

**REFERENCE: Evidence of Mr. Harper, page 12 - 16**

**PREAMBLE TO IR (IF ANY):**

Mr. Harper states at page 12-13 of his evidence that:

However, the forecast values used are based on electricity volumes measured at the point of generation as opposed to the point of delivery to customer and, as a result include transmission and distribution losses where applicable. Furthermore, the forecast values include electricity used by Manitoba Hydro for Station Service and Construction Power. In contrast, the *Act* clearly defines consumption in the case of electrical energy as “*electrical energy that is metered and sold to a customer in Manitoba*”. Based on this definition the values used should not include Station Service and Construction Power as the associated electrical energy is not “sold to a customer”. Furthermore it is questionable whether the consumption values should be “measured” at point of generation or at the point of delivery (i.e., the customer’s meter). Finally, the Gross Firm Energy values include sales to customers, such as street lighting, which are not metered and therefore are not included in the definition of consumption as set out in the *Act*.

Page 14-15 states that:

There are three issues with Efficiency Manitoba’s DSM program adjustments. First, Efficiency Manitoba has not made any adjustment for the impact of Manitoba Hydro’s 2018/19 DSM Programs. According to Manitoba Hydro’ 2018/19 DSM Plan the annual anticipated savings from these programs is 355 GWh. This adjustment also needs to be incorporated into the calculation of the target values for 2020/21 - 2022/23.

The second issue is that Efficiency Manitoba claims that the adjustments for prior years’ DSM programs account for the loss in persistence of savings over time. However, it is noted that, in terms of the DSM program adjustment values used, there is no decline in subsequent years from the savings attributed to either Manitoba Hydro’s 2019/20 DSM Programs or Efficiency Manitoba’s 2020/21 and 2021/22 programs. What is not clear is whether this is due to: a) there being no loss in persistence in the initial years after implementation or b) adjustments for persistence were not included. Further discovery would be required to clarify this issue.

Finally, Efficiency Manitoba has confirmed that its DSM program savings values are “annualized values” which means that they are calculated as if all programs were implemented at the start of the year they are introduced. In reality this is not what occurs as programs are taken up by customers throughout the first year they are introduced such that actual first year’s savings are less than the annualized values. However, any attempt to calculate the impact would require significant effort. For purposes of

calculating the target values to be used in the development of the Plan Efficiency Manitoba's approach is reasonable. For purposes of verifying whether targets are met on an actual basis Efficiency Manitoba as indicated it will be using actual weather normalized load and, as result, this issue will not exist.

Page 16 of his evidence states that:

For example, the forecasts in the 2016/17 Power Smart Plan - 15-year Supplement for the years beyond 2017/18 are likely to include additional impacts attributable to new Codes and Standards anticipated to come into effect post 2017/18 on new building and appliances added in those years. These effects were not included in the 2018 Load Forecast and therefore do not need to be "added back". Again, further discovery would be required to fully resolve these issues.

**RATIONALE:**

**QUESTION:**

- (a) Please provide an updated Derivation of Electric Target Values, similar to Table 1 provided on page 11 of Mr. Harper's evidence (or as originally provided in PUB/EM I-45a, that estimates the forecast electric energy savings required to achieve target, taking into account the following:
  - a. Electric Load Forecast not including Station Service and Construction Power.
  - b. Electricity measured at customer meter
  - c. Adjusting for impact of 2018/19 DSM program
  - d. Assuming new Codes and standards do not need to be "added back"
- (b) Please comment on the impacted change to required GWh savings as a result of calculations in part (a) above and the potential implications on programming and overall costs.

**RESPONSE:**

- a) Please see the response to PUB/Coalition 19 a).
- b) The following Table sets out the annual savings per Efficiency Manitoba's 2020/21-2022/23 Plan as measured at the customers' meter points and the resulting savings percentage relative to the reference load forecast set out in PUB/Coalition 19 a). The average saving percentage is just above 1.5% and, as result, there are no potential implications on programming and overall costs.

**Efficiency Manitoba 2020/21 – 2022/23 Plan  
MIPUG/COALITION (HARPER) I-1**

<u>Table: MIPUG/Coalition (Harper) I-1 b) - 1</u>				
<b>Plan Savings Versus Reference Load @ Meter</b>				
(GWh)				
	<u>2020/21</u>	<u>2021/22</u>	<u>2022/23</u>	<u>Average</u>
<b>DSM Savings @ Generation</b>				
Transmission-Connected <sup>(1)</sup>	123.2	138.4	139.1	
Distribution-Connected	249.8	247.6	237.9	
<b>Total<sup>(2)</sup></b>	<b>373.0</b>	<b>386.0</b>	<b>377.0</b>	
<b>DSM Savings@Meter</b>				
Transmission-Connected <sup>(3)</sup>	112.0	125.8	126.5	
Distribution-Connected <sup>(4)</sup>	219.1	217.2	208.7	
<b>Total</b>	<b>331.1</b>	<b>343.0</b>	<b>335.1</b>	
Reference Load@Meter <sup>(5)</sup>	22,340	22,347	22,275	
Saving @ Meter %	1.48%	1.53%	1.50%	1.51%
Notes:	1) Based on Savings from Load Displacement and Custom Program Bundles			
	2) PUB/EM I-39 R			
	3) Based on DSM savings at Generation divided by 1.10			
	4) Based on DSM Savings at Generation divided by 1.14			
	5) From Table: PUB/Coalition 19 a) -1			

**REFERENCE: Evidence of Mr. Harper, pages 16-17**

**PREAMBLE TO IR (IF ANY):**

Mr. Harper states at page 16 that:

However, it is noted that for purposes of verifying whether targets are met on an actual basis Efficiency Manitoba will be using actual weather normalized load and the potential for overlap will not exist. What is important, for purposes of developing the target values to be used in future Plans, is that a standard approach be developed and followed.

Page 18 states:

In reviewing the planning targets for electricity savings, while the use of forecast values as the starting point is reasonable, there are distinct differences between the definition consumption as set out in the Act and how it has been determined by Efficiency Manitoba that the PUB should consider. Also, the PUB will need to consider if the DSM adjustments made by Efficiency Manitoba are appropriate.

In reviewing the planning targets for natural gas, while the use of historical use as the starting point is reasonable, the PUB will need to similarly consider whether the DSM adjustments made by Efficiency Manitoba are appropriate or even required.

**RATIONALE:**

**QUESTION:**

- (a) For actual target measures using weather normalized load, please comment on if the use of Metered Energy at generation (inclusive of Electric Load Forecast not including Station Service, Construction Power, transmission and distribution losses) will impact the target measurement, and how this will generally impact verifying the overall DSM levels achieved.
- (b) Please outline what Mr. Harper's recommendation is on what measurement should be used to calculate energy savings target and actual target verification for electricity efficiency programming.
- (c) Please outline Mr. Harper's recommendation on the appropriate measurement of natural gas load to be used to calculate forecast targeted savings and actual target verification.

**RESPONSE:**

- a) Mr. Harper interprets the question as requesting comment as to how basing the target value on metered energy measured at the point of generation (i.e., add back losses but exclude Station Service and Construction Power) would impact the verification of overall DSM levels achieved and the calculation of target achievement.

The determination of the impact of DSM measures is usually done at the point of delivery to the customer (i.e., at the customer's meter) both when forecasting expected savings and when verifying actual DSM results. Using a target based on metered energy at the point of generation requires assumptions regarding the transmission and distribution losses that will be incurred. Mr. Harper understands that for purposes of the current Plan Efficiency Manitoba has assumed losses of 10% for transmission connected customers and 14% for distribution connected customers.

Similarly, when determining the actual percent of the savings target which has been achieved the verified savings will need to be grossed up for transmission and distribution losses if the target value is based on point of generation. If actual losses are used in the calculation and differ from the forecast assumptions used then this difference will lead to a difference between the forecast and actual target achievement. In addition, using metered energy at the point of generation means that all DSM kWh are not equal since savings for transmission connected customers will be grossed up using a different value than savings for distribution connected customers.

- b) As noted in Mr. Harper's Evidence (page 16) the most important point with respect to establishing the targets is that the methodology used be clearly understood and non-controversial. In Mr. Harper's view this is best achieved by following the definitions as set out in the Act.

Please see the response to PUB/Coalition 19 a) for a description of Mr. Harper's proposal with respect to the determination of the electricity energy savings target for purposes of preparing the Plan.

On an actual basis the target achieved would be calculated based on verified electrical energy savings (measured at the customer's meter) as a percentage of the preceding year's total actual metered loads as measured at the customers' meter points and weather adjusted.

- c) For simplicity purposes, Mr. Harper's view is that the natural gas savings target should be based on actual metered customer volumes for the most recent year available, adjusted in accordance with Section 2 of the Act. However, there is some question (see Coalition/EM I-3 b)) as to the public availability of Centra's actual weather corrected natural gas sales volumes. In the event they are

considered commercially sensitive and therefore confidential, actual sales volumes (which are publicly available) should be used.

On an actual basis the target achieved would be calculated based on verified savings (measured at the customer's meter) as a percentage of the preceding year's total actual metered volumes adjusted in accordance with Section 2 of the Act. Again, weather-adjusted values should be used if not commercially sensitive.

**REFERENCE: Evidence of Mr. Harper, page 9, Section 3.1**

**PREAMBLE TO IR (IF ANY):**

Mr. Harper on page 9 states that:

As noted in the preceding section the first step in an integrated planning process is to establish the objectives of the plan in terms of the “resources” required. In Efficiency Manitoba’s case, “resources” or amount of net energy savings required are set out in Act in the form of target percentages which are to be used for establishing both the requirements of the Efficiency Plans submitted to the PUB and measuring the actual performance of Efficiency Manitoba.

**RATIONALE:**

**QUESTION:**

- (a) Please indicate how Efficiency Manitoba has fulfilled the goals of IRP in terms of the “resources” required if there has been no alternative supply sources considered or assessed (e.g., alternative ways of achieving the same net energy, such as wind, solar, or hydro enhancements)?

**RESPONSE:**

- a) As noted on page 8 of Mr. Harper’s Evidence, Efficiency Manitoba’s Plan only deals with DSM initiatives as per its statutory mandate. In contrast, a full integrated resource plan would also consider other alternative supply sources as noted in the question. However, Efficiency Manitoba’s Plan can be viewed as a micro version of a Resource Plan that is focused just on DSM and therefore a key consideration of the PUB should be the extent to which Efficiency Manitoba’s development of the Plan follows the principles of integrated resource planning. Please see Section 6 of Mr. Harper’s evidence for his conclusions in this regard.

**REFERENCE: Evidence of Mr. Harper, page 21**

**PREAMBLE TO IR (IF ANY):**

Mr. Harper states at page 21 that:

Further, since the achievement of the targets in each year is calculated using a different “base value”, cumulative progress to toward achieving the 15 year targets or electricity and natural gas (22.5% and 11.25% respectively) will be calculated by summing the percentage actually achieved in each year.

*Comments*

Overall, Efficiency Manitoba approach to calculating annual target achievements and cumulative progress towards the achievement of its 15 year target is reasonable.

**RATIONALE:**

**QUESTION:**

- (a) Does Mr. Harper consider that if Efficiency Manitoba continues to apply the same methodology to future years, in terms of summing 1.5% savings from each prior year over 15 years to achieve 22.5%, they have fulfilled the savings mandate as set out in the Act? Please explain.

**RESPONSE:**

- a) Yes. For an explanation, please see Section 3.1.3 of Mr. Harper’s Evidence.



**REFERENCE: Evidence of Mr. Harper, page 25**

**PREAMBLE TO IR (IF ANY):**

Mr. Harper notes on page 25 as a concern to the use of Efficiency Manitoba's use of marginal values that, "while the marginal values for electricity are broken down between summer and winter there is no break down between peak and off peak".

**RATIONALE:**

**QUESTION:**

- (a) Please indicate why Mr. Harper expects that Efficiency Manitoba did not have access to Marginal Values that break down resources between "peak" and "off-peak."

**RESPONSE:**

- a) Mr. Harper expects the reason is that peak/off-peak marginal values were not provided to Efficiency Manitoba by Manitoba Hydro.