

COALITION IEC (DAYMARK EXPORT) – 1

Tab and Appendix:	Daymark’s Export Pricing and Revenues Review Direct Testimony of Paul Chernick	Page No. (and line no. if applicable):	Pages 2 Pages 26-27
Topic:			
Sub Topic:			
Issue:			

Preamble:

Question:

- a) Does Daymark agree with Mr. Chernick’s assessment of the US (MISO) supply mix that would be at the margin and displaced by Manitoba Hydro exports?
- b) If not, please explain why.

Response:

- a) Daymark agrees that both coal and gas will be at the margin at time (page 26, line 2) (See Daymark report, Figure 4 page 13)
- b) Daymark neither agrees nor disagrees with the numerical values in the testimony as we have not reviewed any work papers or sources relied upon to derive those values.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION: N/A

COALITION IEC (DAYMARK EXPORT) – 2

Tab and Appendix:	Daymark’s Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Pages 33-35
Topic:			
Sub Topic:			
Issue:			

Preamble:

The Report states that MH adjusted the short-term forecast to account for historical deviations between forecast and actuals.

Question:

- a) What was the average % difference between forecast and actual values for the 12 months depicted in Figure 13?
- b) For which past Export Price forecasts has Manitoba Hydro adjusted the short-term price forecast provided by the independent consultant?
- c) Has the “adjustment” varied materially (in percentage terms) over these forecasts?
- d) What “on-peak” and “off-peak” differentials are the [REDACTED] and [REDACTED] on page 35 referring to?

3b

Response:

- a) That value is included in Figure 13.

- b) The forecast that is named on page 33.
- c) That is shown in Figure 13.
- d) It is referring to the adjustments of the forecast values, as depicted in figures 14 and 15.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

The questions generally ask for information that is contained in the Report that has been marked as confidential information.

CONFIDENTIAL COALITION IEC (DAYMARK EXPORT) – 3

Tab and Appendix:	Daymark's Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Pages 35-36 Page 42 Page 44
Topic:			
Sub Topic:			
Issue:			

Preamble:

The Report states (page 35) that MH acquires four independent market price forecasts. The Report also states (page 36) that all four vendors provide annual energy and capacity prices and that some provide monthly energy prices. At pages 42 and 44, the Report indicates that the independent consultants provide on-peak energy and off-peak energy prices.

Question:

- a) Please clarify how many of the independent consultants provide forecasts of on-peak and off-peak energy prices and whether they are monthly, seasonal or annual prices.
- b) At what level of detail does Manitoba Hydro forecast export prices? For example, does it forecast monthly prices? Does it forecast monthly on-peak and off-peak export prices?
- c) Are all of these forecast based strictly on a consensus of available independent export price forecasts or does MH have to apply additional

assumptions/methodology to develop the detail presented in its export price forecast?

- d) If additional assumptions/methodology are employed please briefly outline:
 - i. What they entail.
 - ii. Daymark's views as to the reasonableness of the approach taken.

Rationale for Question:

To better understand the basis for Manitoba Hydro's export price forecast.

Response:

- a) That value is included in Figure 22.
- b) MH receives annual on-peak and off-peak values from the four vendors and derives a composite version of those values. MH separately derives a pricing profile to disaggregate those prices into monthly pricing blocks for economic planning modeling.
- c) This is described on page 36. MH uses the average of the forecasts.
- d) N/A

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

COALITION IEC (DAYMARK EXPORT) – 4

Tab and Appendix:	Daymark's Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Pages 39-41
Topic:			
Sub Topic:			
Issue:			

Preamble:

The Report identifies three key inputs into the export energy price forecast: natural gas prices, carbon prices and capacity retirements.

Question:

- a) At page 40 there is a discussion regarding the reasonableness of consensus natural gas price forecast. However, there is no similar discussion regarding the “consensus” carbon forecast or the reasonableness of the capacity retirement assumptions used by the independent consultants. Did Daymark review the reasonable of the inputs used by the four independent consultants regarding these two factors?
- b) If not, please explain why.
- c) If yes, what were Daymark’s conclusions and why?

Rationale for Question:

To obtain Daymarks' views as to the reasonableness of the independent consultants forecast assumptions.

Response:

- a) The retirements issue is discussed on page 46 of the report. The carbon pricing was discussed on page 50 (See also response to PUB/DAYMARK-CSI-1.
- b) N/A.
- c) See response to part a.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

The questions ask for information that is contained in the Report that has been marked as confidential information.

COALITION IEC (DAYMARK EXPORT) – 5

Tab and Appendix:	Daymark's Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Pages 46
Topic:			
Sub Topic:			
Issue:			

Preamble:

The Report notes that there are inconsistencies between MH's market view and the consultants' market views.

Question:

- a) If possible, please identify those "areas" where the market views differ without getting into specifics that would breach confidentiality.
- b) If the price forecasts are based on a consensus of the independent forecast, please confirm that these differences in views (between MH and the independent consultants) do not affect the forecast. If the difference in views does affect the forecast, please explain why.

Rationale for Question:

To clarify the implications of differing "market views".

Response:

- a) The response to this question is included in the redacted portion of page

46 of the report.

- b) See response to part a.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

The questions ask for information that is contained in the Report that has been marked as confidential information.

COALITION IEC (DAYMARK EXPORT) – 6

Tab and Appendix:	Daymark's Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Pages 47
Topic:			
Sub Topic:			
Issue:			

Preamble:

The Report notes that that MH adjusted the consulting firms' consensus forecast for congestion and losses.

Question:

- a) Did Daymark review the reasonableness of MH's adjustments?
- b) If yes, what were Daymark's conclusions?
- c) If no, why not?

Rationale for Question:

To confirm the reasonableness of MH's adjustments for congestion and losses.

Response:

- a) Please refer to the response to PUB/DAYMARK – 11.
- b) See response to part a.
- c) N/A

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

COALITION IEC (DAYMARK EXPORT) – 7

Tab and Appendix:	Daymark's Export Pricing and Revenues Review MH GRA – Appendix 3.1	Page No. (and line no. if applicable):	Page 53
Topic:			
Sub Topic:			
Issue:			

Preamble:

The Report states that IFF16 uses actual inflows until May 2017.

Question:

- a) It is noted that Appendix 3.1 is dated April 2017. Given this publication date, please explain how it can be based on actual inflow conditions until May 2017.

Rationale for Question:

To reconcile observations made in the Daymark Report.

Response:

- a) IFF16 was originally based on data through January of 2017. An update was filed in July which had data through May 2017.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

COALITION IEC (DAYMARK EXPORT) – 8

Tab and Appendix:	Daymark’s Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Page 54
Topic:			
Sub Topic:			
Issue:			

Preamble:

The Report notes that for years 3 and beyond export revenues are determined by averaging revenues across inflow conditions for the past 102 years.

Question:

- a) In Daymark’s view does averaging the revenues across the inflow conditions for the past 102 year produce a P50 estimate of export revenues in terms of possible hydrological conditions?
- b) If not, does it over or understate the P50 value?

Rationale for Question:

To clarify if there is a difference between average export revenues and P50 export revenues.

Response:

- a) Daymark did not conduct the analysis necessary to answer this question.
- b) See response to part a.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

COALITION IEC (DAYMARK EXPORT) – 9

Tab and Appendix:	Daymark's Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Pages 59-60
Topic:			
Sub Topic:			
Issue:			

Preamble:
Question:

- a) Were there any changes between MH's 2016 EEPF and its 2017 EEPF in terms of assumptions regarding the premium for surplus dependable energy and capacity?
- b) At page 60, Daymark expresses the view that the near-term market conditions that are adversely affecting the ability to sell firm power at a premium are not expected to last for more than a few years.
 - i. At what future point in time does Daymark believe it would be reasonable to re-institute a premium for surplus dependable energy and capacity?
 - ii. How do Daymark's and MH's views on the future capacity prices differ from those provided by the four independent consultants (per pages 36 and 42)?

Rationale for Question:

To further understand the differences in views regarding the appropriateness of premium for surplus dependable energy and capacity.

Response:

- a) See page 59 of the report.
- b)
 - i. Please refer to response to PUB/DAYMARK -13 d.
 - ii. Daymark did not prepare a capacity market forecast. Please refer to page 73 of the Daymark report where we observe that each of the forecasts for capacity prices demonstrate a view that MISO is moving from a period of surplus to a period of capacity need.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

The questions ask for information that is contained in the Report that has been marked as confidential information.

COALITION IEC (DAYMARK EXPORT) – 10

Tab and Appendix:	Daymark’s Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Pages 74-77
Topic:			
Sub Topic:			
Issue:			

Preamble:

The Report notes a number of shortcomings regarding Manitoba Hydro’s export revenue forecast and concludes that it is conservative/low relative to a value that is a P50 value.

Question:

- a) Based on either IFF-16 or IFF16-Updated, what is Daymark’s view as to by how much the cumulative export revenues through to: i) 2026/27 and ii) 2033/34 should be increased in order to be reflective of a P50 value?

Rationale for Question:

To obtain Daymark’s view as to the implication of their findings regarding MH’s forecast export revenues.

Response:

- a) Daymark did not prepare a forecast of MH export market revenues. Please refer to the response to PUB/DAYMARK – 13.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

COALITION IEC (DAYMARK EXPORT) – 11

Tab and Appendix:	Daymark's Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Page 68
Topic:	Firm contracts		
Sub Topic:			
Issue:	Clarification on intended language		

Preamble:

The last sentence states that “Based on the foregoing findings, the Daymark IEC Team has verified the reasonableness of the extraprovincial revenue forecast.” This section deal with firm contracts, not the revenue forecast.

Question:

- a) Please confirm that the intention was for this to refer to the firm contracts instead of the extraprovincial revenue forecast. If that was not the intention, please explain the apparent discrepancy with the Summary of Findings for the revenue forecast on page 77.

Rationale for Question:

Response:

- a) Confirmed.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

COALITION IEC (DAYMARK EXPORT) – 12

Tab and Appendix:	Daymark's Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Page 45-46
Topic:	Four independent consultant forecasts		
Sub Topic:			
Issue:	Lack of Detailed Input Review		

Preamble:

On page 45 of Daymark's Export Pricing and Revenues Review, it is stated:

The issue of report variance is exacerbated by the lack of detailed review that was done with regards to the forecasts themselves. As was discussed above, the four forecasts provided different levels of insight into what input assumptions were used. The documentation provided by the vendors did not provide the level of information a price forecaster would need to be able to assess the forecasts to determine if they each represented their company's reference forecast. Nor do the documents define how MH should view these forecasts within a range of possible outcomes.

On page 46 of Daymark's Export Pricing and Revenues Review, it is stated:

Furthermore, there is no evidence that MH attempted to perform a deeper review of the forecasts, or assess the possibility that one or all of the forecasts might not qualify as "reference". The four forecasts provided price strips for energy and capacity and, after performing some basic due diligence on the natural gas and carbon prices, MH used the average of the four forecasts.

Neither the information available in the contractual arrangements with each vendor, nor the forecast materials provided by each vendor contain any information on the vendors' views on the probability that prices will be higher or lower than the forecast provided. In each case, a single forecast was provided; there were no high or low alternative cases delivered that might serve to provide some context on their view of how the delivered forecast fits within the range of uncertainties.

As a result, we found no means to determine if the four forecasts are prepared on a consistent basis or if they were prepared with a specific objective to be a "50/50 reference forecast".

Question:

- a) Please explain the implications of the issues identified in the Preamble on the reliability of Manitoba Hydro's overall export price forecast. Specifically, please explain how material the impact could be on Manitoba Hydro's overall export price forecast.
- b) Please explain how the issues identified in the Preamble could be addressed by Manitoba Hydro.

Rationale for Question:

To understand the implications on Manitoba Hydro's export price forecast.

Response:

- a) Daymark does not have the information needed to determine the materiality of this issue. More information would be needed from the entities that produced the forecasts.
- b) One option would be to obtain further information from some or all of the vendors of the four forecasts (see pages 37 and 38 of the Report).

Other options would be to obtain at least one vendor forecast with a reference, high and low forecast and associated documentation as the Company had done in 2013 EEPF through 2015 EEPF (PUB MFR 97 (Updated)) or for MH to develop its own forecast.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

COALITION IEC (DAYMARK EXPORT) – 13

Tab and Appendix:	Daymark's Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Page 51, 71
Topic:	Third-party forecasts		
Sub Topic:			
Issue:	Assumption that the third-party forecasts reflect view of a P50 forecast		

Preamble:

On page 51 of Daymark's Export Pricing and Revenues Review, it is stated:

Assuming the four third-party forecasts reflect each vendors' view of a P50 forecast, MH's reference case method of weighting the four equally is a reasonable basis for a forecast.

On page 71 of Daymark's Export Pricing and Revenues Review, it is stated:

Daymark identified several concerns with the methodology and results of the price forecasts themselves, as discussed in Section III. These concerns, when taken together, suggest that the market price forecast may be conservative relative to a P50 forecast of energy and capacity prices.

The most significant concern is that the limited of documentation of the third-party vendors forecast does not provide sufficient information to determine whether any of the vendors consider the forecast provided a P50 forecast.

Consequently, the MH price forecast cannot be shown to be a P50 forecast since

it is a simple average of the four forecasts. Understanding the nature of the forecasts and the assumptions underpinning them is necessary to ensure that they are being used appropriately in MH's efforts to produce a P50 forecast.

Question:

- a) In light of the quote from page 71 reproduced in the Preamble, please explain the basis for the assumption made on page 51 that “the four third-party forecasts reflect each vendors' view of a P50 forecast.”

Rationale for Question:

To understand the reasonableness of the assumption made.

Response:

- a) The statement is not intended to reflect a Daymark assumption, rather a comment on MH's implicit assumption that the vendor for each of the four forecasts intended their respective forecasts to be a P50 forecast. In other words, if one assumes the four forecasts are each P50 values as MH did, then the consensus approach is reasonable. The redacted text on page 51 explains Daymark's view on that assumption.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

COALITION IEC (DAYMARK EXPORT) – 14

Tab and Appendix:	Daymark's Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Page 71-72
Topic:	Forecasted capacity revenue		
Sub Topic:			
Issue:	No forecasted capacity revenue		

Preamble:

On page 72, Daymark states the following:

As with the discussion of the premium in Section V, we believe the elimination of capacity revenues for surplus dependable energy and opportunity sales in its entirety for the 20-year forecast is not well supported and not consistent with the information available to MH from the independent market consultants (see Section III) or the information from MISO, NERC and utility IRPs (see Section II). With that said, we agree with MH assessment of the softening of the market for exports in the near term over the past several years. The explanation of the market conditions associated with this issue from the 2017 EPF (discussed in Section V) are very focused on the current and near-term market conditions. We do not see any consideration of the potential for materially different circumstances to be prevailing beyond the near term, as is evident in the third-party forecasts and MISO planning.

Given that, a reasonable P50 forecast should include capacity revenues from the considerable dependable energy surplus (see Figure 27). Eliminating all

forecasted capacity revenues associated with surplus dependable energy represents a very conservative assumption, as it is the lowest conceivable revenue outcome for the capacity value that the surplus energy can provide.

Question:

- a) Does Daymark consider the impact of the conclusion reproduced in the Preamble to be significant? If so, please indicate the magnitude of the significance on Manitoba Hydro's export price forecast.

Rationale for Question:**Response:**

- a) Yes. Please refer to figures 27 and 28 of the Report which show the magnitude of the dependable energy in the forecast and an illustration of the revenue magnitudes for the components in a prior MH forecast, respectively.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

COALITION IEC (DAYMARK EXPORT) – 15

Tab and Appendix:	Daymark's Export Pricing and Revenues Review	Page No. (and line no. if applicable):	Page 48
Topic:	High and low cases methodology		
Sub Topic:			
Issue:	Natural gas price and heat rate		

Preamble:

On page 48, Daymark indicates that “the high- and low-price cases were developed by changing the natural gas price in the above calculation and keeping the heat rate consistent.”

Question:

- a) Does Daymark consider it reasonable that “the high- and low-price cases were developed by changing the natural gas price in the above calculation and keeping the heat rate consistent”?
- b) If not, what are the implications on Manitoba Hydro's export price forecast?

Rationale for Question:

Response:

- a) The use of a market heat rate to test the sensitivity of a given energy price forecast to changes in natural gas prices is a common simplifying assumption in lieu of testing the impacts of natural gas price changes in a market simulation model. We believe MH's choice of gas price scenarios from the EAI AEO was reasonable.

However, the natural gas price sensitivity, while a significant uncertainty, is not the only uncertain parameter that would be included in a market price uncertainty analysis. High and Low cases (such as P10 and P90 alternatives) would consider in fuel prices, retirements and additions, loads among the parameters to vary in assessing the range of market prices.

- b) Daymark has not prepared forecasts needed to provide an answer and the information available from the four market forecasts do not provide information responsive to this question.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION: