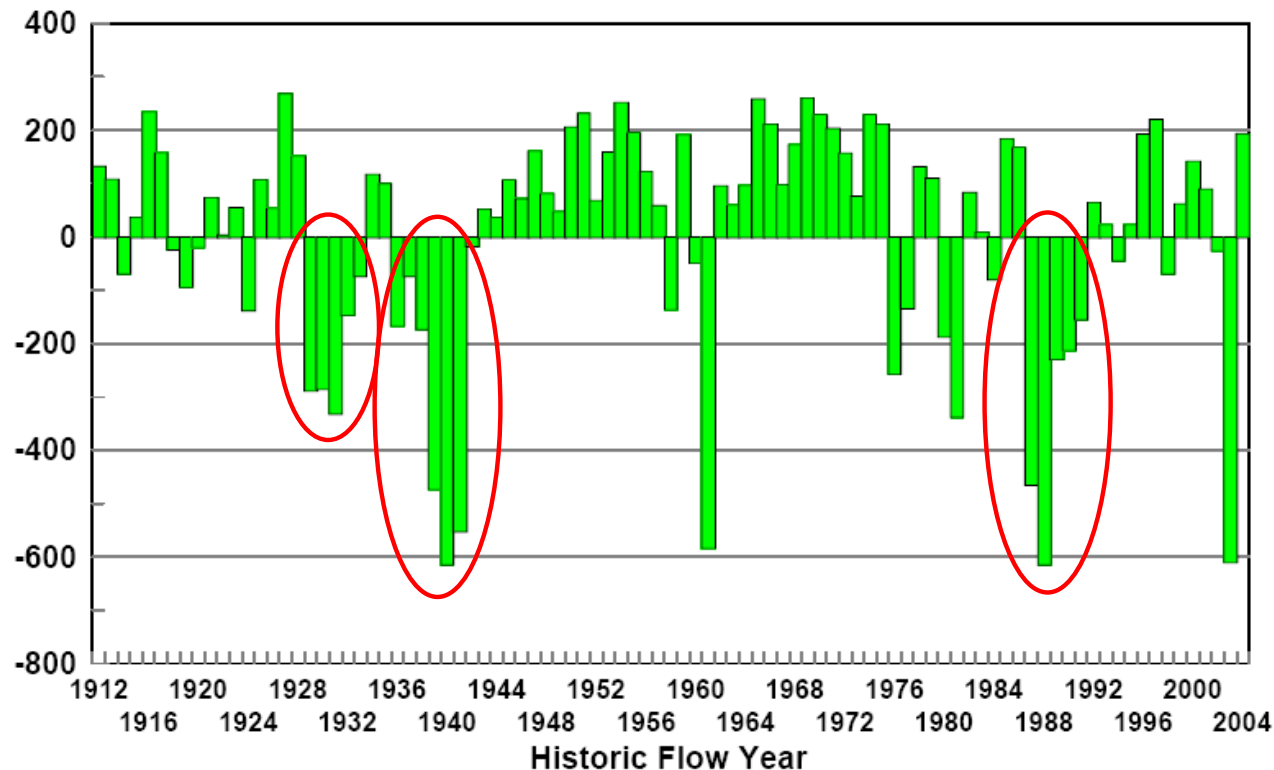
# **Judah Rose Direct Testimony**

**Before the Public Utilities Board of Manitoba Hydro  
February 22, 2011**

## ICF Response to KM Comment that ICF's Calculation of a 3.1 Percent Chance that Any Year will be the First of a Drought of Five Years Duration or Longer is an Underestimation



**Variation of Flow Related Revenue (\$ million)**



Source: Response to PUB Order 117/06, p.1

Notes:

The calculations for the graph above assume current generation capability and a single base case for other parameters.

2. The circled time periods indicate extended drought years

## 2010/11 Recommended Plan

## System Firm Energy Demand and Dependable Resources (GW.h)

## 2010 Base Load Forecast

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| Fiscal Year   | 2010/11      | 2011/12      | 2012/13      | 2013/14      | 2014/15      | 2015/16      | 2016/17      | 2017/18      | 2018/19      | 2019/20      | 2020/21      | 2021/22      | 2022/23      | 2023/24      | 2024/25      | 2025/26      | 2026/27      | 2027/28      |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Power Resources</b>  |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Existing Manitoba Hydro Plant   | 21090        | 21080        | 21060        | 21040        | 21030        | 20920        | 20900        | 20880        | 20870        | 20850        | 20840        | 20830        | 20820        | 20820        | 20810        | 20560        | 20560        | 20550        |
| Wuskwatim   |              | 550          | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         |
| Conawapa  |              |              |              |              |              |              |              |              |              |              |              |              |              | 2151         | 4550         | 4550         | 4550         | 4550         |
| Keeyask   |              |              |              |              |              |              |              |              |              | 677          | 2898         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         |
| Supply Side Enhancement Projects<br>(incremental to existing)<br>Kelsey Rerunning<br>Pointe du Bois |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Bipole III HVDC LINE  |              |              |              |              |              |              |              | 243          | 243          | 243          | 258          | 258          | 258          | 258          | 162          | 162          | 162          | 162          |
| Manitoba Thermal Plants   |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Brandon Unit 5 Coal   | 811          | 811          | 811          | 811          | 811          | 811          | 811          | 811          | 811          |              |              |              |              |              |              |              |              |              |
| Selkirk Gas   | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          |
| Brandon Units 6-7 SCCT  | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         |
| New Thermal Plants<br>SCGTs<br>CCGTs  |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Wind Committed 238 MW   | 493          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          |
| Demand Side Management  | 197          | 348          | 479          | 615          | 736          | 837          | 843          | 914          | 958          | 982          | 1011         | 1046         | 1076         | 1096         | 1112         | 1086         | 1059         | 1028         |
| Imports   |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Contracted Energy Imports:  | 2705         | 2705         | 2705         | 2705         | 2705         | 1609         | 1614         | 1614         | 1614         | 1614         | 1614         | 1614         | 1614         | 1614         | 1614         | 267          |              |              |
| Proposed Contracted Energy Imports  |              |              |              |              |              |              |              |              |              | 383          | 843          | 1431         | 1534         | 2238         | 2301         | 2301         | 2301         | 2301         |
| Non-Contracted Energy Imports   |              |              |              |              |              | 1100         | 1100         | 1100         | 1100         | 1100         | 1100         | 1100         | 1100         | 1100         | 1100         | 1446         | 1575         | 1575         |
| <b>TOTAL POWER RESOURCES</b>  | <b>28603</b> | <b>29584</b> | <b>30395</b> | <b>30511</b> | <b>30621</b> | <b>30617</b> | <b>30607</b> | <b>30901</b> | <b>30936</b> | <b>31188</b> | <b>33904</b> | <b>34522</b> | <b>34644</b> | <b>37519</b> | <b>39891</b> | <b>38615</b> | <b>38450</b> | <b>38409</b> |
| <b>Demand</b>   |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| 2010 Base Load Forecast   | 24117        | 24739        | 25142        | 25807        | 26180        | 26599        | 27055        | 27362        | 27657        | 28016        | 28381        | 28748        | 29120        | 29496        | 29878        | 30269        | 30663        | 31062        |
| Non-Committed Construction Power  |              |              |              | 10           | 25           | 60           | 65           | 90           | 115          | 100          | 80           | 80           | 100          | 90           | 30           | 15           | 20           | 30           |
| Current Exports   | 3602         | 3583         | 3457         | 3354         | 3189         | 2115         | 2012         | 2012         | 2012         | 2012         | 2012         | 2012         | 2012         | 2532         | 2572         | 289          | 145          | 145          |
| Less: Adverse Water Energy  | -91          | -91          | -91          |              |              | -309         | -370         | -370         | -370         | -370         | -370         | -370         | -370         | -489         | -513         | -85          |              |              |
| Proposed Exports  |              |              |              |              |              |              |              |              |              | 574          | 1263         | 2143         | 2296         | 3350         | 3444         | 3444         | 3444         | 3444         |
| <b>TOTAL DEMAND</b>   | <b>27628</b> | <b>28231</b> | <b>28507</b> | <b>29171</b> | <b>29394</b> | <b>28465</b> | <b>28762</b> | <b>29094</b> | <b>29414</b> | <b>30332</b> | <b>31365</b> | <b>32613</b> | <b>33158</b> | <b>34979</b> | <b>35412</b> | <b>33932</b> | <b>34272</b> | <b>34681</b> |
| <b>SYSTEM SURPLUS</b>   | <b>975</b>   | <b>1353</b>  | <b>1888</b>  | <b>1340</b>  | <b>1227</b>  | <b>2153</b>  | <b>1845</b>  | <b>1807</b>  | <b>1522</b>  | <b>857</b>   | <b>2539</b>  | <b>1909</b>  | <b>1486</b>  | <b>2540</b>  | <b>4479</b>  | <b>4683</b>  | <b>4178</b>  | <b>3728</b>  |
| Less: Brandon Unit 5 Coal   | 811          | 811          | 811          | 811          | 811          | 811          | 811          | 811          | 811          |              |              |              |              |              |              |              |              |              |
| Adverse Water Energy  | 91           | 91           | 91           |              |              | 309          | 370          | 370          | 370          | 370          | 370          | 370          | 370          | 489          | 513          | 85           |              |              |
| <b>EXPORTABLE SURPLUS</b>   | <b>72</b>    | <b>451</b>   | <b>985</b>   | <b>529</b>   | <b>416</b>   | <b>1033</b>  | <b>664</b>   | <b>626</b>   | <b>341</b>   | <b>487</b>   | <b>2169</b>  | <b>1539</b>  | <b>1116</b>  | <b>2051</b>  | <b>3967</b>  | <b>4598</b>  | <b>4178</b>  | <b>3728</b>  |

## 2010/11 Recommended Plan

## System Firm Energy Demand and Dependable Resources (GW.h)

2010 Base Load Forecast

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| Fiscal Year   | 2028/29      | 2029/30      | 2030/31      | 2031/32      | 2032/33      | 2033/34      | 2034/35      | 2035/36      | 2036/37      | 2037/38      | 2038/39      | 2039/40      | 2040/41      | 2041/42      | 2042/43      | 2043/44      | 2044/45      | 2045/46      |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Power Resources</b>  |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Existing Manitoba Hydro Plant   | 20540        | 20540        | 20530        | 20530        | 20520        | 20510        | 20510        | 20500        | 20490        | 20490        | 20480        | 20480        | 20470        | 20460        | 20460        | 20450        | 20440        | 20440        |
| Wuskwatim   | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         | 1250         |
| Conawapa  | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         | 4550         |
| Keeyask   | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         | 2903         |
| Supply Side Enhancement Projects<br>(incremental to existing)<br>Kelsey Rerunning<br>Pointe du Bois |              |              | 60           | 150          | 150          | 150          | 150          | 150          | 150          | 150          | 150          | 150          | 150          | 150          | 150          | 150          | 150          | 150          |
| Bipole III HVDC LINE  | 162          | 162          | 162          | 162          | 162          | 162          | 162          | 162          | 162          | 162          | 162          | 162          | 162          | 162          | 162          | 162          | 162          | 162          |
| Manitoba Thermal Plants   |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Brandon Unit 5 Coal   |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Selkirk Gas   | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          | 953          |
| Brandon Units 6-7 SCCT  | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         | 2354         |
| New Thermal Plants  |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| SCGTs   |              |              |              |              |              |              |              |              |              |              |              |              |              | 443          | 886          | 1329         | 1772         | 2215         |
| CCGTs   |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Wind Committed 238 MW   | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          | 783          |
| Demand Side Management  | 996          | 964          | 937          | 914          | 885          | 855          | 834          | 807          | 790          | 772          | 757          | 757          | 757          | 757          | 757          | 757          | 757          | 757          |
| Imports   |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Contracted Energy Imports:  |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Proposed Contracted Energy Imports  | 2301         | 2301         | 1662         | 1534         | 895          | 767          | 767          | 767          | 767          | 767          | 767          | 767          | 767          | 767          | 767          | 767          | 767          | 767          |
| Non-Contracted Energy Imports   | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         | 1575         |
| <b>TOTAL POWER RESOURCES</b>  | <b>38366</b> | <b>38335</b> | <b>37719</b> | <b>37657</b> | <b>36980</b> | <b>36812</b> | <b>36791</b> | <b>36754</b> | <b>36726</b> | <b>36709</b> | <b>36684</b> | <b>36684</b> | <b>36674</b> | <b>37107</b> | <b>37550</b> | <b>37983</b> | <b>38416</b> | <b>38859</b> |
| <b>Demand</b>   |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| 2010 Base Load Forecast   | 31464        | 31869        | 32277        | 32686        | 33094        | 33503        | 33911        | 34320        | 34728        | 35137        | 35545        | 35954        | 36362        | 36771        | 37179        | 37587        | 37996        | 38404        |
| Non-Committed Construction Power  | 30           | 35           | 30           | 10           |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Current Exports   | 145          | 145          | 145          | 145          | 145          | 145          | 145          | 145          | 145          | 145          | 145          | 145          | 145          | 145          | 145          | 145          | 145          | 145          |
| Less: Adverse Water Energy  |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Proposed Exports  | 3444         | 3444         | 2488         | 2296         | 1340         | 1148         | 1148         | 94           |              |              |              |              |              |              |              |              |              |              |
| <b>TOTAL DEMAND</b>   | <b>35083</b> | <b>35493</b> | <b>34940</b> | <b>35137</b> | <b>34579</b> | <b>34796</b> | <b>35204</b> | <b>34559</b> | <b>34873</b> | <b>35282</b> | <b>35690</b> | <b>36099</b> | <b>36507</b> | <b>36916</b> | <b>37324</b> | <b>37732</b> | <b>38141</b> | <b>38549</b> |
| <b>SYSTEM SURPLUS</b>   | <b>3284</b>  | <b>2842</b>  | <b>2779</b>  | <b>2520</b>  | <b>2401</b>  | <b>2016</b>  | <b>1587</b>  | <b>2195</b>  | <b>1853</b>  | <b>1427</b>  | <b>994</b>   | <b>585</b>   | <b>167</b>   | <b>191</b>   | <b>226</b>   | <b>250</b>   | <b>275</b>   | <b>309</b>   |
| Less: Brandon Unit 5 Coal   |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| Adverse Water Energy  |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
| <b>EXPORTABLE SURPLUS</b>   | <b>3284</b>  | <b>2842</b>  | <b>2779</b>  | <b>2520</b>  | <b>2401</b>  | <b>2016</b>  | <b>1587</b>  | <b>2195</b>  | <b>1853</b>  | <b>1427</b>  | <b>994</b>   | <b>585</b>   | <b>167</b>   | <b>191</b>   | <b>226</b>   | <b>250</b>   | <b>275</b>   | <b>309</b>   |

MH-KM - 26

Reference: Chapter 5 - Page 214

“The inclusion of wind and out of money thermal energy in dependable energy is a stretch but they represent such a small portion of total generation that their inclusion or exclusion is not a material concern.”

a) Please explain why in your view it is not appropriate to rely on MH’s thermal and wind energy resources as dependable energy resources.

ANSWER:

a) KM’s view is that when an energy resource cannot be dispatched such as wind, it would be difficult to rely upon it to meet dependable demand. Actually NERC does not include wind energy in its reliability criteria. Furthermore, when thermal energy resources are typically too expensive (and inefficient) and out of money, their inclusion in dependable energy is problematic. Their physical induction is there, but it is often too costly.





**PUB/MH I-199**

**Reference: Tab 13, 13.4 (3) 20 -Year Financial Outlook Pages 8, 9, 10, and 11**

- a) Please re-file the 20-Year IFF that reflects only electric operations and include the financial ratios**

**ANSWER:**

Please refer to the attached schedules.

PUB-MH-I-199 (a)

**ELECTRIC OPERATIONS (MH09-1)**  
**PROJECTED OPERATING STATEMENT**  
**20 YEAR FINANCIAL OUTLOOK**  
(In Millions of Dollars)

*For the year ended March 31*

|  | 2010  | 2011  | 2012  | 2013  | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   |
|--|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| <b>REVENUES</b>                          |       |       |       |       |        |        |        |        |        |        |        |
| General Consumers                        |       |       |       |       |        |        |        |        |        |        |        |
| at approved rates                        | 1,160 | 1,159 | 1,177 | 1,191 | 1,204  | 1,229  | 1,244  | 1,260  | 1,272  | 1,283  | 1,297  |
| additional *                             | -     | 33    | 69    | 113   | 161    | 212    | 266    | 322    | 381    | 442    | 508    |
| Extraprovincial                          | 414   | 383   | 554   | 583   | 615    | 590    | 701    | 729    | 742    | 894    | 1,093  |
| Other                                    | 7     | 7     | 8     | 8     | 8      | 8      | 8      | 9      | 9      | 9      | 9      |
|  | 1,581 | 1,584 | 1,808 | 1,895 | 1,987  | 2,039  | 2,219  | 2,320  | 2,404  | 2,628  | 2,907  |
| <b>EXPENSES</b>                          |       |       |       |       |        |        |        |        |        |        |        |
| Operating and Administrative             | 372   | 380   | 403   | 411   | 420    | 428    | 437    | 445    | 467    | 478    | 497    |
| Finance Expense (Before Corp Allocation) | 423   | 419   | 474   | 532   | 533    | 551    | 536    | 552    | 594    | 680    | 885    |
| Finance Expense                          | 417   | 413   | 468   | 525   | 527    | 544    | 529    | 545    | 587    | 674    | 878    |
| Depreciation and Amortization            | 368   | 386   | 407   | 435   | 446    | 466    | 476    | 481    | 501    | 532    | 566    |
| Water Rentals and Assessments            | 120   | 110   | 111   | 113   | 114    | 114    | 115    | 115    | 115    | 115    | 124    |
| Fuel and Power Purchased                 | 103   | 132   | 248   | 250   | 260    | 269    | 297    | 341    | 363    | 441    | 419    |
| Capital and Other Taxes                  | 73    | 76    | 77    | 80    | 85     | 92     | 100    | 109    | 115    | 121    | 124    |
| Corporate Allocation                     | 8     | 9     | 9     | 9     | 9      | 9      | 9      | 9      | 9      | 9      | 9      |
|  | 1,460 | 1,505 | 1,723 | 1,824 | 1,860  | 1,922  | 1,963  | 2,046  | 2,156  | 2,370  | 2,617  |
| Non-controlling Interest                 | -     | -     | 1     | 1     | (2)    | (5)    | (9)    | (11)   | (12)   | (15)   | (14)   |
| <b>Net Income</b>                        | 121   | 78    | 87    | 72    | 125    | 113    | 248    | 263    | 235    | 244    | 276    |
| *Additional General Consumers Revenue    |       |       |       |       |        |        |        |        |        |        |        |
| Percent Increase                         |       | 2.90% | 2.90% | 3.50% | 3.50%  | 3.50%  | 3.50%  | 3.50%  | 3.50%  | 3.50%  | 3.50%  |
| Cumulative Percent Increase              |       | 2.90% | 5.88% | 9.59% | 13.43% | 17.40% | 21.50% | 25.76% | 30.16% | 34.71% | 39.43% |
| <b>Financial Ratios</b>                  |       |       |       |       |        |        |        |        |        |        |        |
| Debt                                     | 74%   | 75%   | 76%   | 76%   | 78%    | 79%    | 80%    | 80%    | 80%    | 80%    | 80%    |
| Interest Coverage                        | 1.24  | 1.14  | 1.14  | 1.11  | 1.19   | 1.15   | 1.30   | 1.28   | 1.23   | 1.22   | 1.22   |
| Capital Coverage (excl Major Gen.)       | 1.37  | 1.11  | 1.14  | 1.31  | 1.25   | 1.53   | 1.89   | 1.87   | 1.96   | 2.21   | 2.71   |

PUB-MH-I-199 (a)

**ELECTRIC OPERATIONS (MH09-1)**  
**PROJECTED OPERATING STATEMENT**  
**20 YEAR FINANCIAL OUTLOOK**  
(In Millions of Dollars)

*For the year ended March 31*

|  | 2021         | 2022         | 2023         | 2024         | 2025         | 2026         | 2027         | 2028         | 2029         |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>REVENUES</b>                          |              |              |              |              |              |              |              |              |              |
| General Consumers                        |              |              |              |              |              |              |              |              |              |
| at approved rates                        | 1,312        | 1,327        | 1,342        | 1,357        | 1,374        | 1,393        | 1,413        | 1,433        | 1,450        |
| additional *                             | 550          | 594          | 639          | 687          | 736          | 789          | 844          | 901          | 959          |
| Extraprovincial                          | 1,201        | 1,223        | 1,379        | 1,758        | 1,940        | 1,908        | 1,903        | 1,928        | 1,950        |
| Other                                    | 9            | 9            | 10           | 10           | 10           | 10           | 10           | 11           | 11           |
|  | <u>3,073</u> | <u>3,153</u> | <u>3,370</u> | <u>3,812</u> | <u>4,060</u> | <u>4,100</u> | <u>4,170</u> | <u>4,273</u> | <u>4,370</u> |
| <b>EXPENSES</b>                          |              |              |              |              |              |              |              |              |              |
| Operating and Administrative             | 509          | 519          | 536          | 547          | 558          | 569          | 580          | 592          | 603          |
| Finance Expense (Before Corp Allocation) | 965          | 858          | 897          | 1,078        | 1,173        | 1,133        | 1,101        | 1,044        | 986          |
| Finance Expense                          | 958          | 851          | 890          | 1,071        | 1,166        | 1,126        | 1,094        | 1,037        | 980          |
| Depreciation and Amortization            | 592          | 598          | 626          | 687          | 731          | 747          | 764          | 767          | 777          |
| Water Rentals and Assessments            | 129          | 130          | 136          | 150          | 154          | 155          | 155          | 156          | 157          |
| Fuel and Power Purchased                 | 435          | 460          | 474          | 460          | 492          | 420          | 396          | 425          | 446          |
| Capital and Other Taxes                  | 117          | 121          | 126          | 128          | 128          | 129          | 129          | 130          | 131          |
| Corporate Allocation                     | 9            | 9            | 9            | 9            | 9            | 9            | 9            | 9            | 9            |
|  | <u>2,750</u> | <u>2,688</u> | <u>2,798</u> | <u>3,051</u> | <u>3,239</u> | <u>3,156</u> | <u>3,127</u> | <u>3,116</u> | <u>3,103</u> |
| Non-controlling Interest                 | (25)         | (27)         | (28)         | (29)         | (30)         | (34)         | (38)         | (41)         | (43)         |
| <b>Net Income</b>                        | <u>299</u>   | <u>439</u>   | <u>544</u>   | <u>732</u>   | <u>791</u>   | <u>911</u>   | <u>1,005</u> | <u>1,116</u> | <u>1,224</u> |
| *Additional General Consumers Revenue    |              |              |              |              |              |              |              |              |              |
| Percent Increase                         | 2.00%        | 2.00%        | 2.00%        | 2.00%        | 2.00%        | 2.00%        | 2.00%        | 2.00%        | 2.00%        |
| Cumulative Percent Increase              | 42.22%       | 45.06%       | 47.96%       | 50.92%       | 53.94%       | 57.02%       | 60.16%       | 63.36%       | 66.63%       |
| <b>Financial Ratios</b>                  |              |              |              |              |              |              |              |              |              |
| Debt                                     | 79%          | 78%          | 76%          | 74%          | 70%          | 66%          | 62%          | 57%          | 51%          |
| Interest Coverage                        | 1.24         | 1.36         | 1.45         | 1.59         | 1.66         | 1.79         | 1.90         | 2.05         | 2.22         |
| Capital Coverage (excl Major Gen.)       | 2.32         | 2.26         | 2.30         | 2.59         | 2.50         | 2.81         | 2.95         | 3.19         | 3.19         |

PUB-MH-I-199 (a)

**ELECTRIC OPERATIONS (MH09-1)**  
**PROJECTED BALANCE SHEET**  
**20 YEAR FINANCIAL OUTLOOK**  
(In Millions of Dollars)

*For the year ended March 31*

|  | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>ASSETS</b>                          |         |         |         |         |         |         |         |         |         |         |         |
| Plant in Service                       | 12,527  | 13,034  | 15,075  | 15,566  | 15,982  | 16,691  | 17,127  | 17,837  | 20,301  | 21,599  | 25,001  |
| Accumulated Depreciation               | (4,663) | (5,018) | (5,398) | (5,805) | (6,216) | (6,649) | (7,091) | (7,540) | (8,010) | (8,514) | (9,052) |
| Net Plant in Service                   | 7,865   | 8,015   | 9,677   | 9,761   | 9,765   | 10,042  | 10,035  | 10,297  | 12,292  | 13,085  | 15,950  |
| Construction in Progress               | 1,947   | 2,458   | 1,341   | 1,818   | 2,838   | 3,854   | 5,532   | 6,948   | 6,159   | 6,446   | 4,168   |
| Current and Other Assets               | 2,767   | 2,735   | 2,871   | 2,926   | 2,708   | 2,860   | 3,047   | 3,259   | 3,564   | 3,348   | 3,683   |
| Goodwill                               | 42      | 42      | 42      | 42      | 42      | 42      | 42      | 42      | 42      | 42      | 42      |
|  | 12,621  | 13,251  | 13,931  | 14,546  | 15,353  | 16,798  | 18,656  | 20,545  | 22,057  | 22,922  | 23,843  |
| <b>LIABILITIES AND EQUITY</b>          |         |         |         |         |         |         |         |         |         |         |         |
| Long-Term Debt                         | 7,800   | 8,596   | 9,054   | 8,769   | 10,349  | 11,505  | 13,123  | 14,412  | 15,346  | 16,429  | 14,147  |
| Current and Other Liabilities          | 2,156   | 1,926   | 2,119   | 2,916   | 2,106   | 2,306   | 2,333   | 2,692   | 3,045   | 2,586   | 5,514   |
| Contributions in Aid of Construction   | 290     | 288     | 284     | 280     | 276     | 275     | 274     | 273     | 272     | 271     | 271     |
| Retained Earnings                      | 2,183   | 2,261   | 2,331   | 2,403   | 2,528   | 2,641   | 2,889   | 3,153   | 3,388   | 3,632   | 3,908   |
| Accumulated Other Comprehensive Income | 192     | 178     | 143     | 178     | 94      | 71      | 38      | 17      | 6       | 3       | 3       |
|  | 12,621  | 13,251  | 13,931  | 14,546  | 15,353  | 16,798  | 18,656  | 20,545  | 22,057  | 22,922  | 23,843  |

PUB-MH-I-199 (a)

**ELECTRIC OPERATIONS (MH09-1)  
PROJECTED BALANCE SHEET  
20 YEAR FINANCIAL OUTLOOK  
(In Millions of Dollars)**

*For the year ended March 31*

|  | 2021    | 2022     | 2023     | 2024     | 2025     | 2026     | 2027     | 2028     | 2029     |
|--|---------|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>ASSETS</b>                          |         |          |          |          |          |          |          |          |          |
| Plant in Service                       | 26,067  | 26,505   | 30,392   | 33,459   | 34,732   | 35,524   | 36,105   | 36,821   | 37,414   |
| Accumulated Depreciation               | (9,616) | (10,190) | (10,793) | (11,461) | (12,177) | (12,911) | (13,663) | (14,420) | (15,188) |
| Net Plant in Service                   | 16,451  | 16,316   | 19,599   | 21,998   | 22,556   | 22,613   | 22,441   | 22,401   | 22,226   |
| Construction in Progress               | 4,523   | 5,453    | 3,111    | 877      | 270      | 119      | 207      | 205      | 338      |
| Current and Other Assets               | 3,886   | 3,422    | 3,704    | 4,315    | 5,201    | 5,650    | 6,794    | 8,013    | 9,284    |
| Goodwill                               | 42      | 42       | 42       | 42       | 42       | 42       | 42       | 42       | 42       |
|  | 24,902  | 25,233   | 26,456   | 27,232   | 28,068   | 28,424   | 29,484   | 30,661   | 31,890   |
| <b>LIABILITIES AND EQUITY</b>          |         |          |          |          |          |          |          |          |          |
| Long-Term Debt                         | 17,406  | 17,838   | 18,640   | 18,642   | 18,044   | 18,047   | 18,049   | 17,991   | 17,743   |
| Current and Other Liabilities          | 3,015   | 2,476    | 2,354    | 2,394    | 3,036    | 2,477    | 2,527    | 2,642    | 2,891    |
| Contributions in Aid of Construction   | 272     | 272      | 273      | 274      | 276      | 277      | 280      | 283      | 287      |
| Retained Earnings                      | 4,207   | 4,645    | 5,190    | 5,922    | 6,713    | 7,623    | 8,629    | 9,745    | 10,969   |
| Accumulated Other Comprehensive Income | 2       | 1        | (0)      | 0        | 0        | 0        | 0        | 0        | 0        |
|  | 24,902  | 25,233   | 26,456   | 27,232   | 28,068   | 28,424   | 29,484   | 30,661   | 31,890   |

PUB-MH-I-199 (a)

**ELECTRIC OPERATIONS (MH09-1)**  
**PROJECTED CASH FLOW STATEMENT**  
**20 YEAR FINANCIAL OUTLOOK**  
(In Millions of Dollars)

*For the year ended March 31*

|  | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>OPERATING ACTIVITIES</b>                        |         |         |         |         |         |         |         |         |         |         |         |
| Cash Receipts from Customers                       | 1,581   | 1,584   | 1,808   | 1,895   | 1,987   | 2,039   | 2,219   | 2,320   | 2,404   | 2,628   | 2,907   |
| Cash Paid to Suppliers and Employees               | (646)   | (690)   | (827)   | (845)   | (872)   | (898)   | (946)   | (1,010) | (1,059) | (1,156) | (1,168) |
| Interest Paid                                      | (453)   | (423)   | (479)   | (541)   | (550)   | (549)   | (554)   | (566)   | (634)   | (725)   | (915)   |
| Interest Received                                  | 29      | 22      | 14      | 16      | 14      | 4       | 15      | 26      | 36      | 39      | 33      |
|  | 511     | 493     | 516     | 524     | 579     | 596     | 734     | 769     | 746     | 786     | 859     |
| <b>FINANCING ACTIVITIES</b>                        |         |         |         |         |         |         |         |         |         |         |         |
| Proceeds from Long-Term Debt                       | 745     | 800     | 600     | 540     | 1,600   | 1,400   | 1,800   | 1,800   | 1,800   | 1,400   | 1,000   |
| Sinking Fund Withdrawals                           | 262     | 227     | 27      | 103     | 483     | -       | 3       | -       | -       | 456     | 171     |
| Retirement of Long-Term Debt                       | (355)   | (304)   | (27)    | (121)   | (849)   | (100)   | (262)   | (201)   | (530)   | (869)   | (321)   |
| Other  | (35)    | (10)    | 19      | (10)    | (14)    | (12)    | (13)    | (14)    | (15)    | (26)    | (15)    |
|  | 618     | 713     | 619     | 512     | 1,220   | 1,288   | 1,528   | 1,585   | 1,255   | 961     | 835     |
| <b>INVESTING ACTIVITIES</b>                        |         |         |         |         |         |         |         |         |         |         |         |
| Property, Plant and Equipment, net of contribution | (1,113) | (1,079) | (1,004) | (989)   | (1,457) | (1,737) | (2,125) | (2,135) | (1,685) | (1,619) | (1,259) |
| Sinking Fund Payment                               | (94)    | (99)    | (98)    | (116)   | (176)   | (107)   | (201)   | (159)   | (242)   | (200)   | (256)   |
| Other  | (36)    | (20)    | (16)    | (17)    | (15)    | (31)    | (29)    | (40)    | (28)    | (27)    | (27)    |
|  | (1,243) | (1,198) | (1,118) | (1,123) | (1,648) | (1,876) | (2,355) | (2,334) | (1,954) | (1,846) | (1,543) |
| <b>Net Increase (Decrease) in Cash</b>             | (114)   | 8       | 17      | (86)    | 151     | 9       | (92)    | 21      | 47      | (98)    | 151     |
| <b>Cash at Beginning of Year</b>                   | 66      | (48)    | (40)    | (23)    | (109)   | 41      | 51      | (41)    | (21)    | 26      | (72)    |
| <b>Cash at End of Year</b>                         | (48)    | (40)    | (23)    | (109)   | 41      | 51      | (41)    | (21)    | 26      | (72)    | 79      |

PUB-MH-I-199 (a)

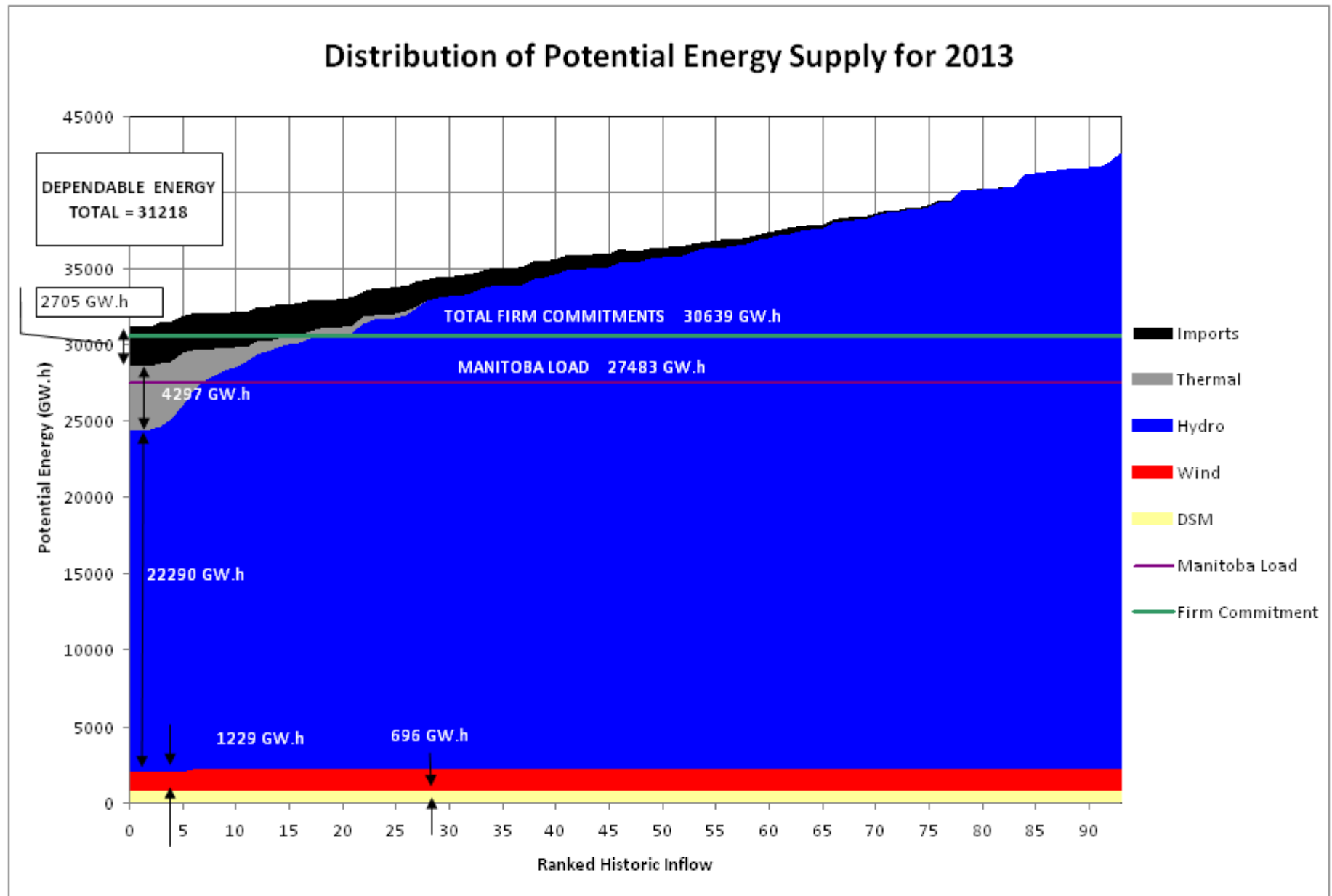
**ELECTRIC OPERATIONS (MH09-1)**  
**PROJECTED CASH FLOW STATEMENT**  
**20 YEAR FINANCIAL OUTLOOK**  
(In Millions of Dollars)

*For the year ended March 31*

|  | 2021    | 2022    | 2023    | 2024    | 2025    | 2026    | 2027    | 2028    | 2029    |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>OPERATING ACTIVITIES</b>                        |         |         |         |         |         |         |         |         |         |
| Cash Receipts from Customers                       | 3,073   | 3,153   | 3,370   | 3,812   | 4,060   | 4,100   | 4,170   | 4,273   | 4,370   |
| Cash Paid to Suppliers and Employees               | (1,194) | (1,234) | (1,277) | (1,289) | (1,337) | (1,279) | (1,266) | (1,308) | (1,343) |
| Interest Paid                                      | (1,000) | (894)   | (908)   | (1,099) | (1,206) | (1,178) | (1,137) | (1,092) | (1,046) |
| Interest Received                                  | 30      | 27      | 4       | 3       | 11      | 15      | 10      | 18      | 27      |
|  | 909     | 1,052   | 1,189   | 1,426   | 1,528   | 1,659   | 1,777   | 1,891   | 2,009   |
| <b>FINANCING ACTIVITIES</b>                        |         |         |         |         |         |         |         |         |         |
| Proceeds from Long-Term Debt                       | 1,000   | 600     | 800     | -       | -       | -       | -       | -       | -       |
| Sinking Fund Withdrawals                           | 285     | 741     | 171     | -       | -       | 341     | -       | -       | 60      |
| Retirement of Long-Term Debt                       | (285)   | (744)   | (171)   | -       | -       | (600)   | -       | -       | (60)    |
| Other  | 11      | (26)    | (23)    | (24)    | (24)    | (25)    | (27)    | (29)    | (30)    |
|  | 1,011   | 571     | 777     | (24)    | (24)    | (284)   | (27)    | (29)    | (30)    |
| <b>INVESTING ACTIVITIES</b>                        |         |         |         |         |         |         |         |         |         |
| Property, Plant and Equipment, net of contribution | (1,443) | (1,359) | (1,536) | (820)   | (651)   | (622)   | (651)   | (695)   | (706)   |
| Sinking Fund Payment                               | (292)   | (349)   | (208)   | (183)   | (188)   | (193)   | (179)   | (183)   | (188)   |
| Other  | (33)    | (38)    | (28)    | (32)    | (29)    | (30)    | (33)    | (31)    | (31)    |
|  | (1,768) | (1,746) | (1,772) | (1,035) | (868)   | (845)   | (862)   | (909)   | (925)   |
| <b>Net Increase (Decrease) in Cash</b>             | 152     | (124)   | 194     | 367     | 636     | 529     | 887     | 953     | 1,053   |
| <b>Cash at Beginning of Year</b>                   | 79      | 231     | 107     | 301     | 669     | 1,305   | 1,834   | 2,721   | 3,674   |
| <b>Cash at End of Year</b>                         | 231     | 107     | 301     | 669     | 1,305   | 1,834   | 2,721   | 3,674   | 4,727   |









**PUB/MH I-81****Subject: Tab 8: Energy Supply****Reference: 2008 GRA PUB/MH I-30(b), 2008 GRA PUB/MH I- 3(f)**

- a) **Please re-file an updated version of 2008 GRA PUB/MH I-30b) showing annual system inflows/MH hydraulic energy/net revenue/etc.**

**ANSWER:**

It is noted that the reference from the 2008 GRA should be PUB/MH II-30(b) from Round II and not Round I of the proceeding. The 2008 GRA response was derived from an estimate for load year 2010/11 and the current update is derived for load year 2011/12. The flow record currently utilized by Manitoba Hydro in its generation estimates is based on a 94 year flow record that extends up to the year 2005/06 inclusive. It has been the practice in Manitoba Hydro to update the flow record about every five years, and therefore the same flow record is currently being utilized as that in the 2008 GRA. The updated table for 2009 conditions is provided on the following page. This update is based on the 2009 Load Forecast and the 2009 forecast of export and import prices as well as all other updates for the 2009 IFF.

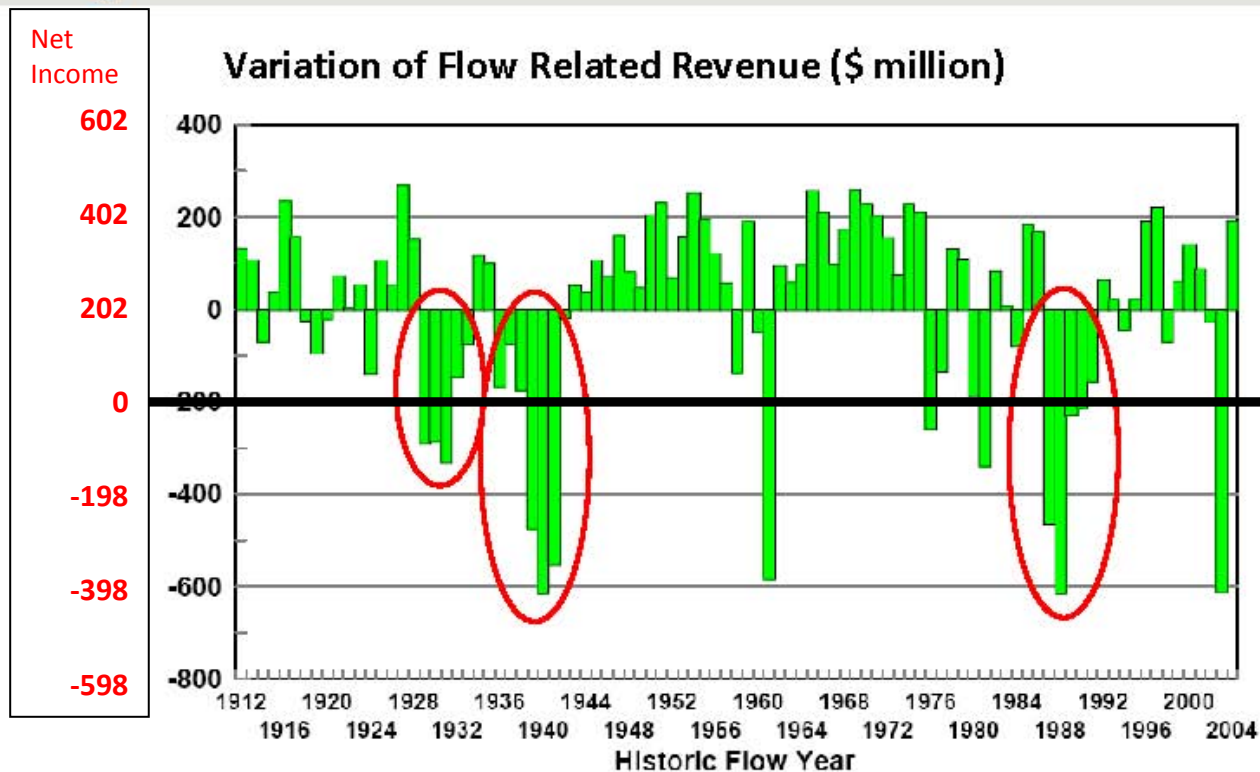
| Flow Year | Annual System Inflow | MH Hydraulic Energy | Net Revenue | Variation of Net Revenue from Average | Flow Year      | Annual System Inflow | MH Hydraulic Energy | Net Revenue | Variation of Net Revenue from Average |
|-----------|----------------------|---------------------|-------------|---------------------------------------|----------------|----------------------|---------------------|-------------|---------------------------------------|
|           | Kcfs                 | (GWh/yr)            | (M \$Cdn)   | (M \$Cdn)                             |                | Kcfs                 | (GWh/yr)            | (M \$Cdn)   | (M \$Cdn)                             |
| 1912      | 111                  | 35202               | 424         | 222                                   | 1961           | 75                   | 20539               | -459        | -661                                  |
| 1913      | 118                  | 31970               | 330         | 128                                   | 1962           | 119                  | 31024               | 288         | 86                                    |
| 1914      | 98                   | 27839               | 160         | -42                                   | 1963           | 111                  | 30866               | 284         | 82                                    |
| 1915      | 104                  | 29382               | 236         | 34                                    | 1964           | 115                  | 31380               | 306         | 104                                   |
| 1916      | 135                  | 34704               | 430         | 228                                   | 1965           | 159                  | 36853               | 470         | 268                                   |
| 1917      | 118                  | 33198               | 377         | 175                                   | 1966           | 153                  | 36455               | 443         | 241                                   |
| 1918      | 105                  | 29278               | 226         | 24                                    | 1967           | 114                  | 33827               | 364         | 162                                   |
| 1919      | 98                   | 26433               | 74          | -128                                  | 1968           | 138                  | 33335               | 380         | 178                                   |
| 1920      | 102                  | 28144               | 168         | -34                                   | 1969           | 150                  | 36494               | 455         | 253                                   |
| 1921      | 113                  | 30457               | 269         | 67                                    | 1970           | 148                  | 36617               | 457         | 255                                   |
| 1922      | 105                  | 28860               | 209         | 7                                     | 1971           | 140                  | 35044               | 419         | 217                                   |
| 1923      | 111                  | 30032               | 248         | 46                                    | 1972           | 125                  | 33842               | 371         | 170                                   |
| 1924      | 98                   | 25802               | 28          | -174                                  | 1973           | 116                  | 30842               | 292         | 90                                    |
| 1925      | 119                  | 31260               | 307         | 105                                   | 1974           | 165                  | 36643               | 451         | 249                                   |
| 1926      | 110                  | 30500               | 277         | 75                                    | 1975           | 138                  | 36328               | 455         | 253                                   |
| 1927      | 154                  | 36649               | 462         | 260                                   | 1976           | 94                   | 26867               | 6           | -196                                  |
| 1928      | 113                  | 33282               | 375         | 173                                   | 1977           | 100                  | 25698               | 22          | -180                                  |
| 1929      | 86                   | 24379               | -83         | -285                                  | 1978           | 121                  | 31927               | 329         | 127                                   |
| 1930      | 89                   | 23391               | -172        | -374                                  | 1979           | 136                  | 33632               | 362         | 160                                   |
| 1931      | 86                   | 22960               | -215        | -417                                  | 1980           | 95                   | 25825               | 34          | -168                                  |
| 1932      | 95                   | 25443               | 3           | -199                                  | 1981           | 85                   | 22798               | -229        | -431                                  |
| 1933      | 100                  | 26855               | 105         | -97                                   | 1982           | 116                  | 30392               | 267         | 65                                    |
| 1934      | 118                  | 31577               | 313         | 111                                   | 1983           | 111                  | 29677               | 240         | 38                                    |
| 1935      | 117                  | 31484               | 310         | 108                                   | 1984           | 100                  | 26734               | 91          | -111                                  |
| 1936      | 96                   | 26018               | 43          | -159                                  | 1985           | 139                  | 33347               | 380         | 178                                   |
| 1937      | 98                   | 26951               | 104         | -98                                   | 1986           | 131                  | 34508               | 392         | 190                                   |
| 1938      | 88                   | 24939               | -36         | -238                                  | 1987           | 83                   | 22950               | -217        | -419                                  |
| 1939      | 79                   | 21512               | -356        | -558                                  | 1988           | 72                   | 19445               | -542        | -744                                  |
| 1940      | 54                   | 19389               | -545        | -747                                  | 1989           | 90                   | 24863               | -43         | -245                                  |
| 1941      | 92                   | 21497               | -355        | -557                                  | 1990           | 87                   | 24732               | -52         | -254                                  |
| 1942      | 101                  | 28406               | 182         | -20                                   | 1991           | 91                   | 25243               | -14         | -216                                  |
| 1943      | 107                  | 29753               | 243         | 41                                    | 1992           | 116                  | 30307               | 260         | 58                                    |
| 1944      | 106                  | 29542               | 234         | 32                                    | 1993           | 105                  | 29548               | 228         | 26                                    |
| 1945      | 118                  | 31437               | 314         | 112                                   | 1994           | 101                  | 28200               | 149         | -53                                   |
| 1946      | 113                  | 31209               | 302         | 100                                   | 1995           | 105                  | 29479               | 227         | 25                                    |
| 1947      | 125                  | 33054               | 373         | 171                                   | 1996           | 141                  | 34459               | 400         | 198                                   |
| 1948      | 113                  | 32367               | 312         | 111                                   | 1997           | 153                  | 36215               | 452         | 250                                   |
| 1949      | 115                  | 30074               | 258         | 56                                    | 1998           | 106                  | 30012               | 172         | -30                                   |
| 1950      | 147                  | 34610               | 404         | 202                                   | 1999           | 111                  | 30039               | 253         | 51                                    |
| 1951      | 132                  | 35442               | 439         | 237                                   | 2000           | 128                  | 32517               | 350         | 148                                   |
| 1952      | 106                  | 31097               | 297         | 95                                    | 2001           | 128                  | 32908               | 318         | 116                                   |
| 1953      | 124                  | 32858               | 371         | 169                                   | 2002           | 107                  | 28990               | 196         | -6                                    |
| 1954      | 144                  | 36475               | 463         | 262                                   | 2003           | 72                   | 20182               | -496        | -698                                  |
| 1955      | 132                  | 35240               | 416         | 214                                   | 2004           | 140                  | 33577               | 392         | 190                                   |
| 1956      | 119                  | 32632               | 336         | 134                                   | 2005           | 171                  | 37646               | 484         | 282                                   |
| 1957      | 112                  | 30890               | 287         | 85                                    |                |                      |                     |             |                                       |
| 1958      | 95                   | 26326               | 66          | -136                                  |                |                      |                     |             |                                       |
| 1959      | 137                  | 33574               | 389         | 187                                   |                |                      |                     |             |                                       |
| 1960      | 102                  | 29106               | 201         | 0                                     |                |                      |                     |             |                                       |
|           |                      |                     |             |                                       | <b>Average</b> | <b>113</b>           | <b>30067</b>        | <b>202</b>  | <b>0</b>                              |

## IV.7 ICF Response to KM Comments

## ICF Response to KM Comment that ICF's Calculation of a 3.1 Percent Chance that Any Year will be the First of a Drought of Five Years Duration or Longer is an Underestimation



IFF average  
Net Income  
of \$202M per  
PUB/MH-I-  
81(a)



Source: Response to PUB Order 117/06, p.1

Notes:

The calculations for the graph above assume current generation capability and a single base case for other parameters.

2. The circled time periods indicate extended drought years

GRA 2009/10

APPENDIX 15

20 Year Financial Outlook  
Alternative Scenarios

## Five Year Drought

**CONSOLIDATED PROJECTED OPERATING STATEMENT (IFF09-1)**  
**5 YEAR DROUGHT**  
(In Millions of Dollars)

*For the year ended March 31*

|   | 2010  | 2011  | 2012  | 2013   | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  |
|---|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
| <b>REVENUES</b>                             |       |       |       |        |       |       |       |       |       |       |       |
| General Consumers                           | 1,652 | 1,670 | 1,739 | 1,808  | 1,869 | 1,953 | 2,028 | 2,101 | 2,178 | 2,256 | 2,336 |
| Extraprovincial                             | 414   | 383   | 334   | 288    | 429   | 365   | 502   | 729   | 742   | 894   | 1,093 |
|   | 2,066 | 2,054 | 2,073 | 2,096  | 2,298 | 2,317 | 2,530 | 2,830 | 2,920 | 3,151 | 3,429 |
| Cost of Gas Sold                            | 351   | 332   | 340   | 346    | 342   | 349   | 350   | 351   | 352   | 353   | 352   |
|   | 1,715 | 1,722 | 1,733 | 1,750  | 1,956 | 1,968 | 2,180 | 2,479 | 2,568 | 2,798 | 3,077 |
| Other                                       | 28    | 29    | 31    | 32     | 32    | 33    | 34    | 34    | 35    | 36    | 36    |
|   | 1,742 | 1,751 | 1,765 | 1,782  | 1,988 | 2,001 | 2,214 | 2,513 | 2,603 | 2,834 | 3,113 |
| <b>EXPENSES</b>                             |       |       |       |        |       |       |       |       |       |       |       |
| Operating and Administrative                | 446   | 456   | 482   | 492    | 501   | 512   | 522   | 532   | 555   | 568   | 589   |
| Finance Expense                             | 454   | 451   | 519   | 614    | 658   | 703   | 718   | 757   | 811   | 910   | 1,130 |
| Depreciation and Amortization               | 394   | 415   | 438   | 469    | 481   | 502   | 513   | 519   | 540   | 573   | 607   |
| Water Rentals and Assessments               | 120   | 110   | 87    | 77     | 97    | 95    | 99    | 115   | 115   | 115   | 124   |
| Fuel and Power Purchased                    | 103   | 131   | 471   | 733    | 340   | 382   | 385   | 341   | 362   | 440   | 418   |
| Capital and Other Taxes                     | 97    | 99    | 100   | 103    | 109   | 116   | 125   | 133   | 140   | 146   | 150   |
|   | 1,613 | 1,663 | 2,097 | 2,488  | 2,186 | 2,310 | 2,362 | 2,398 | 2,523 | 2,753 | 3,019 |
| Non-controlling Interest                    | -     | -     | 1     | 1      | (2)   | (5)   | (9)   | (11)  | (12)  | (15)  | (14)  |
| <b>Net Income</b>                           | 129   | 88    | (331) | (705)  | (200) | (313) | (157) | 104   | 67    | 66    | 81    |
| <b>Additional General Consumers Revenue</b> |       |       |       |        |       |       |       |       |       |       |       |
| General electricity rate increases          |       | 2.90% | 2.90% | 3.50%  | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% |
| General gas rate increases                  |       | 0.00% | 1.50% | 0.00%  | 1.00% | 0.00% | 1.00% | 0.00% | 1.00% | 1.00% | 0.00% |
| <b>Financial Ratios</b>                     |       |       |       |        |       |       |       |       |       |       |       |
| Debt  | 74%   | 75%   | 80%   | 86%    | 89%   | 93%   | 94%   | 95%   | 95%   | 95%   | 94%   |
| Interest Coverage                           | 1.24  | 1.15  | 0.49  | 0.02   | 0.75  | 0.65  | 0.85  | 1.09  | 1.05  | 1.05  | 1.05  |
| Capital Coverage                            | 1.39  | 1.09  | 0.25  | (0.50) | 0.57  | 0.50  | 0.88  | 1.46  | 1.48  | 1.66  | 1.99  |

## Five Year Drought

**CONSOLIDATED PROJECTED OPERATING STATEMENT (IFF09-1)**  
**5 YEAR DROUGHT**  
(In Millions of Dollars)

*For the year ended March 31*

|   | 2021  | 2022  | 2023  | 2024  | 2025  | 2026  | 2027  | 2028  | 2029  |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>REVENUES</b>                             |       |       |       |       |       |       |       |       |       |
| General Consumers                           | 2,392 | 2,454 | 2,514 | 2,581 | 2,651 | 2,721 | 2,801 | 2,877 | 2,957 |
| Extraprovincial                             | 1,201 | 1,223 | 1,379 | 1,758 | 1,940 | 1,908 | 1,903 | 1,928 | 1,950 |
|   | 3,593 | 3,677 | 3,892 | 4,338 | 4,591 | 4,630 | 4,704 | 4,805 | 4,907 |
| Cost of Gas Sold                            | 351   | 350   | 350   | 349   | 348   | 347   | 346   | 346   | 345   |
|   | 3,242 | 3,327 | 3,543 | 3,990 | 4,243 | 4,283 | 4,358 | 4,459 | 4,562 |
| Other                                       | 37    | 38    | 39    | 39    | 40    | 41    | 42    | 42    | 43    |
|   | 3,279 | 3,364 | 3,581 | 4,029 | 4,283 | 4,324 | 4,399 | 4,502 | 4,605 |
| <b>EXPENSES</b>                             |       |       |       |       |       |       |       |       |       |
| Operating and Administrative                | 602   | 615   | 634   | 647   | 660   | 673   | 686   | 699   | 713   |
| Finance Expense                             | 1,225 | 1,134 | 1,190 | 1,391 | 1,500 | 1,473 | 1,455 | 1,412 | 1,369 |
| Depreciation and Amortization               | 634   | 639   | 667   | 729   | 773   | 789   | 807   | 810   | 821   |
| Water Rentals and Assessments               | 129   | 130   | 136   | 150   | 154   | 155   | 155   | 156   | 157   |
| Fuel and Power Purchased                    | 435   | 459   | 473   | 459   | 492   | 420   | 395   | 424   | 445   |
| Capital and Other Taxes                     | 143   | 147   | 153   | 154   | 155   | 156   | 157   | 158   | 159   |
|   | 3,168 | 3,124 | 3,254 | 3,529 | 3,734 | 3,666 | 3,655 | 3,660 | 3,664 |
| Non-controlling Interest                    | (25)  | (27)  | (28)  | (29)  | (30)  | (34)  | (38)  | (41)  | (43)  |
| <b>Net Income</b>                           | 86    | 214   | 300   | 471   | 519   | 623   | 707   | 801   | 898   |
| <b>Additional General Consumers Revenue</b> |       |       |       |       |       |       |       |       |       |
| General electricity rate increases          | 2.00% | 2.00% | 2.00% | 2.00% | 2.00% | 2.00% | 2.00% | 2.00% | 2.00% |
| General gas rate increases                  | 0.00% | 1.00% | 0.00% | 1.00% | 1.00% | 0.00% | 1.00% | 0.00% | 1.00% |
| <b>Financial Ratios</b>                     |       |       |       |       |       |       |       |       |       |
| Debt  | 94%   | 93%   | 92%   | 91%   | 88%   | 86%   | 83%   | 79%   | 75%   |
| Interest Coverage                           | 1.06  | 1.14  | 1.20  | 1.30  | 1.34  | 1.42  | 1.48  | 1.56  | 1.65  |
| Capital Coverage                            | 1.72  | 1.73  | 1.78  | 2.07  | 2.01  | 2.26  | 2.36  | 2.55  | 2.58  |



## Five Year Drought

**CONSOLIDATED PROJECTED BALANCE SHEET (IFF09-1)**  
(In Millions of Dollars)

*For the year ended March 31*

|  | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>ASSETS</b>                          |         |         |         |         |         |         |         |         |         |         |         |
| Plant in Service                       | 13,097  | 13,626  | 15,691  | 16,213  | 16,654  | 17,387  | 17,844  | 18,579  | 21,071  | 22,401  | 25,835  |
| Accumulated Depreciation               | (4,800) | (5,171) | (5,562) | (5,985) | (6,414) | (6,864) | (7,320) | (7,787) | (8,275) | (8,799) | (9,357) |
| Net Plant in Service                   | 8,297   | 8,455   | 10,129  | 10,228  | 10,240  | 10,523  | 10,524  | 10,792  | 12,796  | 13,602  | 16,478  |
| Construction in Progress               | 1,949   | 2,460   | 1,343   | 1,820   | 2,840   | 3,856   | 5,534   | 6,950   | 6,161   | 6,448   | 4,170   |
| Current and Other Assets               | 2,421   | 2,374   | 2,503   | 2,555   | 2,287   | 2,447   | 2,673   | 2,931   | 3,165   | 3,005   | 3,407   |
| Goodwill                               | 107     | 107     | 107     | 107     | 107     | 107     | 107     | 107     | 107     | 107     | 107     |
|  | 12,775  | 13,397  | 14,082  | 14,710  | 15,475  | 16,933  | 18,838  | 20,780  | 22,230  | 23,163  | 24,163  |
| <b>LIABILITIES AND EQUITY</b>          |         |         |         |         |         |         |         |         |         |         |         |
| Long-Term Debt                         | 7,816   | 8,613   | 9,471   | 9,986   | 11,766  | 13,322  | 15,540  | 17,029  | 17,963  | 19,446  | 17,364  |
| Current and Other Liabilities          | 2,246   | 2,000   | 2,216   | 3,004   | 2,277   | 2,518   | 2,397   | 2,768   | 3,228   | 2,617   | 5,619   |
| Contributions in Aid of Construction   | 293     | 291     | 285     | 280     | 276     | 273     | 272     | 270     | 268     | 267     | 267     |
| Retained Earnings                      | 2,227   | 2,315   | 1,967   | 1,262   | 1,062   | 748     | 592     | 696     | 764     | 830     | 910     |
| Accumulated Other Comprehensive Income | 192     | 178     | 143     | 178     | 94      | 71      | 38      | 17      | 6       | 3       | 3       |
|  | 12,775  | 13,397  | 14,082  | 14,710  | 15,475  | 16,933  | 18,838  | 20,780  | 22,230  | 23,163  | 24,163  |

## Five Year Drought

**CONSOLIDATED PROJECTED BALANCE SHEET (IFF09-1)**  
**5 YEAR DROUGHT**  
(In Millions of Dollars)

*For the year ended March 31*

|  | 2021    | 2022     | 2023     | 2024     | 2025     | 2026     | 2027     | 2028     | 2029     |
|--|---------|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>ASSETS</b>                          |         |          |          |          |          |          |          |          |          |
| Plant in Service                       | 26,935  | 27,406   | 31,328   | 34,430   | 35,739   | 36,567   | 37,186   | 37,941   | 38,573   |
| Accumulated Depreciation               | (9,943) | (10,538) | (11,165) | (11,855) | (12,595) | (13,354) | (14,132) | (14,916) | (15,711) |
| Net Plant in Service                   | 16,991  | 16,868   | 20,164   | 22,575   | 23,144   | 23,213   | 23,054   | 23,025   | 22,861   |
| Construction in Progress               | 4,525   | 5,456    | 3,114    | 879      | 273      | 121      | 210      | 207      | 340      |
| Current and Other Assets               | 3,588   | 3,090    | 3,313    | 3,856    | 4,456    | 4,607    | 5,440    | 6,332    | 7,265    |
| Goodwill                               | 107     | 107      | 107      | 107      | 107      | 107      | 107      | 107      | 107      |
|  | 25,212  | 25,521   | 26,698   | 27,417   | 27,981   | 28,049   | 28,810   | 29,671   | 30,574   |
| <b>LIABILITIES AND EQUITY</b>          |         |          |          |          |          |          |          |          |          |
| Long-Term Debt                         | 20,823  | 21,455   | 22,457   | 22,659   | 22,061   | 22,064   | 22,066   | 22,008   | 21,760   |
| Current and Other Liabilities          | 3,124   | 2,588    | 2,464    | 2,509    | 3,151    | 2,592    | 2,643    | 2,758    | 3,007    |
| Contributions in Aid of Construction   | 266     | 266      | 267      | 267      | 268      | 270      | 272      | 275      | 279      |
| Retained Earnings                      | 996     | 1,210    | 1,510    | 1,981    | 2,500    | 3,123    | 3,830    | 4,631    | 5,529    |
| Accumulated Other Comprehensive Income | 2       | 1        | (0)      | 0        | 0        | 0        | 0        | 0        | 0        |
|  | 25,212  | 25,521   | 26,698   | 27,417   | 27,981   | 28,049   | 28,810   | 29,671   | 30,574   |

## Five Year Drought

**CONSOLIDATED PROJECTED CASH FLOW STATEMENT (IFF09-1)**  
**5 YEAR DROUGHT**  
(In Millions of Dollars)

*For the year ended March 31*

|   | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>OPERATING ACTIVITIES</b>                         |         |         |         |         |         |         |         |         |         |         |         |
| Cash Receipts from Customers                        | 2,171   | 2,159   | 2,181   | 2,201   | 2,404   | 2,424   | 2,638   | 2,938   | 3,029   | 3,261   | 3,540   |
| Cash Paid to Suppliers and Employees                | (1,175) | (1,227) | (1,563) | (1,830) | (1,477) | (1,536) | (1,565) | (1,560) | (1,613) | (1,712) | (1,726) |
| Interest Paid                                       | (474)   | (445)   | (510)   | (603)   | (663)   | (683)   | (718)   | (757)   | (840)   | (941)   | (1,148) |
| Interest Received                                   | 29      | 22      | 14      | 16      | 14      | 4       | 15      | 26      | 37      | 39      | 34      |
|   | 551     | 510     | 122     | (217)   | 278     | 209     | 370     | 647     | 613     | 646     | 701     |
| <b>FINANCING ACTIVITIES</b>                         |         |         |         |         |         |         |         |         |         |         |         |
| Proceeds from Long-Term Debt                        | 900     | 800     | 1,000   | 1,400   | 1,800   | 1,800   | 2,400   | 2,000   | 1,800   | 1,800   | 1,200   |
| Sinking Fund Withdrawals                            | 262     | 227     | 27      | 103     | 487     | -       | 18      | -       | 13      | 456     | 189     |
| Retirement of Long-Term Debt                        | (448)   | (304)   | (27)    | (183)   | (849)   | (100)   | (262)   | (201)   | (530)   | (869)   | (321)   |
| Other   | (36)    | (12)    | 19      | (10)    | (13)    | (11)    | (13)    | (14)    | (14)    | (26)    | (15)    |
|   | 678     | 712     | 1,019   | 1,309   | 1,425   | 1,689   | 2,144   | 1,785   | 1,269   | 1,361   | 1,054   |
| <b>INVESTING ACTIVITIES</b>                         |         |         |         |         |         |         |         |         |         |         |         |
| Property, Plant and Equipment, net of contributions | (1,151) | (1,117) | (1,046) | (1,035) | (1,495) | (1,774) | (2,163) | (2,173) | (1,723) | (1,658) | (1,299) |
| Sinking Fund Payment                                | (94)    | (99)    | (98)    | (121)   | (176)   | (123)   | (201)   | (172)   | (242)   | (218)   | (256)   |
| Other   | (36)    | (20)    | (16)    | (17)    | (17)    | (31)    | (29)    | (41)    | (28)    | (27)    | (27)    |
|   | (1,281) | (1,236) | (1,160) | (1,172) | (1,687) | (1,928) | (2,393) | (2,385) | (1,993) | (1,903) | (1,582) |
| <b>Net Increase (Decrease) in Cash</b>              | (52)    | (15)    | (19)    | (80)    | 16      | (30)    | 121     | 47      | (111)   | 104     | 172     |
| <b>Cash at Beginning of Year</b>                    | (32)    | (84)    | (99)    | (118)   | (197)   | (181)   | (211)   | (90)    | (43)    | (154)   | (50)    |
| <b>Cash at End of Year</b>                          | (84)    | (99)    | (118)   | (197)   | (181)   | (211)   | (90)    | (43)    | (154)   | (50)    | 122     |

## Five Year Drought

**CONSOLIDATED PROJECTED CASH FLOW STATEMENT (IFF09-1)**  
**5 YEAR DROUGHT**  
(In Millions of Dollars)

*For the year ended March 31*

|   | 2021           | 2022           | 2023           | 2024           | 2025         | 2026         | 2027         | 2028         | 2029           |
|---|----------------|----------------|----------------|----------------|--------------|--------------|--------------|--------------|----------------|
| <b>OPERATING ACTIVITIES</b>                         |                |                |                |                |              |              |              |              |                |
| Cash Receipts from Customers                        | 3,704          | 3,789          | 4,005          | 4,451          | 4,705        | 4,744        | 4,819        | 4,920        | 5,023          |
| Cash Paid to Suppliers and Employees                | (1,753)        | (1,795)        | (1,840)        | (1,853)        | (1,903)      | (1,846)      | (1,835)      | (1,879)      | (1,915)        |
| Interest Paid                                       | (1,247)        | (1,157)        | (1,192)        | (1,397)        | (1,525)      | (1,511)      | (1,483)      | (1,453)      | (1,424)        |
| Interest Received                                   | 30             | 27             | 4              | 3              | 14           | 19           | 12           | 23           | 34             |
|   | <u>734</u>     | <u>864</u>     | <u>977</u>     | <u>1,205</u>   | <u>1,290</u> | <u>1,406</u> | <u>1,513</u> | <u>1,611</u> | <u>1,718</u>   |
| <b>FINANCING ACTIVITIES</b>                         |                |                |                |                |              |              |              |              |                |
| Proceeds from Long-Term Debt                        | 1,200          | 800            | 1,000          | 200            | -            | -            | -            | -            | -              |
| Sinking Fund Withdrawals                            | 285            | 741            | 171            | -              | -            | 428          | -            | -            | 60             |
| Retirement of Long-Term Debt                        | (285)          | (744)          | (171)          | -              | -            | (600)        | -            | -            | (60)           |
| Other   | 11             | (26)           | (23)           | (24)           | (24)         | (25)         | (27)         | (29)         | (30)           |
|   | <u>1,211</u>   | <u>771</u>     | <u>977</u>     | <u>176</u>     | <u>(24)</u>  | <u>(198)</u> | <u>(27)</u>  | <u>(29)</u>  | <u>(30)</u>    |
| <b>INVESTING ACTIVITIES</b>                         |                |                |                |                |              |              |              |              |                |
| Property, Plant and Equipment, net of contributions | (1,483)        | (1,400)        | (1,577)        | (863)          | (692)        | (665)        | (694)        | (739)        | (750)          |
| Sinking Fund Payment                                | (292)          | (349)          | (214)          | (222)          | (230)        | (236)        | (220)        | (227)        | (233)          |
| Other   | (33)           | (38)           | (29)           | (32)           | (29)         | (30)         | (33)         | (31)         | (31)           |
|   | <u>(1,808)</u> | <u>(1,788)</u> | <u>(1,820)</u> | <u>(1,116)</u> | <u>(951)</u> | <u>(931)</u> | <u>(947)</u> | <u>(997)</u> | <u>(1,015)</u> |
| <b>Net Increase (Decrease) in Cash</b>              | <u>137</u>     | <u>(153)</u>   | <u>134</u>     | <u>265</u>     | <u>315</u>   | <u>277</u>   | <u>539</u>   | <u>586</u>   | <u>673</u>     |
| <b>Cash at Beginning of Year</b>                    | <u>122</u>     | <u>259</u>     | <u>106</u>     | <u>240</u>     | <u>505</u>   | <u>820</u>   | <u>1,097</u> | <u>1,636</u> | <u>2,222</u>   |
| <b>Cash at End of Year</b>                          | <u>259</u>     | <u>106</u>     | <u>240</u>     | <u>505</u>     | <u>820</u>   | <u>1,097</u> | <u>1,636</u> | <u>2,222</u> | <u>2,894</u>   |