

MIPUG Undertaking (Undertaking 17): Transcript January 20, 2020, page 2320.

Mr. Bowman to produce two (2) new versions of the chart at PUB 14, page 380, both incorporating the corrections to the chart that he accepts, one (1) with the Manitoba Hydro DSM amortization and one (1) without, and also incorporating what Mr. Bowman believes to be the most current approximation of export pricing.

Response:

Attached is the requested analysis.

Items of note - the table is divided into 4 parts:

- **Part 1:** The calculations from the Bowman evidence with simply the one mathematical issue (incorrect division) incorporated. This shows impact of 2.8% for the cited customer for 2022/23 (GSL 30-100kV, 60%LF, on current rates), and residential customer at 1.5%. This impact is solely due to EM programming. *[Note this still uses the 25 TW.h rough value for load from the Bowman evidence, and the conservative export price forecast]*
- **Part 2:** This part reports the PUB's calculation, as reported in PUB Exhibit 14 (PUB Book of Documents) page 380. Note that Mr. Bowman has identified that the PUB's adjustment of load from 25000 GW.h to 26000 GW.h (as contained in Part 2) is not appropriate as this is a value at generation so is not relevant to rate impact calculations (see below). This column should not be used.
- **Part 3:** This part includes all corrections to the prior Part 1 and 2, but still uses the conservative export pricing. The change to load is as follows:
 - Total Domestic Sales 23,661 GW.h, which is the sales value from Appendix 15 (MH 2018 Load Forecast) from the MH 2019/20 Electric Rate Application, pdf page 21. This includes all General Consumer Sales less Diesel.
 - To properly account for the total revenue load that would pay EM's costs, it would be necessary to add diesel sales (14 GW.h), take out SEP sales (28 GW.h), incorporate effects of EM's DSM programs (reduction of 680 GW.h at generation, likely approx. 600 GW.h at customer meters), and the effects of the last year of Hydro's DSM programming which is not already included in the Load Forecast. Overall, the proper value would be somewhat lower, which would increase rate impact estimates. Note that Codes and Standards should already apparently be incorporated so does not need further adjustment.
 - Note that the issue with the PUB value of 26000 GW.h is this is in the range of values at generation, but rate effects would apply to sales, not generation.

The result of Part 3 analysis is a rate impact of 3.0% to GSL and 1.6% to residential. *[Mr. Bowman does not recommend including the effects of old Manitoba Hydro DSM projects terminating amortization for the purposes of assessing EM effects, as this termination would occur in either case, but were it included the rate effects are 1.9% for GSL and 1.1% for residential.]*

- **Part 4: Update for Export Prices:** The attached table uses \$35/MW.h which is the average spot market value from Order 5/20 Appendix A. With the adjusted spot market

pricing, the rate effects are 3.7% for the GSL 30-100 kV customer and 2.0% for the residential customer at 2022/23. *[Taking into account the termination of past MH DSM spending, which Mr. Bowman does not advise, the rate effect is 2.6% for GSL 30-100 kV and 1.5% for Residential.]*

Part 1
Original Bowman Values
(Corrected Division)

Year 1 Year 2 Year 3
2020/21 2021/22 2022/23

Part 2
PUB Exhibit 14 page 380 Example
(Not Corrected)

Year 1 Year 2 Year 3
2020/21 2021/22 2022/23

Part 3
PUB Exhibit 14 page 380 Example
(Corrected Load)

Year 1 Year 2 Year 3
2020/21 2021/22 2022/23

Part 4
PUB Undertaking
Adjust Export Prices

Year 1 Year 2 Year 3
2020/21 2021/22 2022/23

1 (\$000,000)												
2 Electric Portfolio - Annual	50	50	50		50	50	50		50	50	50	
3 Electric Portfolio - Cumulative	50	100	150		50	100	150		50	100	150	
4 EM DSM Amortization	5	10	15	row 3 / 10 years	5	10	15		5	10	15	
5 EM DSM Amortization - Cumulative	5	15	30		5	15	30		5	15	30	
6 EM DSM Deferred Balance	45	85	120	row 3 - row 5	45	85	120		45	85	120	
7 Financial of DSM Deferrals	2	3	5	row 6 * 3.91%	2	3	5		2	3	5	
8 Net Cost Impact	7	13	20	row 5 + row 7	7	13	20		7	13	20	
9 Reduced Revenue	20	40	60		20	40	60		20	40	60	
10 Enhanced Exports (GW.h)			979				979				979	
11 Average Export Price			0.0439				0.0439				0.0439	
12 Benefit - Increased Export Revenue			43	row 10 * row 11			43				43	
13 Combined Annual Impact			37	row 8 + row 9 - row 12			37				37	
14 Total Domestic Load at Firm Rates (GW.h)			25000 rounded				26000 Note 1				23661 Note 2	
15 Unit Annual Impact (c/kW.h)			0.148	row 13/row 15			0.142				0.156	
16 GSL 30-100kV Average Rate (c/kW.h)			5.298	50 kVA, 60% LF, current rates			5.298				5.298	
17 GSL 30-100kV Bill Impact			2.8%	row 15 / row 16			2.7%				3.0%	
18 Residential Average Rate 1000 kW.h (c/kW.h)			9.602	current rates			9.602				9.602	
19 Residential Bill Impact			1.5%	row 15 / row 18			1.5%				1.6%	
20 MH Amortization Ceasing					4	8	13		4	8	13	
21 Revised Amortization Effect				row 8 - row 20	3	5	7		3	5	7	
22 Alternate Combined Impact				row 21 + row 9 - row 12			24				24	
23 Alternate Unit Impact (c/kW.h)				row 22 / row 14			0.092				0.101	
24 Alternate GSL 30-100kV Bill Impact				row 23 / row 16			1.7%				1.9%	
25 Alternate Residential Bill Impact				row 23 / row 18			1.0%				1.1%	

Note 1: Per PUB/EM-45
NOTE: not at meter

Note 2: Sales at meter per Load
Forecast

Note 3: Average Spot Market \$35/MW.h
per Order 5/20