## Supplemental Exhibit No. MJV-7

Total Return on Equity

|  | ATWACC [1] | BTWACC <br> [2] | \% Equity <br> [3] | Return on Equity [4] | $\begin{gathered} \text { \% Debt } \\ {[5]} \end{gathered}$ | Return on Debt [6] | Debt Guarantee [7] | Non-Cost Capital [8] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| McShane's Recommendation |  |  |  |  |  |  |  |  |
| At 40\% Equity | 7.08\% | 8.80\% | 40.00\% | 11.25\% | 58.45\% | 7.35\% | 0.00\% | 1.55\% |
| At 25\% Equity | 6.40\% | 8.80\% | 25.00\% | 11.25\% | 73.45\% | 8.15\% | 0.80\% | 1.55\% |
| At 20\% Equity | 6.18\% | 8.80\% | 20.00\% | 11.25\% | 78.45\% | 8.34\% | 0.99\% | 1.55\% |
| At 15.27\% Equity | 5.96\% | 8.80\% | 15.27\% | 11.25\% | 83.18\% | 8.51\% | 1.16\% | 1.55\% |
| Keeping ATWACC Constant |  |  |  |  |  |  |  |  |
| At $40 \%$ Equity | 7.08\% | 8.80\% | 40.00\% | 11.25\% | 58.45\% | 7.35\% | 0.00\% | 1.55\% |
| At 25\% Equity | 7.08\% | 9.53\% | 25.00\% | 13.59\% | 73.45\% | 8.35\% | 1.00\% | 1.55\% |
| At 20\% Equity | 7.08\% | 9.70\% | 20.00\% | 15.74\% | 78.45\% | 8.35\% | 1.00\% | 1.55\% |
| At 15.27\% Equity | 7.08\% | 9.86\% | 15.27\% | 19.06\% | 83.18\% | 8.35\% | 1.00\% | 1.55\% |

Notes:
[1]: Workpaper 1 to Supplemental Exhibit No. MJV-7 [2] and Workpaper 2 to Supplemental Exhibit No. MJV-7 [2].
[2]: Workpaper 1 to Supplemental Exhibit No. MJV-7 [3] and Workpaper 2 to Supplemental Exhibit No. MJV-7 [3].
[3]: Assumed.
[4]: Workpaper 1 to Supplemental Exhibit No. MJV-7 [7] and Workpaper 2 to Supplemental Exhibit No. MJV-7 [7].
[5]: Workpaper 1 to Supplemental Exhibit No. MJV-7 [4] and Workpaper 2 to Supplemental Exhibit No. MJV-7 [4].
[6]: Workpaper 1 to Supplemental Exhibit No. MJV-7 [5] and Workpaper 2 to Supplemental Exhibit No. MJV-7 [5].
[7]: Workpaper 1 to Supplemental Exhibit No. MJV-7 [1] and Workpaper 2 to Supplemental Exhibit No. MJV-7 [1].
[8]: Workpaper 1 to Supplemental Exhibit No. MJV-7 [8] and Workpaper 2 to Supplemental Exhibit No. MJV-7 [8].

Workpaper 1 to Supplemental Exhibit No. MJV-7
Debt Guarantee Using McShane's Recommendation

|  |  | Implied Debt Guarantee [1] | ATWACC [2] | $\begin{gathered} \text { BTWACC } \\ {[3]} \\ \hline \end{gathered}$ | \% Debt [4] | Cost of Debt [5] | \% Equity [6] | Cost of Equity [7] |  | Tax Rate [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| McShane's Recommended (BT)WACC | [a] |  |  | 8.80\% |  |  | 40.00\% | 11.25\% | 1.55\% | 40\% |
| At 15.27\% Equity | [b] | 1.16\% | 5.96\% | 8.80\% | 83.18\% | 8.51\% | 15.27\% | 11.25\% | 1.55\% | 40\% |
| At 20\% Equity | [c] | 0.99\% | 6.18\% | 8.80\% | 78.45\% | 8.34\% | 20.00\% | 11.25\% | 1.55\% | 40\% |
| At 25\% Equity | [d] | 0.80\% | 6.40\% | 8.80\% | 73.45\% | 8.15\% | 25.00\% | 11.25\% | 1.55\% | 40\% |
| At 40\% Equity | [e] | 0.00\% | 7.08\% | 8.80\% | 58.45\% | 7.35\% | 40.00\% | 11.25\% | 1.55\% | 40\% |

$[1]=[4]-7.35 \%$.
$[2]=[4] \times[5] \times(1-[9])+[6] \times[7]$.
[3]: Supplemental Exhibit No. MJV-9 [2].
$[4]=1-[6]-[8]$.
$[5]=([3]-[6] *[7]) /[4]$.
[6][a]: Recommended; McShane page 19.
[6][b,c,d,e]: Assumed.
[7]: Recommended; McShane page 55.
[8]: McShane Table 5.
[9]: Workpaper \#1 to Exhibit No. MJV-1.

Workpaper 2 to Supplemental Exhibit No. MJV-7
Debt Guarantee Using a Constant ATWACC

|  |  | Implied Debt Guarantee [1] | $\begin{gathered} \text { ATWACC } \\ {[2]} \end{gathered}$ | $\begin{gathered} \text { BTWACC } \\ {[3]} \end{gathered}$ | $\begin{gathered} \text { \% Debt } \\ {[4]} \end{gathered}$ | Cost of Debt [5] | $\begin{gathered} \text { \% Equity } \\ {[6]} \\ \hline \end{gathered}$ | Cost of Equity <br> [7] | \% NonCost [8] | Tax Rate [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Constant ATWACC | [a] |  | 7.08\% |  |  |  |  |  | 1.55\% | 40\% |
| At 15.27\% Equity | [b] | 1.00\% | 7.08\% | 9.86\% | 83.18\% | 8.35\% | 15.27\% | 19.06\% | 1.55\% | 40\% |
| At 20\% Equity | [c] | 1.00\% | 7.08\% | 9.70\% | 78.45\% | 8.35\% | 20.00\% | 15.74\% | 1.55\% | 40\% |
| At 25\% Equity | [d] | 1.00\% | 7.08\% | 9.53\% | 73.45\% | 8.35\% | 25.00\% | 13.59\% | 1.55\% | 40\% |
| At 40\% Equity | [e] | 0.00\% | 7.08\% | 8.80\% | 58.45\% | 7.35\% | 40.00\% | 11.25\% | 1.55\% | 40\% |

[1] $=$ [4]-7.35\%.
[2]: Supplemental Exhibit No. MJV-2 [1].
$[3]=[[4] \times[5]+[6] x[7]$.
$[4]=1-[6]-[8]$.
$[5]=([2]-[6] *[7]) /([4] \times(1-[9])$.
[6]: Assumed.
[7]: Supplemental Exhibit No. MJV-8 [3].
[8]: McShane Table 5.
[9]: Workpaper \#1 to Exhibit No. MJV-1.

## Supplemental Exhibit No. MJV-8

Capital Structure and the Return on Equity

|  |  |  |  |  | \% of Non- Change in |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Return on |  |  | Cost of | Representative | Cost |
| ATWACC | \% of Equity | Equity | \% of Debt | Debt | Tax Rate | Capital | Return |
| $[1]$ | $[2]$ | $[3]$ | $[4]$ | $[5]$ | $[6]$ | $[7]$ | $[8]$ |

Panel A: McShane's Recommendation

| $\left[\begin{array}{llll}\text { a] } & 7.08 \% & 40.00 \% & 11.25 \%\end{array}\right.$ | $58.45 \%$ | $7.35 \%$ | $40 \%$ | $1.55 \%$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Panel B: Return on Equity at Various Equity Levels

| [b] | $7.08 \%$ | $40.00 \%$ | $11.25 \%$ | $58.45 \%$ | $7.35 \%$ | $*$ | $40 \%$ | $1.55 \%$ | n/a |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :---: |
| [c] | $7.08 \%$ | $25.00 \%$ | $13.59 \%$ | $73.45 \%$ | $8.35 \%$ |  | $40 \%$ | $1.55 \%$ | $2.34 \%$ |
| [d] | $7.08 \%$ | $20.00 \%$ | $15.74 \%$ | $78.45 \%$ | $8.35 \%$ | $40 \%$ | $1.55 \%$ | $2.15 \%$ |  |
| [e] | $7.08 \%$ | $15.27 \%$ | $19.06 \%$ | $83.18 \%$ | $8.35 \%$ | $40 \%$ | $1.55 \%$ | $3.32 \%$ |  |

Notes:

* The computation assumes that Hydro would obtain a BBB rating without the provincial debt guarantee if its equity level reaches $40 \%$.
$[1][a]=[2] x[3]+[4] x[5] x(1-[6])$.
[1][b-e] = [1][a].
[2][a]: McShane Evidence Table 5.
[2][b-e]: Assumed.
[3][a]: McShane's Evidence p. 55.
[3][b-e] $=([1]-[4] x[5] x(1-[6]) /[2]$.
[4] $=1-[2]-[7]$.
[5]: Workpaper 1 to Exhibit No. MJV-2 computes the market cost of debt. One percentage point is added due to the guarantee fee paid to the Province.
[6]: Representative tax rate for Canadian Regulated Utilities.
[7]: McShane Evidence Table 5.
[8][c] $=[3][\mathrm{c}]-[3][\mathrm{b}]$.
$[8][\mathrm{d}]=[3][\mathrm{d}]-[3][\mathrm{c}]$.
$[8][\mathrm{e}]=[3][\mathrm{e}]-[3][\mathrm{d}]$.


## Supplemental Exhibit No. MJV-9

The Change in Hydro's Before-Tax Weighted-Average Cost of Capital as Equity Levels Change

| ATWACC [1] | Hydro's BTWACC [2] | $\begin{gathered} \text { \% of Equity } \\ {[3]} \\ \hline \end{gathered}$ | Return on Equity [4] | $\begin{gathered} \text { \% of Debt } \\ {[5]} \\ \hline \end{gathered}$ | Cost of Debt [6] |  | Representative <br> Tax Rate [7] | $\begin{gathered} \% \text { of Non- } \\ \text { Cost } \\ \text { Capital } \\ {[8]} \\ \hline \end{gathered}$ | Times Interest Earned [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.08\% | 9.86\% | 15.27\% | 19.06\% | 83.18\% | 8.35\% |  | 40\% | 1.55\% | 1.42 |
| 7.08\% | 9.78\% | 17.50\% | 17.27\% | 80.95\% | 8.35\% |  | 40\% | 1.55\% | 1.45 |
| 7.08\% | 9.70\% | 20.00\% | 15.74\% | 78.45\% | 8.35\% |  | 40\% | 1.55\% | 1.48 |
| 7.08\% | 9.53\% | 25.00\% | 13.59\% | 73.45\% | 8.35\% |  | 40\% | 1.55\% | 1.55 |
| 7.08\% | 8.80\% | 40.00\% | 11.25\% | 58.45\% | 7.35\% | * | 40\% | 1.55\% | 2.05 |

Notes:

* The computation assumes that Hydro would obtain a BBB rating without the provincial debt guarantee if its equity level reaches $40 \%$.
[1]: Supplemental Exhibit No. MJV-8, Panel A. [6]: Supplemental Exhibit No. MJV-8.
[2] $=[3] x[4]+[5] x[6] . \quad$ [7]: Representative Tax Rate.
[3]: Supplemental Exhibit No. MJV-8, Panel B. [8]: McShane Evidence Table 5.
[4] $=([1]-[5] x[6] x(1-[7])) /[3]$.
$[9]=([3] x[4]) /([5] x[6])+1$.
$[5]=1-[3]-[8]$.


## Supplemental Exhibit No. MJV-10

Return on Hydro's Rate Base as Equity Increases in the Capital Structure

| $\begin{gathered} \text { ATWACC } \\ {[1]} \\ \hline \end{gathered}$ | Hydro's BTWACC [2] | \% of <br> Equity <br> [3] | Return on Equity [4] | $\begin{gathered} \text { \% of Debt } \\ {[5]} \end{gathered}$ | Cost of Debt [6] |  | Hydro's Rate <br> Base (\$'000,000) [7] | Hydro's Capital Charges $\left(\${ }^{\prime} 000,000\right)$ $[8]$ | Change in Capital Charges $\left(\${ }^{\prime} 000,000\right)$ $[9]$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.08\% | 8.80\% | 40.00\% | 11.25\% | 58.45\% | 7.35\% | * | \$ 1,370.5 | \$ 120.6 | n/a |
| 7.08\% | 9.53\% | 25.00\% | 13.59\% | 73.45\% | 8.35\% |  | \$ 1,370.5 | \$ 130.6 | \$ 10.07 |
| 7.08\% | 9.70\% | 20.00\% | 15.74\% | 78.45\% | 8.35\% |  | \$ 1,370.5 | \$ 132.9 | \$ 2.29 |
| 7.08\% | 9.78\% | 17.50\% | 17.27\% | 80.95\% | 8.35\% |  | \$ 1,370.5 | \$ 134.1 | \$ 1.14 |
| 7.08\% | 9.86\% | 15.27\% | 19.06\% | 83.18\% | 8.35\% |  | \$ 1,370.5 | \$ 135.1 | \$ 1.02 |

Notes:

* The computation assumes that Hydro would obtain a BBB rating without the provincial debt guarantee if its equity level reaches $40 \%$.
[1] - [6]: Exhibit No. MJV-9 [1] - [6].
[7]: Data Request CA-71 schedule 1.1.
$[8]=[2] \times[7]$.
$[9]=[8]($ current line $)-[8]($ prior line $)$.


# Supplemental Exhibit No. MJV-11 Revised 

Adjustment for Embedded Cost of Debt and for Hydro's Tax Exempt Status

|  |  |  |  |
| :--- | :--- | ---: | :---: |
| $[1]$ | ATWACC |  | $7.08 \%$ |
| $[2]$ | Percentage Debt | $58.45 \%$ |  |
| $[3]$ | Embedded Cost of Debt | $7.35 \%$ |  |
| $[4]$ | Market Cost of Debt | $7.35 \%$ |  |
| $[5]$ | Representative Tax Rate | $40 \%$ |  |
| $[6]$ | Adjustment Factor |  | $1.72 \%$ |
| $[7]$ | Adjusted BTWACC |  | $8.80 \%$ |

Notes:
[1]: Supplemental Exhibit No. MJV-8 [1].
[2]: Supplemental Exhibit No. MJV-8 [4].
[3]: McShane Evidence Table 5.
[4]: Supplemental Exhibit No. MJV-8 [5].
[5]: Supplemental Exhibit No. MJV-8 [6].
$[6]=[2] *([3]-[4] x(1-[5])$.
$[7]=[1]+[6]$.

