

## Board Counsel Book of Documents

### Volume 2

#### Drought Management, Export, and Hydrology Panel

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# 1

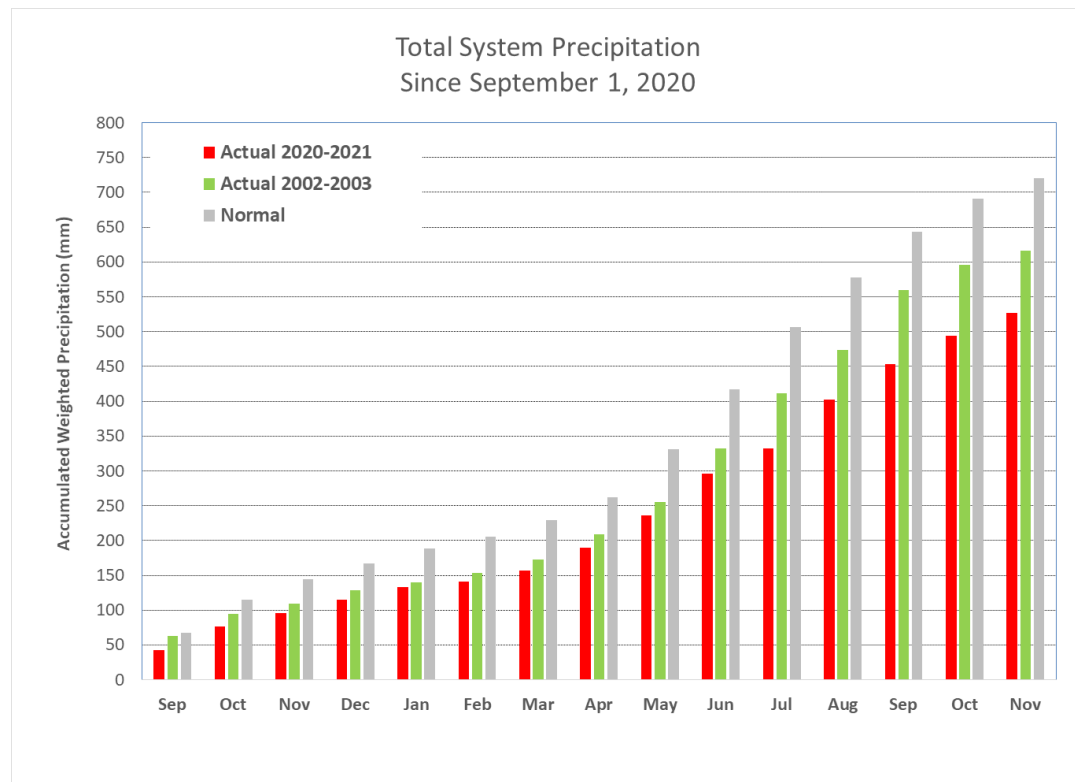
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1 by the end of July 2021. These operations were necessary to ensure firm demands  
 2 could be met assuming drought conditions persisted for the remainder of the year,  
 3 above normal winter loads in winter 2021/22, followed by severe drought and above  
 4 normal winter loads in 2022/23. With these flow reductions, higher than budgeted  
 5 imports were required starting in July.

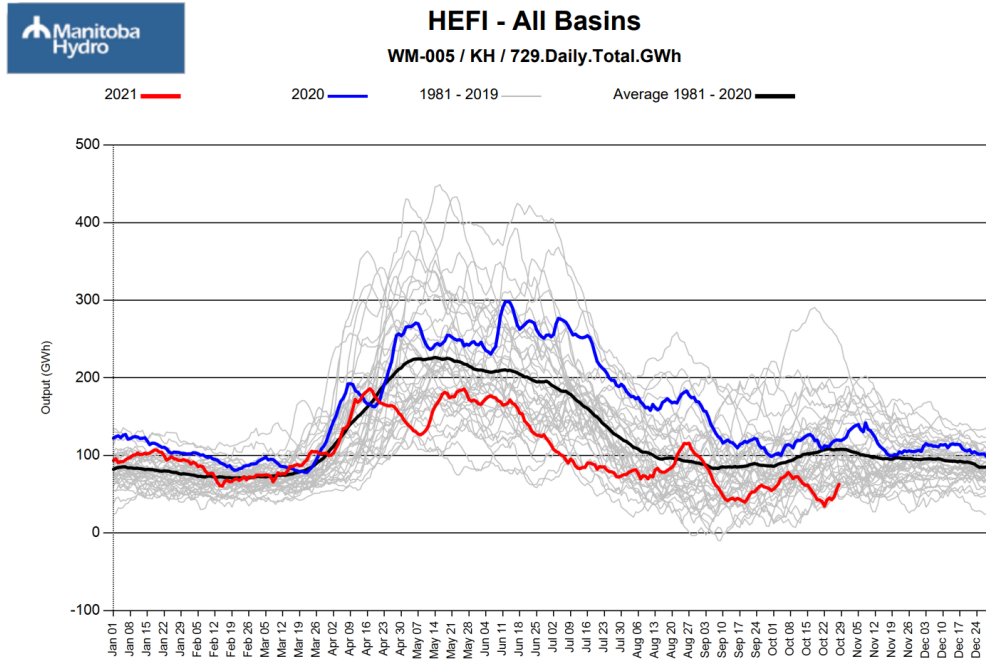
6  
 7 Figure 1 provides the total system accumulated precipitation from September 2020  
 8 to November 2021, with a comparison to actual precipitation for the period of  
 9 September 2002 to September 2003 during which the last drought occurred, as well  
 10 as normal accumulated precipitation. Figure 1 demonstrates that precipitation for  
 11 2020-2021 period has been well below normal, as well as being below levels  
 12 experienced during from the 2002-2003 drought.

13  
 14 Figure 1: Total System Inflows since September 1, 2020

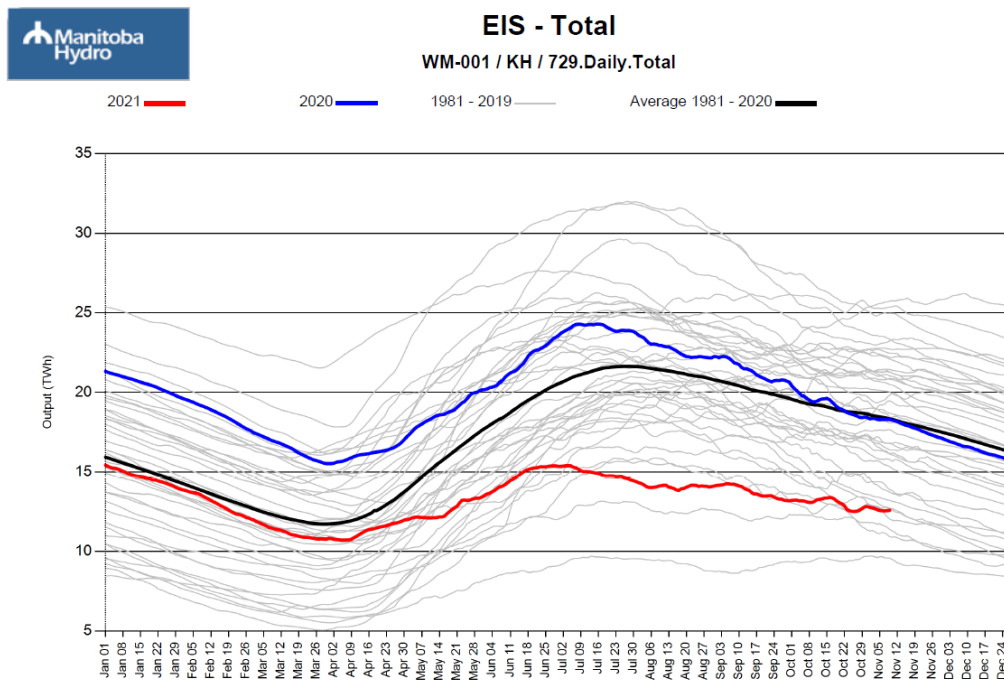


15  
 16 Figure 2 provides the 2020 and 2021 hydraulic energy from inflows compared to  
 17 average, and Figure 3 provides energy in storage for the same period compared to  
 18 average. These figures demonstrate that hydraulic generation inflows and energy in  
 19 storage are well below average in 2021.

1 Figure 2: Potential Hydraulic Energy from Inflows – All Basins



3 Figure 3: Total Potential Energy in Storage



5  
6 Hydraulic generation in the 2021/22 Forecast is projected to be approximately 27%  
7 below hydraulic generation assumed in the 2021/22 Budget, and total supply is



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June 9, 2021

THE PUBLIC UTILITIES BOARD OF MANITOBA  
400-330 Portage Avenue  
Winnipeg, Manitoba  
R3C 0C4

ATTENTION: Dr. D. Christle, Board Secretary and Executive Director

Dear Dr. Christle:

**RE: Manitoba Hydro Submission in Response to Order 53/21**

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On May 10, 2021, the Public Utilities Board (“PUB”) issued Order 53/21 in response to the Consumer Coalition’s (the “Coalition’s”) Application for the PUB to commence a status update process with respect to Manitoba Hydro. To assist in the PUB’s factual assessment and determination on the threshold question of whether there has been a substantial change in Manitoba Hydro’s financial circumstances since Orders 59/18 and 69/19 to the date of the Coalition’s Application, Order 53/21 directed Manitoba Hydro to file versions of the following select documents that are currently in use in the management and operations of Manitoba Hydro:

1. the Integrated Financial Forecast (“IFF”);
2. the Capital Expenditure Forecast (“CEF”);
3. the Prospective Cost of Service Study; and
4. the 2021/22 and 2022/23 forecast of net export revenue and net income for each of the possible water flow conditions, in a form similar to the table and graph provided in response to 2019/20 GRA PUB/MH I-29(b) and (c). The forecast of net export revenue and net income should incorporate water flow conditions updated to at least March 15, 2021. This is to be filed along with an explanation as to the probabilities of droughts (defined as below average hydraulic generation) in each of 2021/22 and 2022/23.

As noted in its response of April 12, 2021, Manitoba Hydro does not have a current approved IFF and CEF. The Corporation recently approved Strategy 2040 in January 2021 and since that time has been engaged in the process of identifying, assessing and developing the various

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initiatives underlying Strategy 2040 with consideration of the uncertainty related to potential future changes in the energy landscape. As the initiatives are further studied and developed, they will influence the assumptions incorporated into the long-term financial forecast (i.e. IFF and CEF) underpinning Manitoba Hydro's winter 2022/23 application.

In accordance with the PUB's direction in Order 53/21 requiring more current information regarding Manitoba Hydro's circumstances, Manitoba Hydro is providing the following information used in the management and operations of the corporation:

1. In lieu of a long-term financial forecast, the following financial information is provided:
  - Actual financial results for 2018/19 and 2019/20 compared to the Outlook/Budget for these years as provided in the 2019/20 GRA; and
  - The budgeted net income for 2020/21 and the 2020/21 forecast (as of December 31, 2020) and the budgeted net income for 2021/22, as well as a comparison to the net income for these years in Exhibit 93 from Manitoba Hydro's 2017 GRA.
2. Actual capital expenditures for 2018/19 and 2019/20, and the capital budget for 2020/21 and 2021/22 compared to the forecast of capital expenditures for these years as provided in the 2019/20 GRA.
3. The results of the Prospective Cost of Service Study for 2020/21 ("PCOSS21"), which reflects Bipole III fully in-service, as well as costs related to the Keeyask Generating Station (reflecting a June 2020 in-service assumption), the Manitoba Minnesota Transmission Project ("MMTP") and the Great Northern Transmission Line ("GNTL") project.
4. Current water conditions, energy in storage and hydraulic generation information, and the range of net export revenue for 2021/22 given low and high-water flow conditions.

Consistent with the PUB's direction in Order 53/21, the enclosed information provides the PUB with a fulsome and current picture of Manitoba Hydro's actual financial circumstances, and how costs are being borne by the different customer classes.

**Manitoba Hydro's Actual Financial Results are Consistent with Past Forecasts – There Has Not Been a Substantive Change Since the Issuance of Orders 59/18 and 69/19**

**Appendix 1** of this submission provides a comparison of Manitoba Hydro's actual financial results for its Electric Segment for 2018/19 compared to the Outlook provided in the Supplement to Manitoba Hydro's 2019/20 GRA, and actual results for 2019/20 compared to the Compliance Filing to Order 69/19. Appendix 1 also provides the forecast net income for the 2020/21 fiscal year as provided in Manitoba Hydro's 3<sup>rd</sup> quarter financial report and the

budget of net income for 2021/22.

The comparisons provided in Appendix 1 clearly demonstrate that for the period 2018/19 through to 2021/22, Manitoba Hydro's actual and budgeted net income results are consistent with the financial forecasts relied upon by the PUB in making its decisions in Orders 59/18 and 69/19. When compared to the Exhibit 93 scenario from Manitoba Hydro's 2017 GRA, which the PUB indicated was directionally consistent with its decisions in Order 59/18, the cumulative budgeted net income balances for the 2020/21 – 2021/22 period are different by only \$17 million. Notably, the \$17 million is considerably lower than the \$45 million balance referenced in the expert evidence filed on behalf of the Coalition in Manitoba Hydro's 2019/20 GRA (page 29) which the Coalition relied upon in concluding that \$45 million is not a material change for a utility the size of MH:

*“Removing the \$76 million variance related to the 2017/18 actual financial results from the MH analysis will reduce the change in retained earnings since the last GRA to \$45 million (\$121 million less \$76 million). Even without considering if there are any adjustments that should be made to MH Exhibit #93 to appropriately conduct this analysis, a \$45 million change in retained earnings from the 2019/20 projected amount of \$3.047 billion in the exhibit represents a 1.5% change ( $\$45/\$3,047$ ). This is not a material change in the projected retained earnings of a utility the size of MH.”*

When comparing actual and recently budgeted capital expenditures to forecast levels provided to the PUB in Manitoba Hydro's 2019/20 GRA a similar and consistent result occurs. **Appendix 2** of this submission provides Manitoba Hydro's actual capital expenditures for its major new generation and transmission projects and business operations capital for 2018/19 and 2019/20 compared to the forecast provided in the Supplement to the 2019/20 GRA. In addition, Manitoba Hydro's current approved capital budget for 2020/21 and 2021/22 is comparable to the capital forecast for these years as contained in the 2018 Capital Expenditure Forecast (“CEF18”) as presented at the 2019/20 GRA. Notably, annual differences between Manitoba Hydro's actual and current budget capital expenditure levels compared to the forecasts reviewed in the 2019/20 GRA range from less than 1% to approximately 5%.

As the above analysis demonstrates, there has not been a substantive change in Manitoba Hydro's circumstances from that which was forecasted in the proceedings resulting in Orders 59/18 and 69/19. The impacts of bringing Keeyask and other major capital projects into service was contemplated by Manitoba Hydro, interveners and ultimately the PUB when it last established just and reasonable rates. The Coalition acknowledged this in its closing submission for the 2019/20 GRA (transcript pages 1065-1066) as follows:



*“Slide 57 is just a reminder of Mr. Bowman that this Board was not myopic in the past. Historic rate increases have always kept in mind that Keeyask is coming. There's no need to panic.” [p. 1065]*

*“And it is helpful to remember with the good advice of Mr. Bowman and Mr. Rainkie that early advancement of Keeyask was the plan. It shouldn't be grounds for panic. And in the second bullet on this page, Mr. Rainkie talks about his experience, his commitment on behalf of Manitoba Hydro to take all necessary actions to manage its costs to mitigate the impact of the capital development. .... As Mr. Rainkie points out, the advancement of Keeyask is not a negative change in circumstances that requires emergency regulatory action. It is a very delivery of a plan that was put forward by Manitoba Hydro.” [p. 1066]*

### **The 2021 Prospective Cost of Service Study (PCOSS) is Consistent with Expectations**

**Appendix 3** of this submission provides the results of Manitoba Hydro's Prospective Cost of Service Study for the 2020/21 fiscal year, which reflects Bipole III fully in-service, as well as costs related to the Keeyask Generating Station (reflecting a June 2020 in-service assumption), MMTP and GNTL projects. Appendix 3 also compares the revenue cost coverage (“RCC”) ratios of PCOSS21 to scenarios filed in the 2017 GRA and 2019/20 GRA that provided an indication of the level of class RCC ratios that could be expected once Bipole III was brought into service.

This comparison demonstrates that the results in PCOSS21 are consistent with the information considered by the PUB in reaching decisions in both Orders 59/18 and 69/19. Specifically, the zone of reasonableness (“ZOR”) status remains the same such that the customer classes that were within the ZOR in the scenarios filed in the last two GRAs remain in the ZOR, and those classes outside of the ZOR remain outside the zone. This analysis demonstrates that there has not been a significant change in the RCC ratios when considering the in-service of the major capital projects.

### **Too Early to Speculate and Draw Conclusions on the Impact of Low Water Flows**

In Order 53/21, the PUB acknowledged that one of the greatest risks faced by Manitoba Hydro is hydrology and directed Manitoba Hydro to provide hydrology information, actual water flow and reservoir conditions and expected inflows. **Appendix 4** provides information on the 2018/19, 2019/20, 2020/21 actual water flow conditions and the associated impacts on hydraulic generation. In addition, Appendix 4 provides a discussion of 2021/22 current water conditions, energy in storage and hydraulic generation information, as well as a sensitivity

analysis of the potential upper and lower net export revenue changes.

The historical water flow information identifies that for the periods 2018/19 through to 2020/21, water levels were, for the most part, close to or above average resulting in hydraulic generation that ranged from 5% below to 9% above the hydraulic generation assumed in the budgets for these years. For the 2021/22 forecast period, overall system flows are approximately 80% of average for this time of year and hydraulic generation is projected to be 5% below budget, well within the typical year to year variability.

As hydraulic generation and net revenues are largely dependent on spring and summer rainfall, it is too early to assess the impact of low water conditions with certainty as water supplies can recover to average or above average relatively quickly following persistent, widespread rain events. As always for Manitoba Hydro, if there is a material change in its financial circumstances due to actual water flows throughout the year or as a result of other events, at the direction of the Manitoba Hydro-Electric Board, Manitoba Hydro will avail itself to the relevant provisions of *The Crown Corporations Governance and Accountability Act* (the "CCGAA") to apply for any necessary rate relief from the PUB at that time.

#### **No Substantial Change in Circumstances Has Occurred – Existing Rates Remain Just and Reasonable**

In Order 53/21, the PUB indicated that pursuant to subsection 26(3) of the CCGAA, the PUB must firstly be satisfied that Manitoba Hydro's circumstances have changed substantially before it proceeds with a review of prior rate Orders. Recently the PUB similarly considered whether the circumstances of the Manitoba Public Insurance Corporation ("MPI") had substantially changed pursuant to Section 26(3) of the CCGAA as a direct result of the pandemic on MPI's business.

In Order 71/20, the PUB accepted the position advanced by MPI in its Application that MPI experienced a substantial change in circumstances such to justify a rebate to its customers. The PUB's finding was based upon significant changes in financial results including an actual reduction in claim costs for the one month period from March 16, 2020 to April 15, 2020 of \$29 million and forecasted additional reductions in claim costs of \$29 million between April 16, 2020 and May 15, 2020 (Order 71/20 at page 24) during the initial months of the pandemic in Manitoba. The evidence before the PUB was that collision claims frequency was 63.5% under budget (Order 71/20 at page 11).

Unlike MPI, Manitoba Hydro has not experienced a change in its circumstances anywhere near the degree or immediacy experienced by MPI over the last year due to the pandemic or otherwise. As demonstrated in the attached documents, Manitoba Hydro's overall financial results and near-term forecasts are consistent with the information previously provided in the proceedings leading up to Orders 59/18 and 69/19. There has not been a substantive change to the circumstances of Manitoba Hydro as alleged by the Coalition.

For all of the above noted reasons, together with the reasons provided in Manitoba Hydro's submission to the PUB of April 12, 2021, the Coalition's Application should be dismissed.

Manitoba Hydro submits that the information provided herein fully satisfies the intention of the PUB as expressed in Order 53/21. To the extent that the PUB may find that this submission and the enclosed information does not fully satisfy Order 53/21, Manitoba Hydro requests that the PUB accordingly vary Order 53/21 in accordance with section 36 of the Public Utilities Board Rules of Practice and Procedure.

Should the PUB elect to receive further submissions from the Coalition or any past Interveners of Record on this filing, Manitoba Hydro respectfully requests that the PUB provide it with the opportunity to reply to those submissions as a matter of procedural fairness.

Should you have any questions with respect to this submission, please contact the writer at 204-360-3257 or Darryl Martin at 204-360-4487.

Yours truly,

**MANITOBA HYDRO LEGAL SERVICES DIVISION**

Per:



**BRENT A. CZARNECKI**  
Barrister & Solicitor



government pandemic cost saving initiative. In addition, the corporation is forecasting slightly higher interest costs due to earlier timing of debt borrowings that were required to ensure liquidity in response to market disruptions caused by COVID-19.

At the time of the 2020/21 budget submission, the corporation had assumed an earliest 1<sup>st</sup> unit in-service date for the Keeyask Generating Station of June 2020. With delays in construction due to COVID-19 and other factors, the corporation's expected earliest 1<sup>st</sup> unit in-service date was subsequently revised to winter 2021 which was still ahead of schedule. As a result, the forecasted net income projection for the 2020/21 fiscal year as of the 3<sup>rd</sup> quarter was \$99 million primarily due to lower depreciation, as well as lower finance expense as interest costs continue to be capitalized during construction. The 2021/22 budget assumes the remaining Keeyask units will be placed in-service by the end of the fiscal year.

### Comparison to Exhibit 93

Exhibit 93 is a financial forecast scenario from Manitoba Hydro's 2017 GRA that is based on Manitoba Hydro's updated MH16 financial forecast and includes the PUB's interim rate increase of 3.36% effective August 1, 2017. Beginning in the 2018/19 test year, Exhibit 93 assumed equal annual rate increases of 3.57% through to 2035/36 at which time the debt/equity target of 75/25 is achieved. The PUB stated in its findings in Order 59/18 and again in order 69/19 that,

*"The Board finds that with minor adjustments, this scenario is directionally consistent with the Board's decisions in this Order."*

Table 2 below compares the forecasted net income for 2020/21 and the budgeted net income for 2021/22, to the net income levels from the Exhibit 93 scenario for the same periods.

**Table 2**

(\$ millions)	2020/21	2021/22	Cumulative Net Income	Cumulative % Difference
Forecast/Budget Net Income	\$99	\$177	\$276	
Exhibit 93 Net Income	\$115	\$178	\$293	
Difference	(\$16)	(\$1)	(\$17)	6%

Based on the above analysis, it is evident that a substantial change in Manitoba Hydro's financial circumstances has not occurred since the issuance of Orders 59/18 and 69/19.



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July 6, 2021

THE PUBLIC UTILITIES BOARD OF MANITOBA  
400-330 Portage Avenue  
Winnipeg, Manitoba  
R3C 0C4

ATTENTION: Dr. D. Christle, Board Secretary and Executive Director

Dear Dr. Christle:

**RE: Response to Intervener Comments on Manitoba Hydro's Response to Order 53/21**

On May 10, 2021, the Public Utilities Board ("PUB" or "Board") issued Order 53/21 which directed Manitoba Hydro to provide certain documents to assist the PUB in its assessment and determination on the threshold question of whether there had been a substantial change in Manitoba Hydro's financial circumstances since Orders 59/18 and 69/19. On June 9, 2021, Manitoba Hydro complied with the direction in Order 53/21 by providing current information used in the management and operations of the corporation.

By letter dated June 18, 2021, the Board provided interveners an opportunity to file written comments by June 24, 2021 to address Manitoba Hydro's submission. On June 24, 2021, the Board received written comments from the Consumers Coalition (the "Coalition"), the Manitoba Industrial Power Users Group ("MIPUG"), the Assembly of Manitoba Chiefs ("AMC"), and Manitoba Keewatinowi Okimakanak ("MKO"). By letter dated June 28, 2021, the PUB provided Manitoba Hydro the opportunity to reply to the comments filed by the above interested parties by noon on Tuesday, July 6, 2021, which is provided herein. As requested by the PUB, Manitoba Hydro is also providing comments with respect to the motion filed by the Coalition to formally enter the Hansard transcript record of the Standing Committee on Crown Corporations of June 29, 2021 into evidence in this proceeding.

**Intervener Submissions Do Not Refute that the Information Filed by Manitoba Hydro Demonstrates that its Financial Circumstances have Remained Substantially the Same**

Manitoba Hydro provided the PUB with a fulsome and current picture of its actual and most recent projected financial position as directed by the PUB. This information clearly establishes that there has not been a substantial change in Manitoba Hydro's financial circumstances

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since Orders 59/18 and 69/19 when the PUB approved just and reasonable rates.

Although both the Coalition and MIPUG properly reiterate the actual threshold issue that is before the PUB, remarkably, neither party provided any substantive analysis on the financial information provided by Manitoba Hydro or any meaningful refutation of the conclusion that there has not been a substantial change in Manitoba Hydro's financial position relative to information provided in the hearings leading up to Orders 59/18 and 69/19. Rather, and instead of addressing the actual threshold issue before the PUB, the submissions of both parties focussed almost entirely on the fact that a long-term financial forecast was not disclosed as part of Manitoba Hydro's response. As part of this tactic, the Coalition listed the typical inputs to the long-term financial forecast that were not provided by Manitoba Hydro (i.e. Load Forecast, Power Resource Plan, Loan Act Submission and an energy price outlook) in attempt to further support its allegation that a substantive change in the circumstances of Manitoba Hydro has occurred. The Coalition then urges a finding from the PUB that Manitoba Hydro was in contempt of the PUB's direction and seeks subsequent processes to obtain this information.

This approach taken by the Coalition and MIPUG is a diversionary attack on Manitoba Hydro's credibility as they offer no substantive review of the information actually filed by Manitoba Hydro and neither offer any assistance to the Board for the determination of the threshold issue before it.

### **Manitoba Hydro is not Concealing Evidence as Alleged**

Each of the interveners make serious allegations with respect to Manitoba Hydro's compliance with Order 53/21. While ignoring the substantive information that was provided by Manitoba Hydro in compliance with the PUB's direction and offering no meaningful analysis, the parties simply accuse that Manitoba Hydro "chose not to comply", that it "universally ignores, obfuscates, challenges", "defiantly denying the Board", demonstrating a "lack of respect for the Board" and that Manitoba Hydro's submission should be considered "contemptuous". These allegations are uncalled for, unfounded, highly offensive, without any basis or merit and offer nothing to the process established by the Board to consider the threshold issue currently before it.

Despite Manitoba Hydro's repeated public clarifications that a long-term financial forecast (previously referred to as an Integrated Financial Forecast or an "IFF") does not exist, intervener submissions insist that a long-term financial forecast (and the various inputs that comprise a long-term financial forecast) must exist, are available and currently in use by the management for the basis of making decisions for the corporation. The simple reason that an

IFF does not exist at this time is the well-known public fact that Manitoba Hydro is in the process of developing an Enterprise-wide business plan and Integrated Resource Plan (“IRP”) analysis. Going forward, this work will allow the corporation to develop long-term financial forecasts which will be more informed and comprehensive as they will be influenced by the initiatives comprising Strategy 2040, as well as the Enterprise-wide business plan and IRP analysis.

Manitoba Hydro’s President and CEO Jay Grewal recently confirmed at the June 29, 2021 session of the Manitoba Legislative Standing Committee on Crown Corporations that a long-term financial forecast does not exist:

*“However, we cannot supply documents or projections that, quite frankly, simply do not exist.... Simply put, at this point in time we do not have a 20-year forecast. Why? The energy landscape we are operating in is changing and, by that, supply and demand, which are key components of a long-term financial plan, are in a state of change. If we were continuing status quo, if this energy landscape was not changing, absolutely we would have a long-term financial forecast in place, as we have always in the past....When we provide a long-term financial forecast, we want our customers to have confidence in our plans and to be able to make decisions based on that. Our next 20-year financial forecast is going to be informed by the new integrated resource plan which takes into account evolving energy needs and what customers value when considering their energy supply,...”*

It would be imprudent and a disservice to the PUB’s processes for Manitoba Hydro to artificially prepare and provide a long-term forecast in advance of developing the initiatives underlying Strategy 2040, the Enterprise-wide Business Plan and the IRP analysis as it would not be properly informed by the results of those processes. Completing such a superficial exercise would be inefficient and a waste of precious corporate resources while adding no additional value to Manitoba Hydro’s customers.

Manitoba Hydro appreciates that this is a new approach to long-term financial forecasting and this change is foreign and for some interveners may be difficult to comprehend and accept at this time. However, such improvements in process and planning to better align with the development of Strategy 2040 and related initiatives does not mean that a substantive change in Manitoba Hydro’s circumstances has already occurred, nor do they represent a substantive change in Manitoba Hydro’s financial circumstances in the near term. In fact, these improvements in planning and related processes are beneficial in many respects and will address previous concerns raised by interveners and the PUB regarding the lack of an adequate Corporate strategic plan and IRP to underpin a long-term financial forecast to be

filed as part of future GRAs. The next long-term financial forecast will underpin the utility's first five-year GRA at which time a prospective rate setting process would be appropriate and the PUB and all interested parties will have an opportunity to examine these changes and how they relate to future rates.

Since the filing of its June 9<sup>th</sup> Submission, Manitoba Hydro has provided Crown Services with an updated Annual Business Plan for the 2021/22 fiscal year for approval. The Annual Business Plan provides, among other important information, the line item details of Manitoba Hydro's Consolidated Statement of Net Income. As previously indicated, once approved by government, this plan will be made publicly available on Manitoba Hydro's website.

**Accepting the Interveners' Recommendations for an Additional Process is Unnecessary, Unwarranted and Would Represent an Abuse of the PUB Process**

Several parties recommend additional processes such as for the PUB to issue subpoenas to Manitoba Hydro for information that does not exist and to send in consultants (Daymark) to Manitoba Hydro's offices to search for information that does not exist. The parties also recommend that the PUB simply infer that there has in fact been a substantial change in Manitoba Hydro's circumstances and to immediately commence a status update process, akin to a full GRA process, to evaluate documents and information that simply do not exist. There is no legal or other basis to undertake such unprecedented aggressive enforcement or investigatory action in these circumstances.

MIPUG also criticizes Manitoba Hydro for the format of its response, stating that its submissions and the attached documentation are not "evidence". With respect, MIPUG ignores sections 24(2), 24(6) and 41 of *The Public Utilities Board Act* and the long history of the PUB accepting information in this fashion. Each of the parties routinely provide submissions and evidence to the PUB through legal counsel. None of the parties have advanced any reasonable basis for departing from the past practice of the PUB to accept evidence in this format.

MIPUG further suggests that Manitoba Hydro's June 9<sup>th</sup> submission cannot be relied upon as it is "only submissions from counsel". In addition to it being a routine and acceptable practice of receiving parties' submissions directly from legal counsel, legal counsel are also subject to professional ethical standards and the implication that Manitoba Hydro's legal counsel would breach those obligations by intentionally misleading, misrepresenting or concealing evidence from the PUB is highly offensive.

Contrary to the interveners' positions that Manitoba Hydro should have and did not advance

a Review and Vary (“R&V”) Application, Manitoba Hydro specifically requested the PUB to treat its initial submission as a R&V Application if the PUB determined that Manitoba Hydro was not strictly compliant with the spirit, intent and direction of Order 53/21:

*“To the extent that the PUB may find that this submission and the enclosed information does not fully satisfy Order 53/21, Manitoba Hydro requests that the PUB accordingly vary Order 53/21 in accordance with section 36 of the Public Utilities Board Rules of Practice and Procedure.”*

Manitoba Hydro submits that this request ought to be considered by the PUB before consideration of or taking any unwarranted investigatory or enforcement action for the reasons set out above.

### **Response to the Coalition’s Motion to Introduce the Standing Committee Transcript as Evidence**

On July 2, 2021, the Coalition made a motion seeking leave of the PUB to submit the Hansard transcript record of the June 29, 2021 sitting of the Standing Committee on Crown Corporations as new evidence to the Coalition’s Application. On that same day, the PUB requested Manitoba Hydro to include a response to the motion in this reply.

To assist with the efficiency of this process, Manitoba Hydro does not object to the June 29<sup>th</sup> transcript being placed before the Board as evidence and is confident that the PUB will use its judgement and discretion in affording the appropriate weight to the transcript in its deliberations on the actual substantial change threshold issue before it.

As part of its motion, the Coalition argues that the comments of Ms. Grewal relating to an August 2020 Treasury Board submission and future rate assumptions therein implies that rates currently being charged by Manitoba Hydro are no longer just and reasonable as they may not be sufficient for the Corporation to meet its financial targets. The Coalition also argues that by not providing Manitoba Hydro’s annual business plan proposed to and currently being reviewed by government, Manitoba Hydro is not compliant with Order 53/21. The Coalition finally submits that Ms. Grewal’s comments are determinative of the threshold question constituting that Manitoba Hydro’s circumstances have substantially changed.

Manitoba Hydro submits that any rate increases assumed by Manitoba Hydro beyond the 2019/20 fiscal period should not be considered “new” information that had not previously been provided to and considered by the PUB in setting existing just and reasonable rates in Orders 59/18 and 69/19. Notably, the assumed 3.5% rate increase is less than the 3.57%

annual rate increases assumed in Exhibit 93 (from Manitoba Hydro's 2017 GRA) for every year starting with 2018/19 and ending in 2035/36. The PUB previously noted that the rate increases assumed in Exhibit 93 are directionally consistent with their findings and on page 8 of Order 69/19, the PUB stated:

*"In Order 59/18, the Board approved a 3.6% overall rate increase effective June 1, 2018. In that Order, the Board commented that the Integrated Financial Forecast ("IFF") scenario filed in the proceeding as Manitoba Hydro Exhibit 93 supported the Board's decision on the level of the overall rate increase. ... The Exhibit 93 scenario resulted in equal annual rate increases of 3.57%, beginning in 2018/19."*

As stated by Ms. Grewal and as consistent with the Exhibit 93 scenario, the assumed 3.5% is "prudent", "important" and required to set the trajectory to achieve the current 75-25 debt-equity target in 20 years. This fact was considered by the PUB in Orders 59/18 and 69/19. The assumption of annual rate increases of 3.5% is not evidence of a substantial change in the circumstances of Manitoba Hydro. Rather that assumption is consistent with the evidence that was before the PUB in the last two rate applications.

In addition to the above, and as noted by Ms. Grewal, the 3.5% rate increase is only an assumption (consistent with previous forecasts provided to the PUB) in an unapproved annual business plan for fiscal 2021/22 before the Minister in accordance with *The Crown Corporations Governance and Accountability Act*. The annual business plan and the financial forecasting and analysis which informs that plan is not equivalent to a long-term financial plan. The Coalition's assumption that an annual business plan must have involved long-term financial forecasting is incorrect.

Manitoba Hydro notes that at page 70 of the transcript, Ms. Grewal provided additional clarification on the type of information that was provided to Treasury Board as part of the last budget process:

*"But I believe we provided detailed financial forecasts and capital for the current fiscal that we are in. I am not aware that we shared longer dated information, particularly anything that we do not have or did not have at the time we submitted our budget and - to Treasury Board and responded to the questions there."*

When reviewing all of Ms. Grewal's comments as a whole, they are entirely consistent with Manitoba Hydro's evidence in this proceeding. The transcript does not in any way indicate that Manitoba Hydro was non-compliant with Order 53/21 or that the circumstances of Manitoba Hydro have changed substantially as now alleged by the Coalition.



Manitoba Hydro has not applied for a rate increase in 2021 and has no direction or intention to do so at this time. An assumption of future near-term rate increases that has not yet been formally approved is not an indicator that current rates are unjust and unreasonable.

Overall, the Coalition's desperate last hour attempt to present the transcript as new ground-breaking evidence purporting to validate their Application actually provides further support to Manitoba Hydro's position in this Application and reinforces its compliance with Order 53/21. As such, the Coalition's motion does nothing to change the conclusion that no substantive change in circumstances has occurred. Manitoba Hydro has been forthcoming with providing the actual and approved financial information that it has and that is currently being used in the management of the utility as was directed by the PUB.

### **Conclusion**

Manitoba Hydro reiterates that the information it provided in response to the direction of the PUB in Order 53/21 clearly establishes that the financial circumstances of Manitoba Hydro have remained substantially the same. Manitoba Hydro submits that the Coalition as Applicant, and all interveners, have failed in their collective efforts to establish on any factual basis that there has been a substantial change in Manitoba Hydro's circumstances such to warrant the relief requested by the Coalition of having the PUB commence a status update hearing process, to immediately review existing rates as recently established as just and reasonable in Orders 59/18 and 69/19. Accordingly, the Coalition's Application should be dismissed outright by the PUB.

Manitoba Hydro has a strong interest in building a collaborative relationship with interveners and the PUB, but the lack of trust and the adversarial and unfounded attacks launched on Manitoba Hydro as a contemptuous utility by certain interveners do not promote or lend itself to good faith collaboration.

Even if the Coalition established a legal basis for the PUB to immediately commence and conduct a Status Update process as demanded, doing so would not be in the best interests of Manitoba Hydro's customers at this time. Customers' interests would be best served by allowing Manitoba Hydro to continue with its focus on developing the various initiatives underlying Strategy 2040, to build out its Enterprise-wide business plan and to engage with stakeholders on the development of an IRP so as to be in position to develop a more comprehensive and informed long-term forecast that will underpin Manitoba Hydro's next GRA. Disrupting and replacing Manitoba Hydro's plan and related processes to complete this critical work with an unwarranted status update process is not in the public interest.



Should you have any questions with respect to this submission, please contact the writer at 204-360-3257 or Darryl Martin at 204-360-4487.

Yours truly,

**MANITOBA HYDRO LEGAL SERVICES DIVISION**

Per:

A handwritten signature in blue ink, appearing to read "Brent A. Czarnecki". The signature is stylized with a large initial "B" and a long horizontal stroke.

**BRENT A. CZARNECKI**  
Barrister & Solicitor



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Media requests for ministerial comment, contact Communications and Stakeholder Relations: 204-451-7109.

### Twitter Feed

## News Release - Manitoba

September 22, 2021

### DEPARTMENT OF CROWN SERVICES ISSUES DIRECTIVE TO MANITOBA HYDRO TO SUBMIT RATE APPLICATION

Manitoba Crown Services has issued a directive to Manitoba Hydro respecting requirements and parameters for submission of an interim rate application to the Public Utilities Board for 2021-22 and to engage with the Public Utilities Board on submitting a multi-year general rate application, Crown Services Minister Jeff Wharton announced today.

"With the pause in the legislative agenda and Bill 35 not advancing, Manitoba Hydro requires direction on how to move forward to ensure the financial health of the corporation," said Wharton. "The directive will enshrine government's intention to proceed with a full general rate application, while also demonstrating intent to address Manitoba Hydro's immediate fiscal requirements including unanticipated impacts created by recent drought conditions."

The directive allows for an open and transparent process intended to reassure ratepayers, signals support for the independence of the Public Utilities Board and demonstrates the interests of interveners has been heard.

Wharton noted that approval at this time enables timely issuance of the directive prior to the Public Utilities Board releasing its final decision on a date for a special hearing in response to the Consumers Coalition of Canada (Manitoba Branch) petition to order a hearing on power rates.

#### **Manitoba Hydro Directive** [Manitoba Hydro Directive](#)

- 30 -

For more information:

- Public information, contact Manitoba Government Inquiry: 1-866-626-4862 or 204-945-3744.
- Media requests for general information, contact Communications and Engagement: [newsroom@gov.mb.ca](mailto:newsroom@gov.mb.ca).
- Media requests for ministerial comment, contact Communications and Stakeholder Relations: 204-451-7109.

**Tweets from @MBGovNews**

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Manitoba Government Announces Wait Times Significantly Reduced at Spine Assessment Clinic [bit.ly/3He2qq4](https://bit.ly/3He2qq4)

ALT

1

**Manit...** @... · Apr 25

Manitoba Government Signs Memorandum of Understanding with Manitoba Provincial Parks Cabin Owners Association to

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**A Directive to  
Manitoba Hydro Electric Board  
Respecting Manitoba Hydro's General Rate Application**

**Issued by: Honourable Minister Jeff Wharton**

**Effective: \_\_\_\_\_**

## BACKGROUND

The *Crown Corporations Governance and Accountability Act* provides for the issuing of directives to one or more Crown corporations as follows:

- 13(1) The minister may — with the approval of the Lieutenant Governor in Council — issue a directive to a corporation
- (a) respecting matters of policy;
    - (a.1) requiring the corporation to conduct an organizational review as specified in the directive;
    - (a.2) requiring the corporation to do something in accordance with its approved annual business plan or prohibiting it from doing anything inconsistent with that plan;
  - (b) to ensure that practices of two or more corporations are consistent; or
  - (c) to ensure that two or more corporations act in concert with each other or with government departments or agencies when doing so will further efficiency and effectiveness.

## PURPOSE

This directive provides instruction to Manitoba Hydro on the requirements and parameters for submission of an interim rate application to The Public Utilities Board for 2021/22, and provides clarification that Government supports multi-year general rate applications for greater efficiency and cost savings.

## APPLICATION AND SCOPE

This directive applies to Manitoba Hydro's 2021/22 interim rate application and future general rate applications to The Public Utilities Board.

## DIRECTIVE

1. Manitoba Hydro is directed to take all steps necessary to proceed with submission of an interim rate application to The Public Utilities Board (or other application as determined by The Public Utilities Board); and
2. Manitoba Hydro is directed to engage with The Public Utilities Board on submitting multi-year general rate applications.

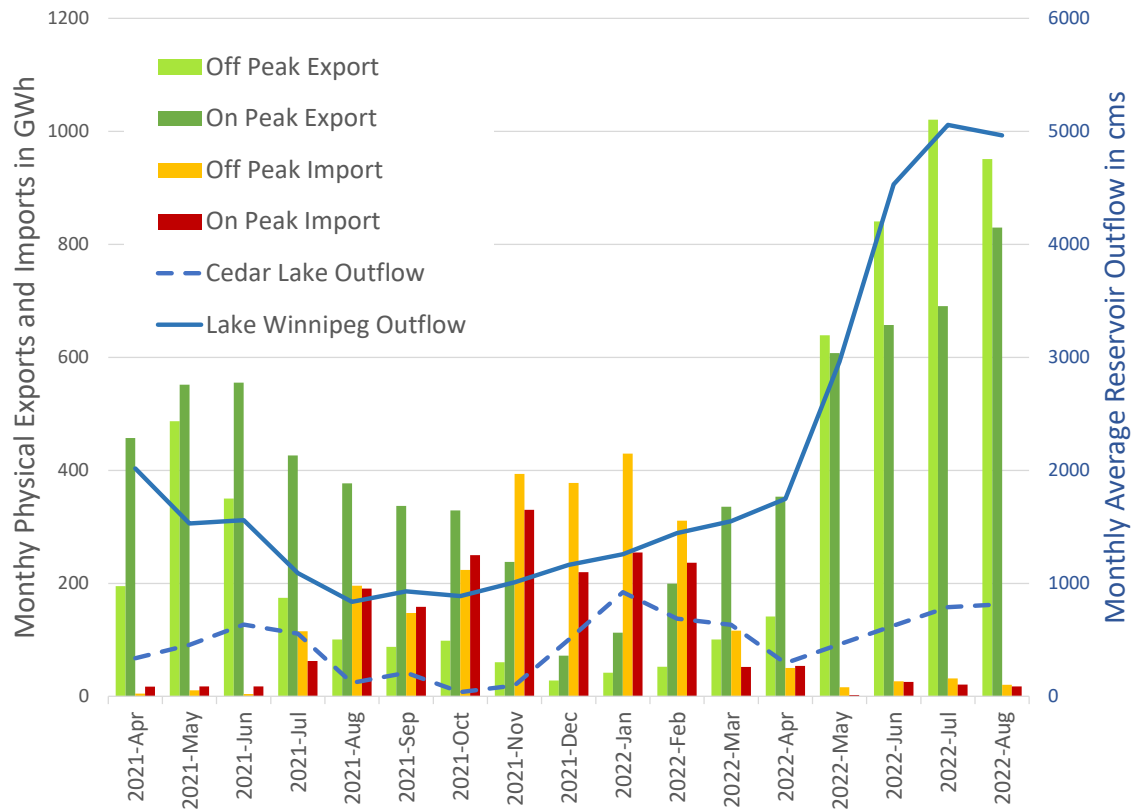
This directive aligns with parameters set forth in The *Crown Corporations Governance and Accountability Act*:

### **Multi-year approvals**

26(1)

A corporation may submit for the approval of The Public Utilities Board pursuant to this Part proposals regarding rates for services relating to a period of not more than three years and the Board shall identify in its order the change approved, if any, with respect to each year.

Figure 5.15 Major Reservoir Outflows and Import and Export Operations



1 By progressively implementing drought operating actions as water conditions deteriorate -  
 2 generally by starting with a reduction in off peak exports, then increasing off peak imports,  
 3 then increasing on peak imports and finally operating thermal generation - Manitoba Hydro  
 4 makes use of available reservoir storage and delays more costly actions until necessary to  
 5 maintain reliable operations through drought. Delaying more costly actions such as on peak  
 6 imports until necessary is a prudent approach that reduces the risk of incurring high costs  
 7 only to have conditions recover, which can happen relatively quickly in the rain season with  
 8 major precipitation events.

### 5.5.3 With Above Normal Snowfall in Winter 2021-22 and then Flood Inflows in 2022, Energy and Reservoir Operations Transitioned from Drought Conservation to Flood Management

9 As winter 2021/22 progressed, Manitoba Hydro closely monitored snow accumulations and  
 10 updated its runoff forecasts. By mid-January, it was clear that snowmelt runoff would be  
 11 better than the extreme dry scenario driving reservoir storage conservation operations,

system conditions in conjunction with the numerous constraints<sup>83</sup> that are present in the operation of their generating stations.

### **C. Summary of Manitoba Hydro's policies and processes**

In general, MH does not transition to any sort of alternative operations process upon water conditions deteriorating beyond a certain point. Rather, the Corporation's operational response to droughts should be thought of as an extension of normal operations wherein it pursues the objective of economic maximization within a set of constraints that are documented in their procedures and used daily. The challenges of operating the system change as system hydrology does, but the framework, which outlines the operational priorities and constraints under which the teams operate, does not change, regardless of whether the system is flush, is in drought, or is anywhere in between.

#### **Priorities and constraints**

Because drought operations are, in fact, ordinary operations under adverse water conditions, the first step in reviewing MH's performance during the most recent drought is to understand the general principles – the priorities and constraints – that govern MH operations. As outlined in their "Drought Management Planning" document,<sup>84</sup> MH manages its system according to a set of priorities. These are, in order:

1. Safety
2. Energy Supply
3. Energy Reserves
4. Short Term Reliability
5. Citizenship/Environment
6. Economics<sup>85</sup>

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<sup>83</sup> For example, Manitoba Hydro operates its hydroelectric stations under licenses that impose limits on flow rates, flow rates of change, lake elevations, etc., which limit dispatch options that might otherwise be economic. Manitoba Hydro also plans and operates its system such that load (native plus firm exports) can be supplied reliably, which acts as a significant constraint particularly when the corporation must plan to have water available at Lower Nelson generating stations for cold snap contingencies.

<sup>84</sup> This document can be found in Appendix 5.3 of the GRA Filing.

<sup>85</sup> GRA Filing, Appendix 5.3, Section 4.





## REPORT FROM **THE CHAIR OF THE BOARD** AND BY **THE PRESIDENT AND CHIEF EXECUTIVE OFFICER**

### Financial Overview

Manitoba Hydro's consolidated net loss was \$19 million for the first three months of 2021–22 compared to \$26 million for the same period last year. The decrease in net loss was primarily attributable to an increase in extraprovincial sales as a result of new firm dependable sales contracts as well as higher export prices. In addition, there was higher domestic revenues as a result of the impact of the December 1, 2020 electric rate increase, customer growth and higher customer usage partially offset by weather impacts. These decreases in net loss were partially offset by higher finance expense and depreciation expense largely due to the first three units of Keeyask being placed into service as well as higher fuel and power purchases as a result of the full quarter impact of costs associated with the in-service of the 500 kV transmission interconnection to the U.S. The increase in the cost of natural gas is a flow through cost passed onto customers through rates approved by the Public Utilities Board (PUB) and therefore does not impact net income.

#### MANITOBA HYDRO'S CONSOLIDATED NET LOSS WAS \$19 MILLION FOR THE FIRST THREE MONTHS OF 2021–22

The consolidated net loss was comprised of a \$12 million net loss in the electric segment, a \$9 million loss in the natural gas segment and a \$2 million net profit in the other segment. The net income for the electric and natural gas segments is expected to improve over the winter heating season assuming normal winter weather.

Manitoba Hydro is currently projecting breakeven net income for the 2021–22 fiscal year compared to the budgeted net income of \$190 million. The significant decrease in net income is primarily driven by lower experienced and projected revenues due to reduced volumes available for sale in the export market as a result of unfavourable water conditions. Southern portions of the watershed supplying the Manitoba Hydro system have experienced drier than normal conditions since summer 2020. Manitoba Hydro projects its total hydraulic generation to be below budget and is planning its operations to ensure the electricity demands of Manitobans will be met if drought conditions continue. The forecast has also been adjusted to reflect an overall rate increase of 2.5% compared to the budgeted rate of 3.5%.

#### MANITOBA HYDRO IS CURRENTLY PROJECTING BREAKEVEN NET INCOME FOR THE 2021–22 FISCAL YEAR COMPARED TO THE BUDGETED NET INCOME OF \$190 MILLION.

Figure 2 Energy in Storage ("EIS") Total

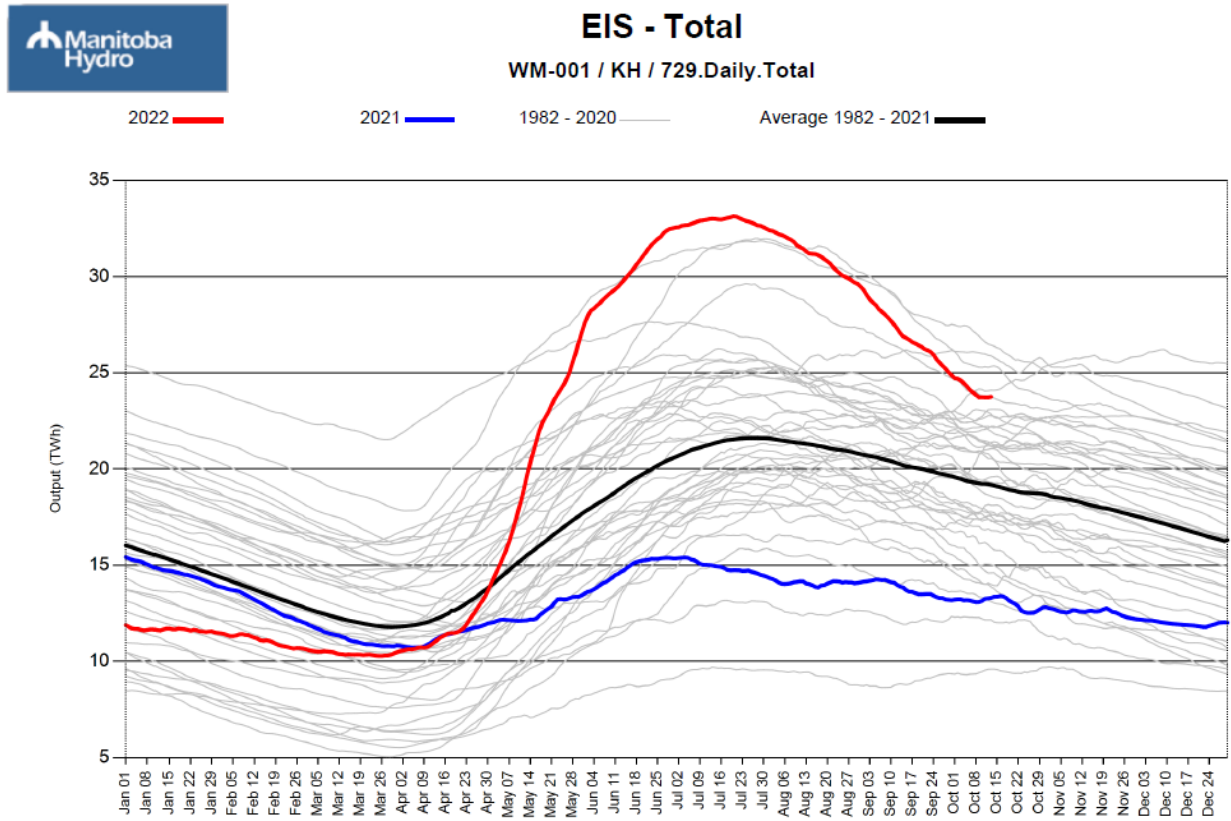
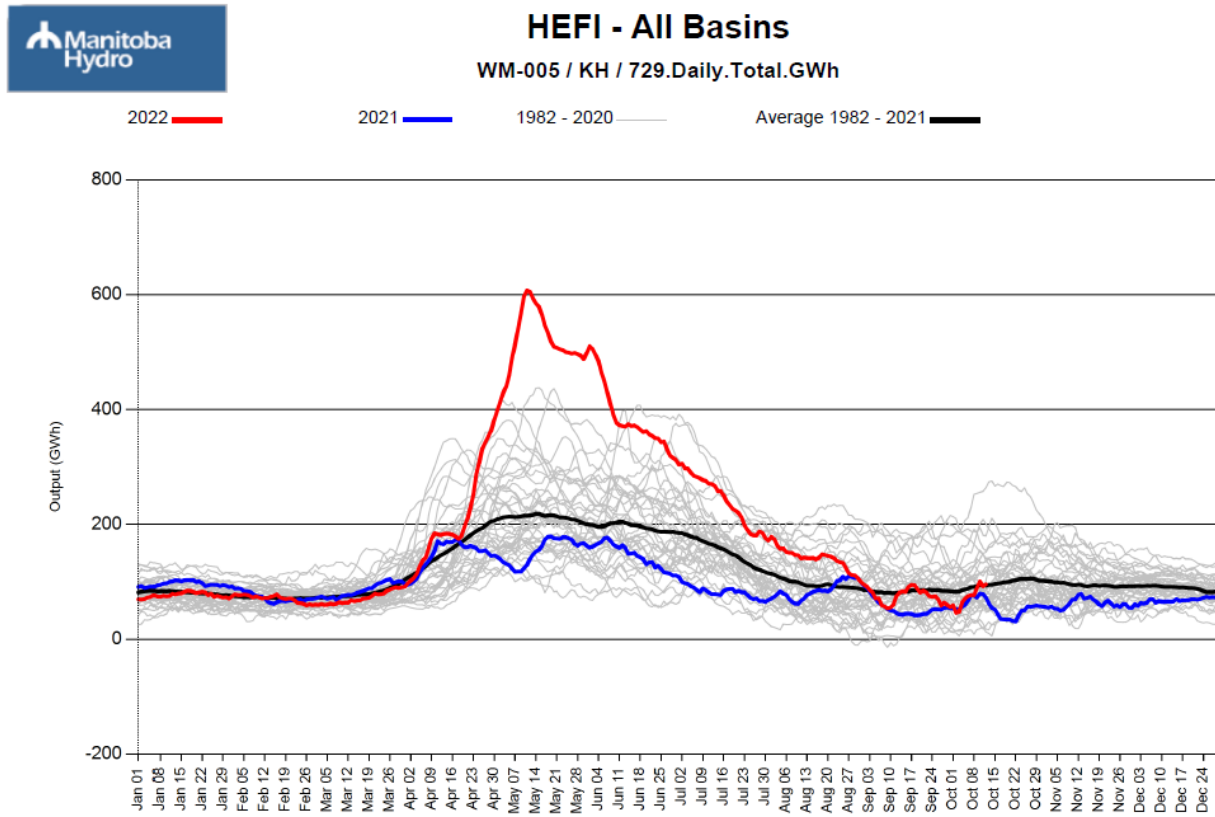


Figure 3 Hydraulic Energy from Inflow ("HEFI") – All Basins



# 1 Manitoba Hydro's Approach to 2021/22 Drought Hedging and Related Financial Impacts

## 1.1 Manitoba Hydro's Drought Hedging Strategy

1 Manitoba Hydro has identified drought risk as a top enterprise risk with the potential for  
2 significant, negative financial impacts to the corporation. From a financial risk perspective,  
3 drought risk is the risk of low water inflows and storage and potentially elevated energy  
4 market prices that impact Manitoba Hydro's net extraprovincial revenue. Drought risk is  
5 affected by both water conditions and energy prices, both of which involve significant  
6 uncertainty and are outside of the corporation's control.

7 While water conditions are an imposed risk that Manitoba Hydro cannot mitigate, price risk  
8 associated with drought can be mitigated to a certain extent. Manitoba Hydro continually  
9 monitors both hydraulic and export market conditions for opportunities to hedge and  
10 mitigate export price uncertainty on its energy market activities.

11 As a result of the significant energy imports forecast to be required to address the reduced  
12 hydraulic generation in 2021/22 and the market conditions causing rising energy market  
13 prices for both electricity and natural gas, Manitoba Hydro implemented a hedging strategy  
14 to mitigate its price risk associated with energy imports.

15 The key goal of Manitoba Hydro's hedging strategy was to focus on overall portfolio risk  
16 reduction and mitigation of the downside risk to net extraprovincial revenues (i.e.,  
17 increased power prices negatively impacting net income).

18 It is worthwhile to highlight that hedging activities have similar properties as insurance  
19 coverage for homeowners. Both have the goal of preventing large or unsustainable losses  
20 for its owner when certain undesirable conditions happen. And just like insurance  
21 coverage, there is an assumed cost associated to hedging activities. There is no hedging  
22 option that is completely risk-free. In order to mitigate future market price risk, there are  
23 both transaction costs and potential gains or losses of the hedge depending on market  
24 conditions. Further, once a hedge is executed there is the mitigation of downside risk (i.e.  
25 increased power prices) but with that comes the elimination of any potential upside

1 opportunity (i.e. reduced power prices) and the financial benefits that which it could  
2 provide.

3 Manitoba Hydro's drought hedging strategy employed a balanced approach throughout its  
4 hedging activity. Having this balanced and staged approach greatly reduced the potential  
5 for purchasing financial hedges that would not be supported by a physical need for imports.

6 The hedging strategy was developed incorporating the principles of Manitoba Hydro's ERM  
7 Framework by providing a consistent and systematic method for risk management that  
8 supports risk-intelligent decision making.

9 Key risk considerations of Manitoba Hydro's drought hedging strategy included:

- 10 • Potential future variability to forecasted hydraulic conditions;
- 11 • Market price volatility and understanding when import requirements may be  
12 higher;
- 13 • Taking a gradual, layered hedging approach to preserve future flexibility.
- 14 • Identification and assessment of hedging options for both electricity and natural  
15 gas to provide potential diversification to overall hedging portfolio; and,
- 16 • Manitoba Hydro tolerance to income statement volatility.

## 1.2 2021/22 Energy Market Conditions

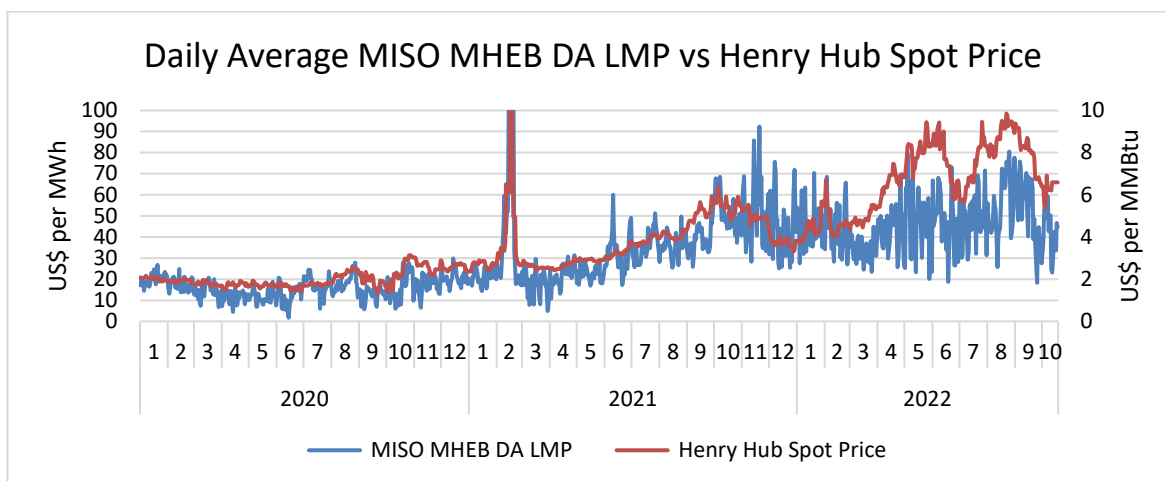
17 As shown in Figure 1 below, during fall 2021, when Manitoba Hydro was in the market to  
18 hedge, export market prices increased to levels that were materially higher than  
19 experienced in over 10 years. A combination of drivers added volatility to near term prices  
20 where forwards in fall 2021 were over double what was included in the 2021/22 budget.  
21 The primary driver for price increases was initially related to lower North American gas  
22 storage levels and concerns about a repeat of the February 2021 Arctic Event<sup>1</sup>. However,  
23 several global geopolitical issues also came into play. European demand for natural gas was  
24 higher than expected due to:

---

<sup>1</sup> The Arctic event occurred during the week of February 15, 2021 when cold weather impacted a large portion of the United States. MISO's region experienced unusually cold weather, especially in the southern states. High temperatures during the period were more than 30 degrees below average highs, while low temperatures were 20 to 30 degrees below average lows in much of the southern United States, making it one of the most extreme weather events in the last 30 years. These temperatures drove high demand for electricity while simultaneously reducing supply due to weather related generation performance issues and fuel availability.

- 1 (i) below average natural gas inventory levels;
- 2 (ii) demand was rebounding to pre-pandemic levels;
- 3 (iii) lower European gas production levels;
- 4 (iv) a push to retire coal-fired plants leading to greater competition for natural gas;
- 5 and,
- 6 (v) Russia's limited supplies of natural gas to Europe.
- 7 Asian natural gas demand was also growing as it shifts away from dependence on coal. All
- 8 these factors led to gas prices more than doubling over the fall 2021.

**Figure 1 Actual Daily Average Spot Prices for Power & Natural Gas**



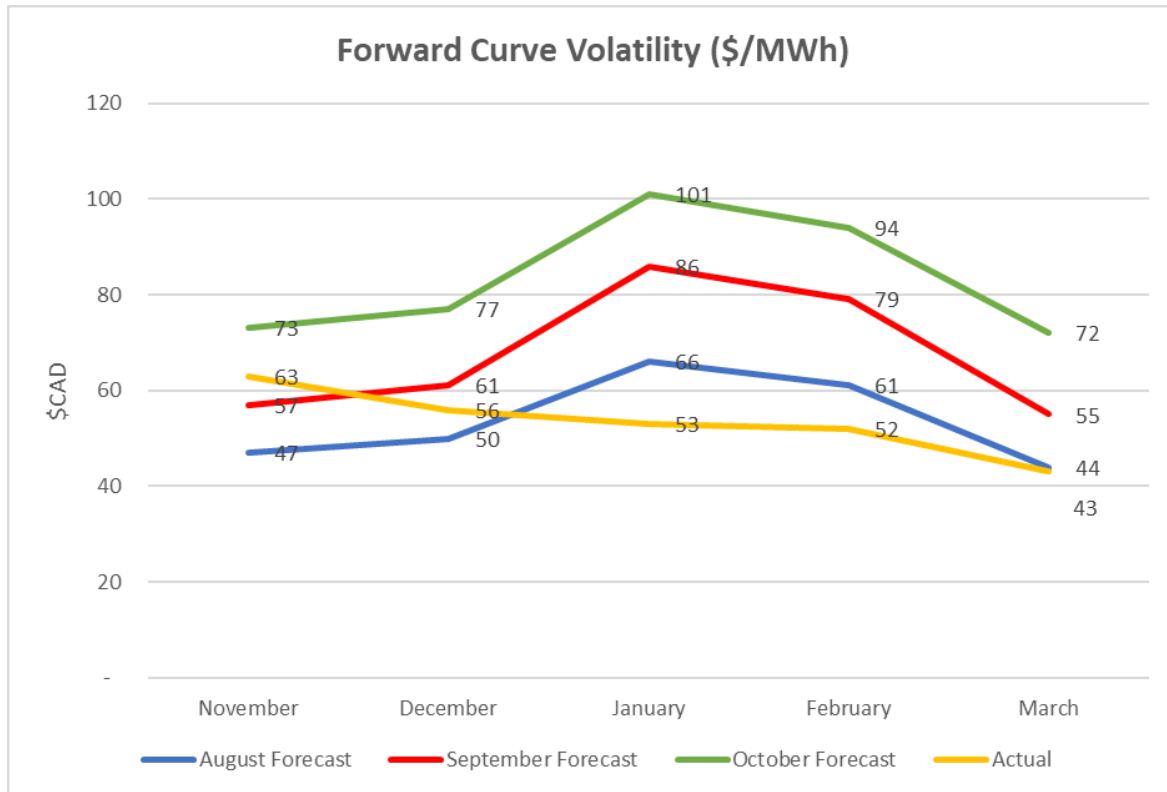
- 9 Note: natural gas-fired generation resources are most often the marginal source of supply
- 10 in MISO, and fuel costs constitute the vast majority of most resources' marginal costs.

### 1.3 Actual Market Conditions - Winter 2021/22

- 11 Figure 2 below demonstrates that other than November 2021, actual average monthly on
- 12 peak prices were lower than the forward price curves seen in the summer and fall 2021.
- 13 Natural gas prices dropped in November 2021 following favourable North American
- 14 storage results and warmer than expected temperatures. Natural gas prices started to rise
- 15 again in February 2022 but not to the extreme levels experienced during the February 2021

- 1 Arctic Event. December 2021 and February 2022 temperatures across the MISO region
- 2 were milder than the previous winter.

Figure 2 Forward Market Prices vs Actual Prices



## 1.4 2021/22 Drought Hedging Mitigation Activities & Financial Performance

### 1.4.1 Drought Hedging Mitigation Activities

3 Hedging involved Manitoba Hydro entering into forward fixed financial electricity purchase  
4 arrangements to reduce the price risk for its future projected import requirements. These  
5 fixed price arrangements allow Manitoba Hydro to “hedge” against the risk of increased  
6 energy market prices.

7 The objective of Manitoba Hydro’s hedging strategy was to mitigate the downside risk to  
8 net revenues, and not to speculate on future prices or try to “beat the market.” Starting in  
9 late summer/fall 2021, Manitoba Hydro layered on forward financial purchases for winter  
10 2021/22 to hedge exposure to price risk on expected imports. Manitoba Hydro entered

1 into financial forward purchases to diversify its import position and mitigate exposure to  
2 day-ahead/real-time price uncertainty. By fixing price on a portion of the anticipated  
3 purchase volumes, Manitoba Hydro reduced the volatility and price exposure on imports.

4 In addition to the forward fixed financial electricity positions, Manitoba Hydro contracted  
5 for fixed price natural gas for certain periods. The arrangement addressed weather  
6 uncertainty and mitigated the risk of purchasing higher-priced natural gas in the market  
7 during those periods. This position also offered diversification at a portfolio level by  
8 hedging both electricity and natural gas prices and provided Manitoba Hydro with a firm  
9 gas supply should the operation of the Brandon thermal generation been necessary.

### 1.4.2 Financial Performance of Winter 2021/22 Hedging Activities

10 Figure 3 below shows the financial performance of Manitoba Hydro's winter hedging  
11 activities which included financial electricity hedges and forward natural gas agreements.

**Figure 3 Financial Performance of Winter 2021/22 Hedging Activities**

<b>Winter Hedging Financial Performance (CAD\$ millions)</b>	
Sep 2021	0.1
Oct 2021	2.0
Nov 2021	2.2
Dec 2021	(2.2)
Jan 2022	(8.6)
Feb 2022	(7.3)
Mar 2022	(5.9)
<b>Total</b>	<b>(19.8)</b>



2

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reflects Manitoba Hydro's long-standing policy of adjusting rates on the first day of the month.

Even though water flow conditions are its single largest risk factor when it comes to earnings, Manitoba Hydro has no reliable long-term precipitation forecasting capability. Without reliable long-term forecasting, Manitoba Hydro must use its judgment as to when to switch its operations from seeking to maximize its extraprovincial revenues to preserving water for energy reliability purposes for domestic and firm export customers. As seen in this Interim Application, there are significant financial consequences to Manitoba Hydro ratepayers due to a drought that Manitoba Hydro is unable to forecast. The Board finds that additional expert evidence at the 2022/23 General Rate Application that examines the 2021/22 interim rates is required to determine what, if any, additional drought forecasting options may exist to mitigate Manitoba Hydro's drought risk.

In this Interim Application, Manitoba Hydro advised the Board that it discontinued the use of 108 years of water flow data to forecast Net Extraprovincial Revenue for the current and next fiscal years. Instead, Manitoba Hydro uses the most recent 40 years of water flow data to model its reservoir and generation operations and translate that information into its short-term financial projections. However, Manitoba Hydro plans to continue using the 108 years of water flow data for its long-term financial forecasting.

While Manitoba Hydro indicated the 40 years of data improve the quality of the data for its modeling purposes, the Board notes that the average Net Extraprovincial Revenue, and therefore Net Income, is \$19 million less using the 40-year average compared to the 108-year average. The Board further notes that the median (or P50) result of the 40 years of data is \$36 million less than the median result using 108 years of data. The Board finds that this issue should be further explored, including comparisons with other jurisdictions and industry best practices, in the 2022/23 General Rate Application when the 2021/22 interim rates are reviewed. Manitoba Hydro should consider conducting a retrospective analysis that investigates whether the 40 year water flow record provides more reliable financial forecasts than the long-term (100+ year) water flow record.

it reasonably believes amounts to compliance, but ultimately does not reflect the Board's expectation.

Manitoba Hydro also submits it is premature to require expert evidence on this topic as Manitoba Hydro has not had the opportunity to present to the Board its full process. The Utility submits the most efficient way forward would be to allow Manitoba Hydro to provide evidence on this topic at the next General Rate Application and thereafter the Board can determine whether it requires additional information.

## 5.0 Interveners' Positions

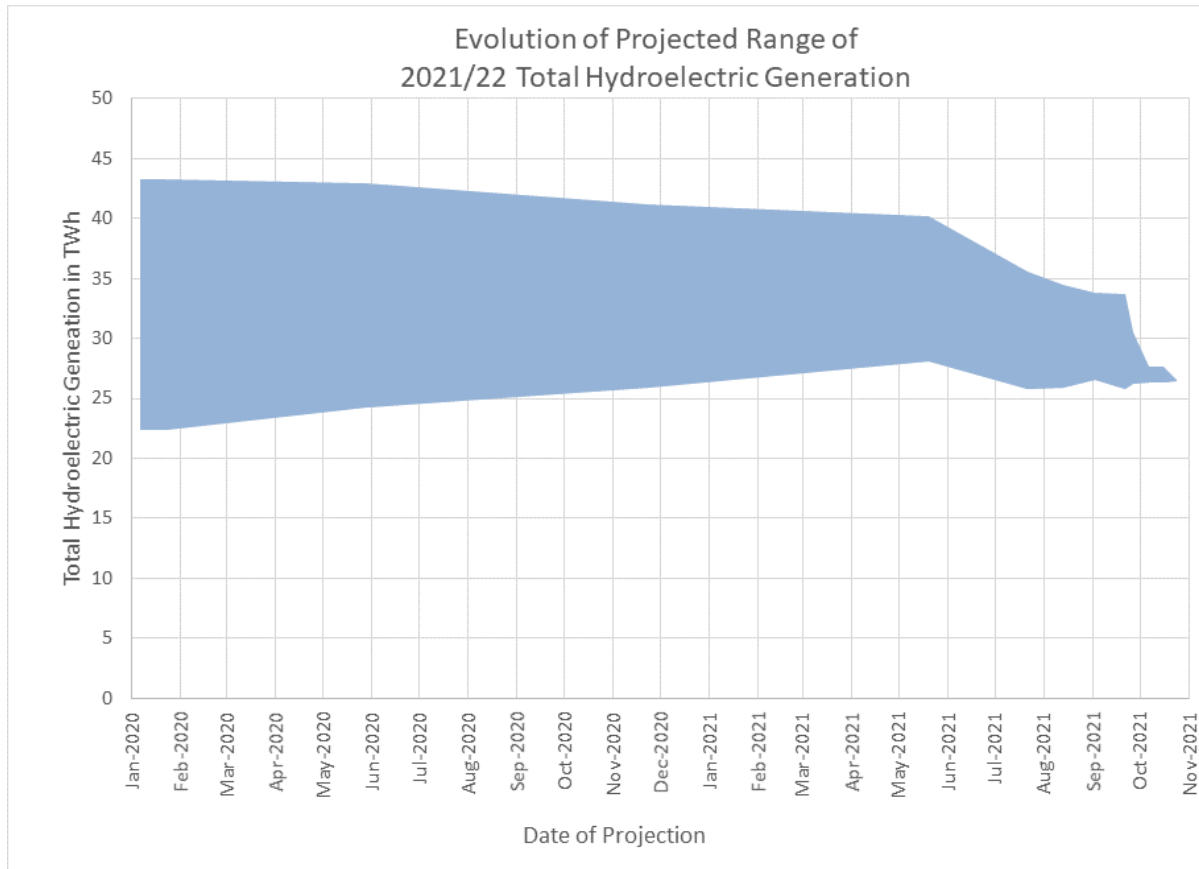
### Manitoba Industrial Power Users Group

The members of Manitoba Industrial Power Users Group are users of substantial amounts of electric power, and are in the Manitoba Hydro General Service Large customer classes. Members of these classes annually purchase approximately 7000 GWh in total, accounting for approximately 33% of Manitoba Hydro's domestic electricity sales.

In its submissions, the Manitoba Industrial Power Users Group maintains that each of Manitoba Hydro's requests to Review and Vary Order 9/22 needs to be assessed in light of two overriding considerations:

- The Board process respecting an Interim Rate Application was based on an expedited and incomplete record, which lacked the usual General Rate Application information. It also truncated the fundamental right of Interveners to adduce evidence. Interim Rates will at some point need to be finalized, either at the same level or at a different level, in light of a proper and fair evidentiary record and hearing process.
- Even ignoring that Hydro is the explicit cause and beneficiary of the current incomplete record, Hydro still has the opportunity to put proper and fulsome

1 Figure 10: Evolution of Range of Projected Hydraulic Generation



2

3

4 **Likelihood of Continued Drought**

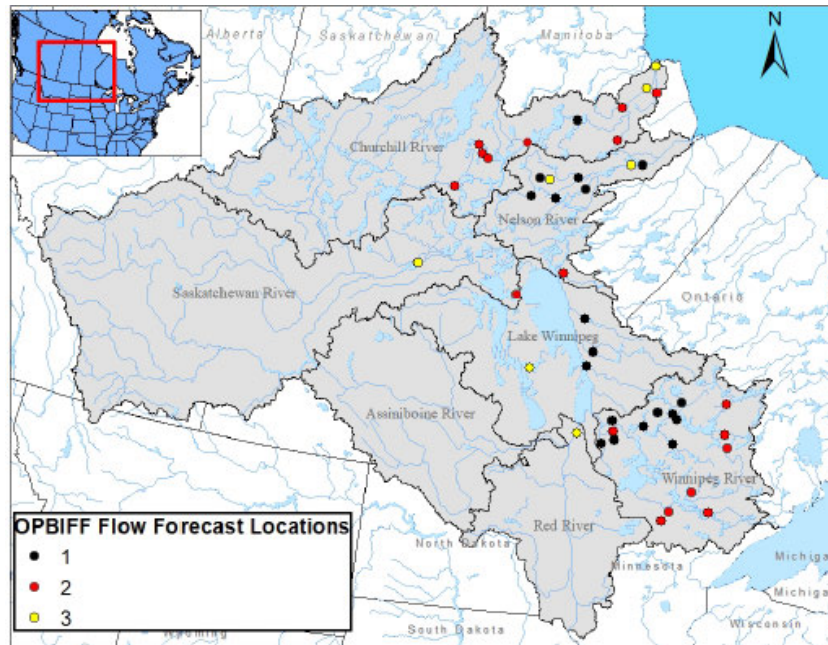
5 **Precipitation forecasts beyond a few days into the future are not reliable; due to this**  
6 **and other factors, it is not possible to accurately predict inflows with very long lead**  
7 **times, particularly during the rainfall season. It is also not possible to identify when**  
8 **drought will occur.**

9

10 There exists some correlation of system inflows from one year to the next. In general,  
11 the likelihood that a year with well above average inflows will be followed by year  
12 with above average inflows is greater than the chance it would be followed by a year  
13 of below average inflows. Conversely, there is a greater likelihood that a year with  
14 well below average inflow will be followed by a year with below average inflow.

15

16 ***Given current drought conditions, there is an elevated likelihood of below average***  
17 ***inflows occurring in 2022/23. However, annual hydraulic generation is very***



**Figure 2. OPBIF Phases – Forecast Locations<sup>3</sup>**

The PBIF method requires specific data types, and these data are only available on an historical basis for the past 30 years. Since the 30-year record does not sufficiently cover the range of potential flow conditions, MH uses a combination of datasets to develop flow cases: a PBIF process for the last 30 years of data combined with a statistically-based process for the 10 years prior to that. The 40-year period “captures 95% of the hydrologic variability within the full [LTFD].”<sup>4</sup>

### **B. Inflow forecasting and flow case development**

Forecasting system inflows and developing the flow cases used in system modeling are key pieces of MH’s system operations and revenue forecasting. The OPBIF project is introducing significant changes in the methodology and data sources used for the near-term and medium-term forecasting. Figure 3 below depicts flow case development using the near-term single trace forecast, the medium-term forecast using a combination of PBIF and statistically-based forecasts, and the long-term flow cases using the historical LTFD record. The methods used for each time frame are briefly discussed below. The figure demonstrates the data sources and blending for a forecast for a single node; the

<sup>3</sup> Source: Manitoba Hydro.

<sup>4</sup> GRA Filing, Appendix 5.4 – Flow Forecasting and Hydrology, p. 7.

blue lines represent the process for PBIF nodes for a year with suitable data availability (i.e., the past 30 years), and the red lines represent the process for years using statistically-based forecast methods.

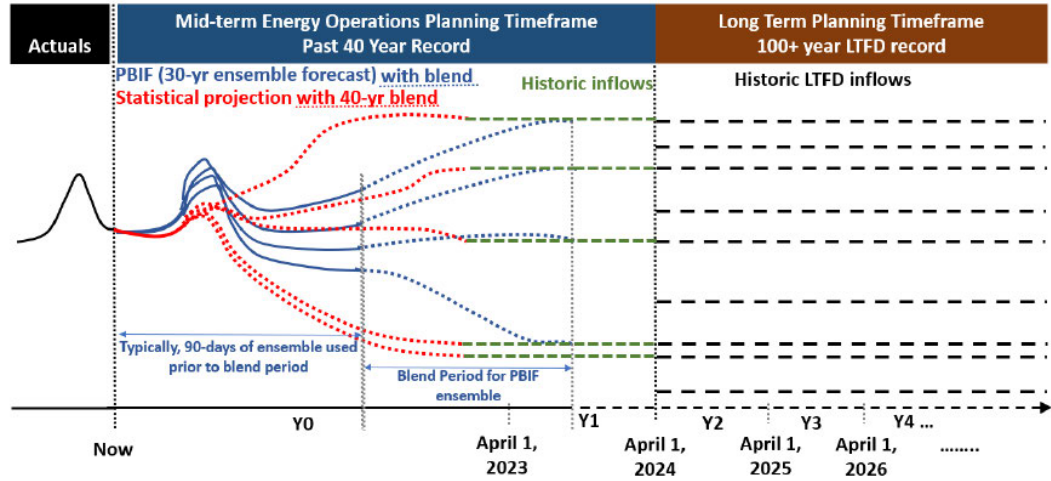


Figure 3. Inflow forecasting and blending timeframes<sup>5</sup>

### Near-term

As described by MH, in the near-term, “inflow forecasts use meteorological forecast and hindcast data from Environment and Climate Change Canada (ECCC) to produce a deterministic (‘single trace’) inflow forecast for the first 16 days.”<sup>6</sup> This relies on multiple meteorological data sets covering different time periods, with varying levels of granularity.

In Figure 3 above, this near-term single trace forecast is the beginning of the single solid blue or red line, where there is no variation between the flow cases.

### Medium-term

The medium term starts with day 17 and extends out until the end of Y1. This is the period during which MH transitions to and models hydrology based on their most recent 40 years of data. First, after the 16-day single-trace, the flow forecast transitions to a seasonal “Ensemble Streamflow Prediction forecast,” typically for 90 days.<sup>7</sup> For a PBIF

<sup>5</sup> Id at p. 7, Figure 2.

<sup>6</sup> Id. at pp. 3-4.

<sup>7</sup> Id at p. 4.

location, this uses the historical precipitation and temperature data over the past 30 years as inputs to the model to produce an inflow forecast for each weather year. As discussed above, to build out the full 40-year record needed to capture 95% of the variability, MH uses the statistically-based method for the first 10 years of the record when the data needed for the PBIF method is unavailable. This produces 30 forecast cases using the PBIF process and 10 using the statistical process. Each of these forecasts is then blended into the actual historic inflows for each of the years. This is reflected in Figure 3 above by the dotted blue and red lines that blend into the green dotted lines, which represent the historic inflows. After the blend period, the remainder of the medium-term forecasting period is the 40 most recent historic flows until the start of Y2, which is the transition to long-term forecasting.

### **Long-term**

The long-term planning timeframe uses the full 100+ year LTFD record. The historic inflows for each year are used as direct inputs to the model, rather than as inputs to the PBIF or statistically-based process.

### **C. Energy modeling**

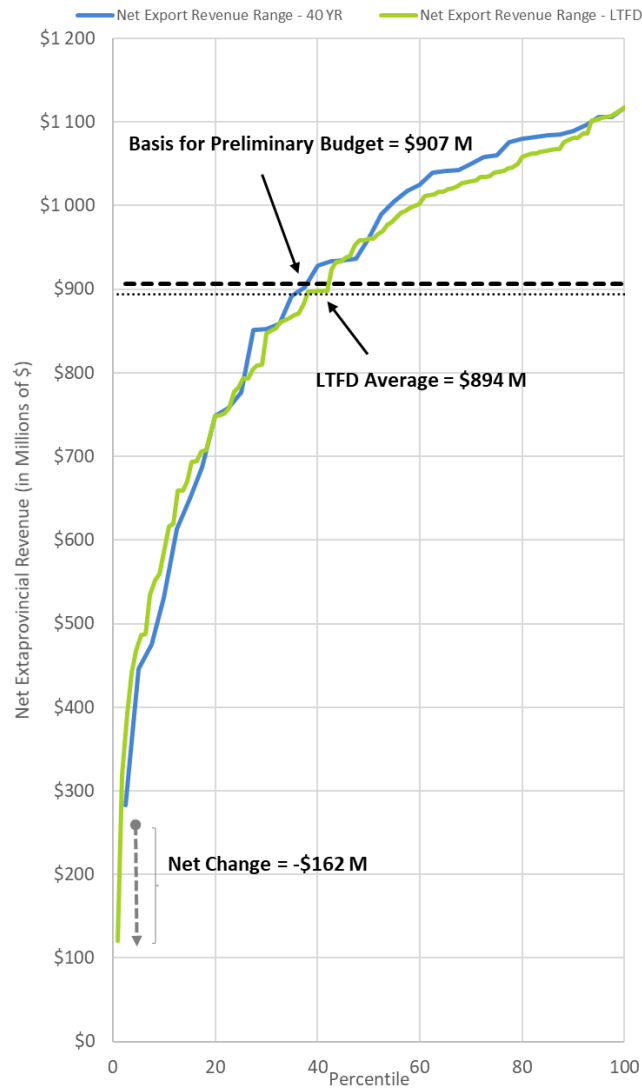
The flow case development described in the preceding section provides key inputs to the energy modeling, which in turn forms the foundation of the export revenue forecast. Energy modeling is conducted using two different software platforms, one for short/mid-term and one for long-term. Both platforms contain detailed representations of the MH system, including loads, generation, internal transmission and external tie-lines, external markets, and a representation of a variety of operational constraints. Other key inputs include the characteristics of the firm export contracts and market prices, especially natural gas prices and MISO energy market prices.

### **Short/mid-term energy modeling**

Within the GRA filing, the short/mid-term modeling covers the 22/23 and 23/24 years. For these periods, flow cases are inputs to HERMES, which has a detailed representation of the MH system. The model economically optimizes the system to meet load and maximize export revenue subject to physical constraints. MH has used this tool for many years to model current year and budget year (Y1) operations. One change since the 2017/18 GRA is that MH has expanded the use of HERMES to also model Y2 using the 100+ year flow data set, rather than using the Simulation Program for Long-term Analysis of System Hydraulics (SPLASH) for Y2.



Figure 3: 2023/24 Range of Net Export Revenues – 110 Long-Term Flow Data Record vs 40 Year Flow Record

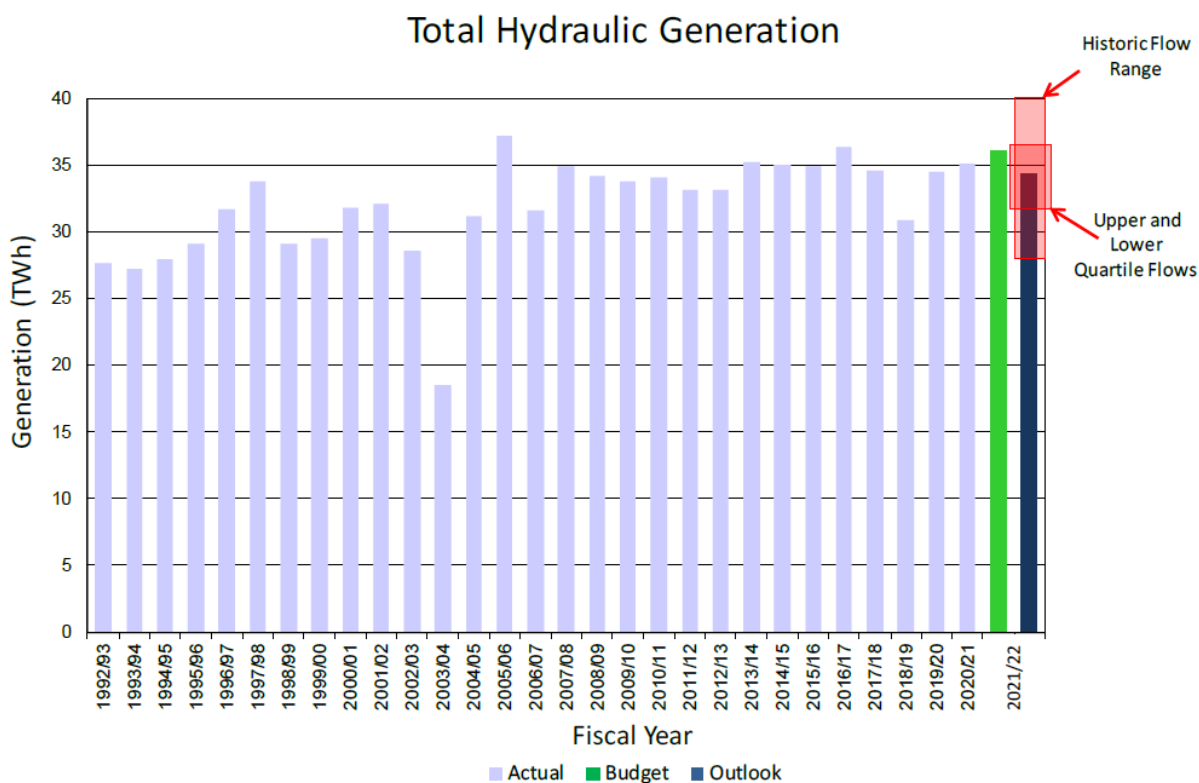


**REFERENCE:**

Application p.20; PUB MFR 17; Response to Order 53/21 Appendix 4 Figure 4

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

In Manitoba Hydro's response to Order 53/21, Appendix 4 Figure 4 shows the projected hydraulic generation based on the minimum historic flow range as approximately 28 TWh.


**QUESTION:**

Please explain why the updated forecast for hydraulic generation in Figure 10 (and in MFR 17) shows total hydraulic generation for 2021/22 of approximately 26.5 TWh, which is about 1.5 TWh lower than the what Manitoba Hydro said was possible within the historic flow range.

**RESPONSE:**

The range of total hydraulic generation provided in Manitoba Hydro's June 9, 2021 response to Order 53/21 was based on simulations prepared in May 2021. These simulations were based on actual inflows through mid-May 2021 that could transition to any one of a range of future flow scenarios based on the recent 40 years of hydrologic record.

The 2021/22 Forecast hydraulic generation of approximately 26.4 TWh, which is approximately 1.6 TWh below the minimum projected in May 2021 of approximately 28.0 TWh, is primarily due to sustained lower actual inflows through summer and operations to protect a higher spring 2022 reservoir storage target required for energy reliability, as explained below.

System precipitation from May through August was record low based on 40 years of historic precipitation data. As a result, the actual inflows from May to October were below the lowest of the 40 scenarios used in the simulations described above. Precipitation in September and October improved somewhat, and inflows projected for the balance of the fiscal year are above the lowest of the 40-year record. Despite this modest improvement, the combination of actual inflows from May through October and projected inflows for the remainder of the year are lower than the lowest of the 40 scenarios used in simulations prepared in May 2021.

A higher minimum spring 2022 reservoir storage target is required to ensure minimum flows can be maintained through 2022/23, in the event severe drought conditions continue next year. Detailed simulations of winter operations identified the minimum Nelson River flow needed to reliably supply firm demand during a cold spell period.

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**Table 3. Manitoba Hydro export contract portfolio<sup>50</sup>**

CUSTOMER	CONTRACT NAME	CAPACITY (MW)	TYPE	TERM
Basin Electric	Basin 50 – 80	50 – 80	Capacity Sale	Jun 1, 2023 to May 31, 2028
Dairyland Power	DPC 50 Div. Exchange	50	Diversity Exchange	Jun 1, 2022 to May 31, 2027
Great River Energy	GRE 200 Div. Exchange	200	Diversity Exchange	Nov 1, 2014 to Apr 30, 2030
Minnesota Municipal Power	MMPA 65 – 105	65 - 105	Capacity Sale	Jun 1, 2020 to May 31, 2030
Minnesota Power	MP 250	250	System Power Sale	Jun 1, 2020 to May 31, 2035
	MP 250 Energy Exchange	0	Energy Exchange	Jun 1, 2020 to May 31, 2035
	MP 133	0	Surplus Energy	Jun 1, 2020 to May 31, 2040
	MP 133 Energy Exchange	0	Energy Exchange	Jun 1, 2020 to May 31, 2040
Northern States Power	NSP 375/325	375(S) 325(W)	System Power Sale	May 1, 2015 to April 30, 2025
	NSP 125	125	System Power Sale	May 1, 2021 to April 30, 2025
	NSP 350 Div. Exchange	350	Diversity Exchange	May 1, 2015 to April 30, 2025
SaskPower	SaskPower 100	100	System Power Sale	Jun 1, 2020 to May 31, 2040
	SaskPower 215	215	System Power Sale	Jun 1, 2022 to May 31, 2052
Wisconsin Public Service	WPS 100 Product A	100	System Power Sale	Jun 1, 2021 to May 31, 2027
	WPS 100 Product B	0	Surplus Energy	Jun 1, 2027 to May 31, 2029

Several contracts are set to expire in the coming years, notably the NSP contracts in 2025, followed by the WPS contract in 2027. As previously noted, MH is not assuming

<sup>50</sup> GRA Filing, Tab 5 – Energy Demand & Supply Assumptions, Figure 5.10, p. 18.

**MFR 46**

Prior references  
NFAT Exhibit MH-95

Water Supply and Export Revenues

For the 20-year forecast period, provide graphs (in a similar format to NFAT Exhibit MH-95 page 24) of the:

- capacity supply and demand, showing domestic peak demand, reserves, and individual firm contracts against the available firm supply; and
- energy supply and demand, showing the domestic load and individual firm contracts against the available dependable supply.

Please see Figures 1 and 2 below:

**Figure 1 Winter Peak Capacity Supply & Demand Graph**

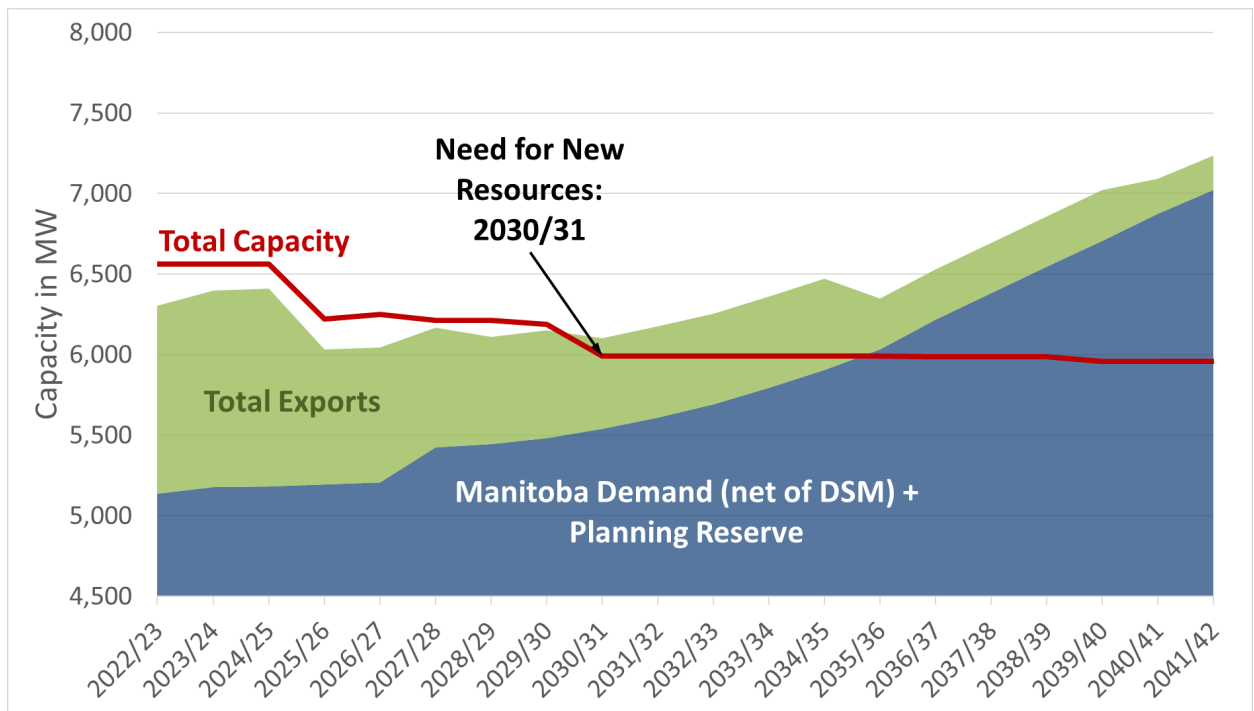




Figure 2 Dependable Energy Supply & Demand Graph

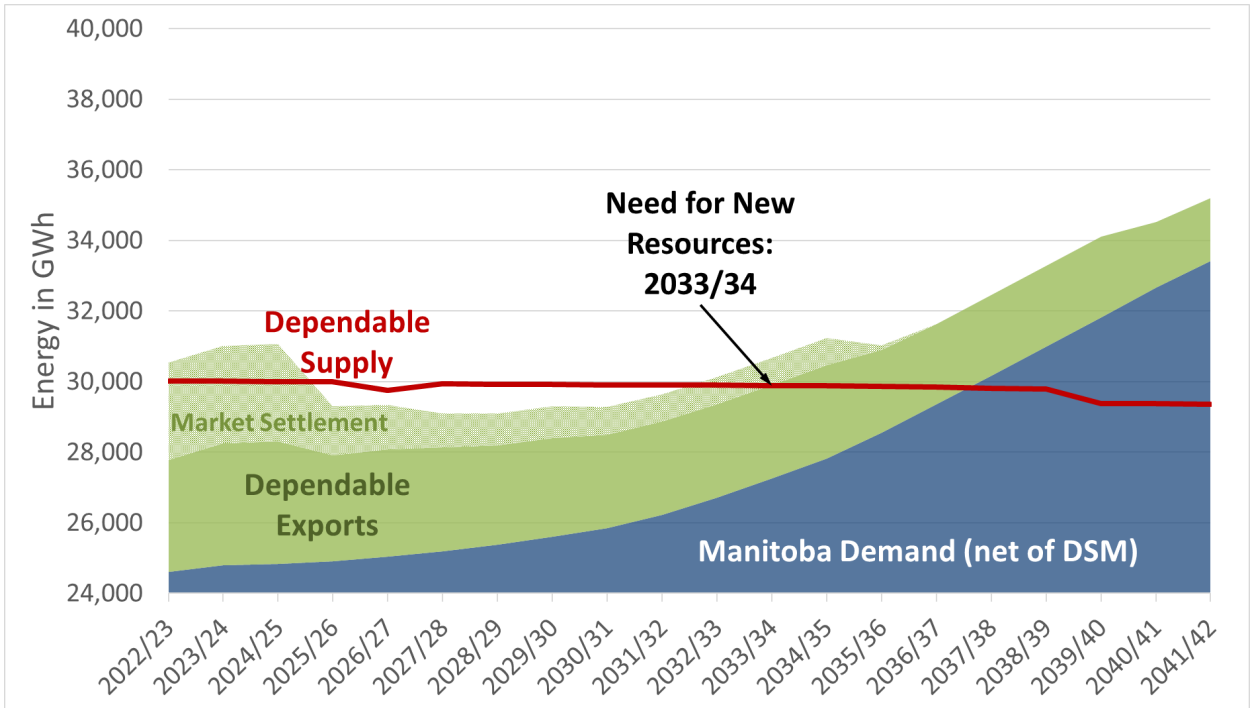


Figure 1 Winter Peak Capacity Supply & Demand Table

System Firm Winter Peak Demand and Capacity Resources (MW)																				
2022 Resource Planning Assumptions & Analysis																				
No New Resources																				
Fiscal Year	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	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
<b>Supply</b>																				
New Power Resources																				
1 Total New Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Total New Thermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total New Wind	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total New Non-Utility Generation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Total New Power Resources <small>1+2+3+4</small>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base Supply Power Resources																				
Existing and Committed Hydro	5768	5768	5768	5791	5842	5852	5852	5830	5830	5830	5830	5830	5830	5830	5830	5830	5830	5830	5830	5830
Existing Thermal	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278
Existing Non-Utility Generation	52	52	52	52	31	31	31	31	31	31	31	31	31	31	28	28	28	0	0	0
Scheduled Outages	-135	-135	-135	-150	-150	-150	-150	-150	-150	-150	-150	-150	-150	-150	-150	-150	-150	-150	-150	-150
Contracted Imports	600	600	600	250	250	200	200	200	0	0	0	0	0	0	0	0	0	0	0	0
6 Total Base Supply Power Resources	6563	6563	6563	6221	6251	6211	6211	6189	5989	5989	5989	5989	5989	5989	5986	5986	5986	5958	5958	5958
7 Total Power Resources @ Point of Supply <small>5+6</small>	6563	6563	6563	6221	6251	6211	6211	6189	5989	5989	5989	5989	5989	5989	5986	5986	5986	5958	5958	5958
<b>Demand</b>																				
2021 Electric Load Forecast	4569	4629	4681	4738	4800	4869	4943	5023	5112	5219	5351	5498	5654	5822	6003	6190	6385	6590	6802	6992
2020 Efficiency Manitoba Demand Side Management Forecast	-105	-140	-187	-229	-277	-329	-378	-431	-485	-536	-599	-664	-734	-770	-806	-847	-896	-956	-1016	-1076
2021 Curtailable Rate Program Option A Forecast	-162	-162	-162	-162	-162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manitoba Net Load @ Common Bus	4302	4327	4332	4347	4361	4540	4565	4591	4627	4683	4751	4833	4920	5052	5196	5343	5490	5634	5786	5916
Manitoba Transmission Losses	228	230	230	230	229	244	246	251	254	260	263	271	280	295	311	330	350	351	351	351
8 Manitoba Net Load @ Point of Supply	4530	4557	4563	4577	4589	4785	4811	4842	4881	4943	5014	5104	5200	5347	5508	5673	5840	5985	6137	6267
Contracted Exports	1166	1222	1227	837	837	742	666	671	565	565	565	565	565	315	315	315	315	315	215	215
Total Exports @ Border	1166	1222	1227	837	837	742	666	671	565	565	565	565	565	315	315	315	315	315	215	215
Export Transmission Losses	58	65	66	61	61	59	50	52	64	66	66	69	72	40	41	23	2	2	1	1
9 Total Exports @ Point of Supply	1224	1287	1292	898	898	801	717	723	629	631	631	634	637	355	356	338	317	317	216	216
10 Total Peak Demand @ Point of Supply <small>8+9</small>	5754	5844	5855	5476	5487	5586	5528	5566	5510	5573	5645	5738	5838	5702	5864	6011	6157	6302	6353	6483
11 Planning Reserves @ Point of Supply	551	555	555	557	558	581	583	587	593	601	610	621	633	646	666	684	701	718	737	752
12 System Surplus/Deficit @ Point of Supply <small>7-10-11</small>	259	164	153	188	206	43	99	36	-114	-185	-266	-370	-481	-359	-544	-709	-873	-1062	-1132	-1277

Figure 2 Dependable Energy Supply & Demand Table

Annual System Firm Energy Demand and Dependable Resources (GWh)																				
2022 Resource Planning Assumptions & Analysis																				
No New Resources																				
Fiscal Year	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	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
<b>Supply</b>																				
<b>New Power Resources</b>																				
1 Total New Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Total New Thermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total New Wind	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total New Non-Utility Generation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Total New Power Resources <span style="float:right">1+2+3+4</span>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Base Supply Power Resources</b>																				
Existing and Committed Hydro Under Severe Drought	22492	22485	22477	22470	22462	22705	22697	22690	22682	22675	22667	22660	22652	22645	22637	22630	22622	22615	22607	22600
Existing Thermal	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050
Station Service	-125	-125	-125	-125	-125	-125	-125	-125	-125	-125	-125	-125	-125	-125	-125	-125	-125	-125	-125	-125
Existing Non-Utility Generation	760	760	760	760	518	462	462	462	462	462	462	462	462	462	450	418	406	1	0	0
Imports	5836	5836	5836	5836	5836	5836	5836	5836	5836	5836	5836	5836	5836	5836	5836	5836	5836	5836	5836	5836
6 Total Base Supply Power Resources	30013	30006	29998	29991	29741	29928	29920	29913	29905	29898	29890	29883	29875	29867	29848	29808	29789	29376	29368	29360
7 Total Power Resources @ Point of Supply <span style="float:right">5+6</span>	30013	30006	29998	29991	29741	29928	29920	29913	29905	29898	29890	29883	29875	29867	29848	29808	29789	29376	29368	29360
<b>Demand</b>																				
2021 Electric Load Forecast	23493	23785	24010	24301	24604	24942	25298	25685	26113	26650	27306	28031	28798	29617	30490	31395	32329	33306	34311	35225
2020 Efficiency Manitoba Demand Side Management Forecast	-460	-604	-790	-968	-1146	-1327	-1501	-1678	-1853	-2015	-2205	-2409	-2616	-2706	-2796	-2896	-3018	-3172	-3320	-3475
Manitoba Net Load @ Common Bus	23033	23181	23220	23333	23458	23615	23797	24008	24260	24635	25101	25622	26183	26912	27694	28499	29311	30134	30991	31751
Manitoba Transmission Losses	1306	1313	1315	1319	1325	1332	1340	1349	1358	1371	1387	1404	1420	1441	1461	1478	1489	1497	1505	1510
8 Manitoba Net Load @ Point of Supply	24339	24494	24535	24652	24783	24946	25137	25356	25618	26006	26488	27027	27603	28353	29155	29977	30800	31632	32496	33261
Contracted Exports	5929	6222	6234	4386	4300	3905	3726	3713	3438	3412	3412	3412	3412	2470	2281	2281	2281	2281	1864	1780
Adverse Water / Market Settlement Under Severe Drought	-2762	-2762	-2762	-1373	-1254	-962	-911	-911	-790	-766	-766	-766	-766	-128	0	0	0	0	0	0
Total Physical Exports @ Border	3167	3460	3472	3013	3046	2943	2815	2803	2648	2646	2646	2646	2646	2342	2281	2281	2281	2281	1864	1780
Export Transmission Losses	265	291	292	253	255	247	236	234	221	221	221	221	221	195	190	190	190	190	154	147
9 Total Physical Exports @ Point of Supply	3432	3751	3764	3266	3302	3189	3051	3037	2869	2867	2867	2867	2867	2537	2471	2471	2471	2471	2018	1927
10 Total Energy Demand @ Point of Supply <span style="float:right">8+9</span>	27772	28245	28299	27918	28085	28136	28187	28393	28488	28873	29355	29894	30470	30889	31626	32448	33271	34103	34514	35187
11 System Surplus/Deficit @ Point of Supply <span style="float:right">7-10</span>	2242	1761	1699	2073	1656	1792	1733	1519	1417	1024	535	-11	-595	-1022	-1778	-2640	-3482	-4726	-5146	-5827

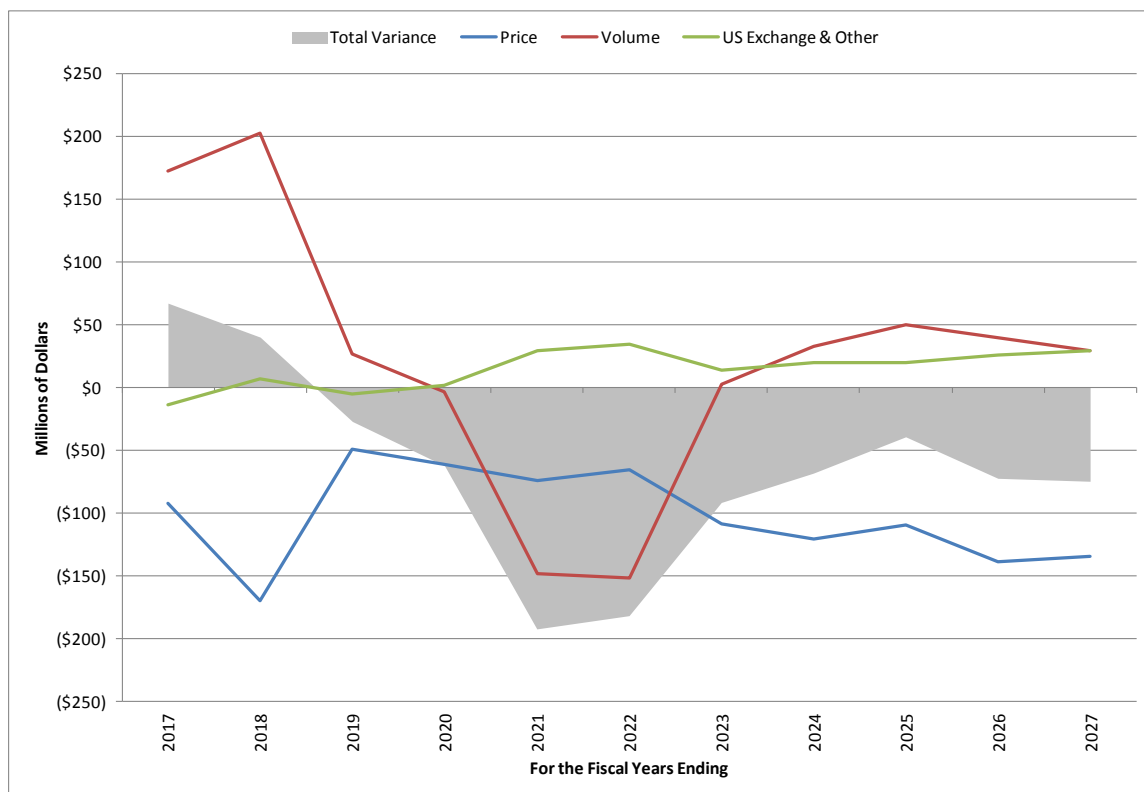
Figure 3 Summer Peak Capacity Supply & Demand Table

System Firm Summer Peak Demand and Capacity Resources (MW)																				
2022 Resource Planning Assumptions & Analysis																				
No New Resources																				
Fiscal Year	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	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
<b>Supply</b>																				
<b>New Power Resources</b>																				
1 Total New Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Total New Thermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total New Wind	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total New Non-Utility Generation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Total New Power Resources <span style="float:right">1+2+3+4</span>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Base Supply Power Resources</b>																				
Existing and Committed Hydro	5726	5807	5807	5824	5824	5886	5886	5864	5864	5864	5864	5864	5864	5864	5864	5864	5864	5864	5864	5864
Existing Thermal	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227
Existing Non-Utility Generation	41	41	41	41	25	25	25	25	25	25	25	25	25	25	25	22	22	0	0	0
Scheduled Outages	-285	-285	-285	-400	-600	-400	-400	-400	-400	-400	-400	-300	-300	-300	-300	-300	-300	-300	-300	-300
Contracted Imports	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Total Base Supply Power Resources	5709	5789	5789	5692	5476	5737	5737	5715	5715	5715	5715	5815	5815	5815	5815	5813	5813	5791	5791	5791
7 Total Power Resources @ Point of Supply <span style="float:right">5+6</span>	5709	5789	5789	5692	5476	5737	5737	5715	5715	5715	5715	5815	5815	5815	5815	5813	5813	5791	5791	5791
<b>Demand</b>																				
2021 Electric Load Forecast	3017	3058	3090	3128	3168	3212	3258	3309	3364	3433	3517	3610	3708	3813	3924	4040	4159	4283	4411	4527
2020 Efficiency Manitoba Demand Side Management Forecast	-96	-132	-171	-211	-252	-293	-334	-374	-414	-452	-493	-536	-580	-589	-599	-609	-622	-638	-653	-670
2021 Curtailable Rate Program Option A Forecast	-162	-162	-162	-162	-162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manitoba Net Load @ Common Bus	2759	2764	2757	2754	2754	2919	2924	2934	2950	2980	3023	3074	3128	3223	3325	3431	3537	3645	3758	3858
Manitoba Transmission Losses	149	145	145	145	147	150	150	152	153	154	156	157	160	165	171	178	185	193	202	209
8 Manitoba Net Load @ Point of Supply	2909	2910	2902	2899	2901	3069	3075	3086	3103	3134	3180	3231	3288	3389	3497	3609	3722	3838	3959	4067
Contracted Exports	1816	1872	1877	1087	1087	942	866	871	565	565	565	565	565	315	315	315	315	315	215	215
Total Exports @ Border	1816	1872	1877	1087	1087	942	866	871	565	565	565	565	565	315	315	315	315	315	215	215
Export Transmission Losses	148	149	149	71	73	63	57	58	35	36	36	37	38	21	22	23	24	26	18	19
9 Total Exports @ Point of Supply	1964	2021	2026	1158	1160	1005	923	930	600	601	601	602	603	336	337	338	339	341	233	234
10 Total Peak Demand @ Point of Supply <span style="float:right">8+9</span>	4873	4930	4927	4057	4061	4075	3998	4016	3703	3735	3781	3833	3891	3725	3834	3947	4061	4179	4192	4301
11 Planning Reserves @ Point of Supply	367	367	366	356	357	376	376	377	377	380	386	392	399	409	422	436	449	464	477	490
12 System Surplus/Deficit @ Point of Supply <span style="float:right">7-10-11</span>	469	492	496	1278	1058	1287	1364	1322	1636	1600	1548	1590	1525	1682	1560	1430	1302	1148	1121	1000

### 1 Lower Extraprovincial Revenues

2 The following **Figure 3.6** shows that MH16 net extraprovincial revenues are \$0.7 billion  
3 lower compared to MH15 over the 10-year forecast period from 2016/17 to 2026/27  
4 reflected in the grey shaded area (\$0.8 billion from 2017/18 to 2026/27).

5  
6 **Figure 3.6 – Change in Net Export Revenues in MH16 compared to MH15**



7  
8  
9 The reduction in export prices accounts for about \$1.1 billion of the cumulative  
10 reduction of net extraprovincial revenues over the 10-year forecast period to 2026/27.  
11 MH16 reflects electricity export prices that are lower by approximately 20% relative to  
12 the comparable 2015 forecast. The decline to long-term power prices is due primarily to  
13 a reduction to long-term natural gas prices and increased renewable development  
14 (primarily wind generation) in the MISO market, aided by substantial subsidies. **In**  
15 **addition, the premium that has historically been applied to the long-term dependable**  
16 **forecast prices has been removed as the achievability of this premium has reduced**  
17 **significantly in the MISO market. Reflecting the continuing trend of low capacity value,**  
18 **a January 2017 update removed capacity value from the pricing of potential future**  
19 **uncommitted export sales from surplus dependable energy.**



Manitoba Hydro 2019/20 Electric Rate Application  
PUB/MH I-43

**REFERENCE:**

Application p. 23; 2017/18 GRA Appendix 3.1 IFF16 p. 16

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

Manitoba Hydro has not projected incremental export revenues associated with surplus dependable capacity.

**QUESTION:**

Confirm whether Manitoba Hydro has sold any firm capacity for 2018/19 or 2019/20 that is not identified in the chart in IFF16 page 16. If confirmed, provide the names of the counterparty to the sales, the amounts of capacity sold (MW and capacity factor), the periods of time over which the sales are to take place, and the expected revenues for each year.

**RESPONSE:**

Yes, Manitoba Hydro has sold firm capacity for 2018/19 or 2019/20 that is not identified in the chart in IFF16 page 16 as follows;

Contract	Start Date	to	End Date
Minnesota Municipal Power Agency 5 MW UCAP Sale	June 2018	to	May 2019
Minnesota Municipal Power Agency 70 MW UCAP Sale	June 2019	to	May 2020

3a

The winter capacity balance in Figure 23 confirms that there is very limited surplus capacity at the beginning of the period, and that a capacity deficit begins in 2030/31. In the summer capacity balance (Figure 24), there is some summer capacity available at the beginning of the period, and this surplus grows as long-term contracts expire, with large commitments expiring in 2024/25 and 2029/30.

MH has stated that despite this summer surplus, there are numerous barriers and significant uncertainty related to selling this capacity. The MISO seasonal capacity construct is new as of August 2022 and there is uncertainty as to how the regional capacity balance will evolve and how capacity pricing will settle.<sup>59</sup> MISO has also determined that the winter planning reserve margin will be much greater than the summer reserve margin; MH interprets this change as reducing the likelihood of securing seasonal diversity contracts that provided value for its summer surplus.<sup>60</sup>

In addition, while MH could theoretically sell surplus capacity on a short-term basis through the MISO PRA, [REDACTED]

4a

### C. Daymark findings

MH made updates to its capacity balance analysis since the 2017/18 GRA, and we find that the changes are reasonable. The most impactful changes are the addition of the SPC export contract and the change in the load forecast. As noted above, while we did not review the load forecast in detail, MH's description of the drivers of the increase in peak load appear reasonable.

The other major factor impacting the change in the timing of capacity need and the availability of surplus is the assumption that seasonal diversity contracts will not be renewed, and a related assumption is the uncertainty around the market for future summer capacity sales into MISO. As discussed in Section III above, we agree with MH that there is significant uncertainty related to the evolution of the MISO market and how the market will respond to new seasonal capacity requirements, increased penetration of variable energy resources, and other changes.

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<sup>59</sup> PUB/MH I-45(c).

<sup>60</sup> PUB/MH I-48(a).

<sup>61</sup> PUB/MH I-45(c).

Given these uncertainties, we agree with the Company's approach to assume no new sales of surplus export capacity in the revenue forecast. However, it should be recognized that this is a conservative assumption, and there is potential for incremental revenue if MH can monetize its excess summer capacity.

The MISO region is not yet a winter peaking system, and there is a shortage of capacity that led to high PRA clearing prices in 2022. Given that MH is forecasted to have a summer surplus of 492 MW in 2023/24, and that the surplus is forecasted to grow to 1,636 MW in 2030/31 without new capacity sales,<sup>62</sup> we would recommend that MH take steps to pursue monetization of that capacity. This summer surplus may be even higher if MH adds new resources to meet the winter capacity deficit.

At a minimum, MH should continue [REDACTED]

[REDACTED]

4a

[REDACTED] this analysis will help MH make an informed decision if the PRA continues to clear at high prices.

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<sup>62</sup> MFR 43.



## How Manitoba Hydro fits into Minnesota's clean energy bill

On Feb. 7, 2023, Minnesota Governor Tim Walz signed a new renewable energy standard bill into law. Effective Feb. 8, 2023, electric utilities in Minnesota will be required to provide 100% of their electricity from carbon-free resources by 2040. This can include electricity both generated by the utility or procured on the market — and procured is where Manitoba Hydro steps in.

“Minnesota utilities have been important customers for us for over 50 years,” said Nikhil Karanwal, Manitoba Hydro’s Director of Energy Markets. “This bill ensures those relationships can continue well into the future — and will help us help our neighbours by providing clean, reliable hydropower to backstop other in-state intermittent renewables like wind and solar.”

Prior to this bill, only hydroelectric facilities with a capacity less than 100 megawatts counted as a renewable resource under Minnesota’s Renewable Portfolio Standard (RPS). However, under the new bill, Manitoba Hydro’s entire hydroelectric fleet as of February 7 count as a renewable energy source.

“Becoming carbon-free by 2040 is an aggressive target and we’re more than happy to help our Minnesota utility customers reach it,” said Karanwal. “With this change in legislation, Minnesota utilities will now be able to take full advantage of the dispatchable nature of our hydropower resources to support their decarbonization efforts.”

This new legislation highlights yet another benefit to the interconnected nature of the Manitoba and Minnesota power grids and the entire northern region of the Mid-Continent Independent System Operator (MISO), of which Manitoba Hydro is a coordinating member. Multiple interconnections across the international border help ensure enhanced reliability and energy security to customers in both countries, while allowing the most efficient and effective use of generation resources in a wide area, providing significant financial and environmental benefits.

Capital Investment Justification

PROPOSED SCHEDULE
PW75 Available August 2026

RELATED INVESTMENTS
Pointe du Bois 8 Unit Replacement CIC P:28206 13854 – Pointe du Bois Transmission

OTHER ALTERNATIVES CONSIDERED														
<p>There are no other alternative means of executing this project to consider at this time that would meet the requirements of the ICIP funding.</p> <p>The alternative to carrying out this project is to continue to invest in powerhouse life extension upgrades to enable continued operation of existing units until the 2050s. This alternative delays construction of the new 115kV transmission line to the 2050s to provide generation outlet transmission for Slave Falls Generating Station and to serve local load in the long term. Another alternative that was considered was continued operation of the powerhouse to 2030 followed by decommissioning. Both alternatives would require other generation resources to be developed to meet future load growth and the associated investments to be advanced. All alternatives include new energy and capacity resources to meet future load growth. The lowest cost new energy resource is assumed to be wind generation and the lowest cost capacity resource is a new gas turbine. The Pointe du Bois Renewable Energy Project defers future investments in these future energy and capacity resources.</p> <p>The levelized cost of energy (LCOE) for this project is \$45/MWh (P80) and compares favorably with other alternatives for energy:</p> <table border="1"> <thead> <tr> <th>Alternative</th> <th>LOCE (\$/MWh)</th> </tr> </thead> <tbody> <tr> <td>Wind</td> <td>56</td> </tr> <tr> <td>Solar</td> <td>70</td> </tr> <tr> <td>Notigi Generating Station (Hydro)</td> <td>90</td> </tr> <tr> <td>Conawapa Generating Station (Hydro)</td> <td>92</td> </tr> <tr> <td>Combined Cycle Gas Turbine</td> <td>107</td> </tr> <tr> <td>Simple Cycle Gas Turbine</td> <td>177</td> </tr> </tbody> </table>	Alternative	LOCE (\$/MWh)	Wind	56	Solar	70	Notigi Generating Station (Hydro)	90	Conawapa Generating Station (Hydro)	92	Combined Cycle Gas Turbine	107	Simple Cycle Gas Turbine	177
Alternative	LOCE (\$/MWh)													
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Solar	70													
Notigi Generating Station (Hydro)	90													
Conawapa Generating Station (Hydro)	92													
Combined Cycle Gas Turbine	107													
Simple Cycle Gas Turbine	177													

REFERENCE DOCUMENTS
<a href="#">DAD_PDB_GS_STUDY.docm</a> <a href="#">11676_CIC_AD_PDB_GS_SCOPE_DEVELOPMENT_1.docx</a>

4

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- c) When completing the response to PUB/MH II-57R by filing the updated marginal values and their derivation, please ensure the generation energy components are separately shown (as they are in PUB/MH II-57R).

**RESPONSE:**

- a) Historical (last year's) pricing is used because it is a recent, actual value that is publicly available and therefore, transparent to the end customer. The excess energy price can and will vary from year to year.

The table below contains historical excess energy prices over the last 5 years.

**Historical prices**

Effective date	Excess energy price (\$/kWh)
2022 April 1	\$0.05079
2021 April 1	\$0.02403
2020 April 1	\$0.02949
2019 April 1	\$0.03949
2018 April 1	\$0.03253

- b) The marginal value of generation energy is not used to calculate the excess energy price because it is a confidential value. Excess energy from non-utility generation, which for solar occurs in the largest quantities in the summer when Manitoba Hydro already tends to be a strong exporter, is therefore valued at recent MISO energy prices. Manitoba Hydro determined that this spot market price was best suited to value excess generation purchases, while also being a publicly available value.
- c) Please see updated response PUB/MH I-43d for marginal values based on the GRA assumptions.

## Generating your own electricity

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You can generate or store electricity for your home or business using alternative energy technologies such as:

- ✓ [Solar](#)
- ✓ Wind
- ✓ Biomass
- ✓ Small scale hydro
- ✓ Battery storage

This is called non-utility generation or distributed energy resources.

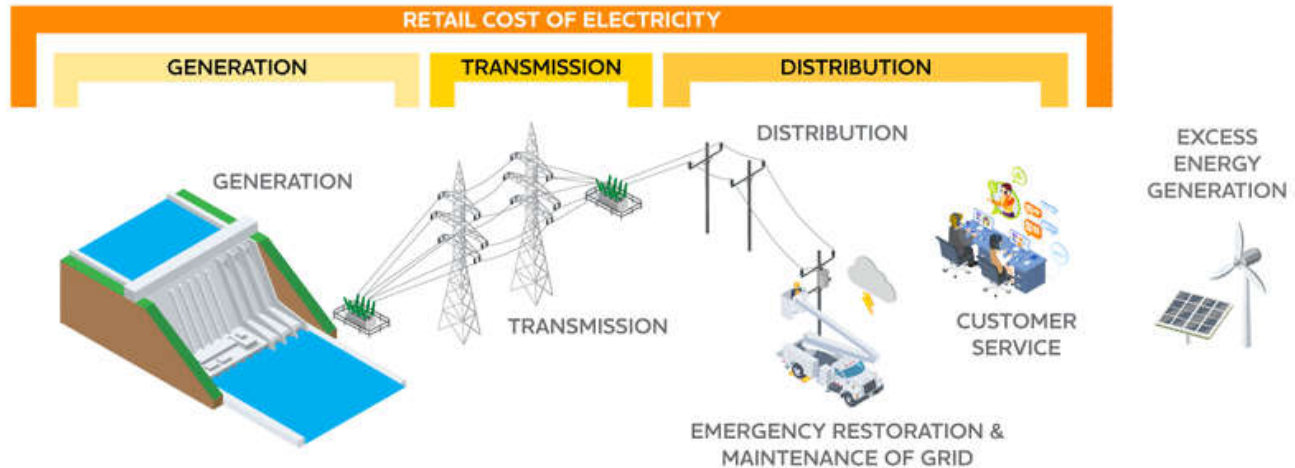
You can use the electricity that your system produces and reduce the amount of electricity you buy from us, but in most situations, you will need to remain [connected to our grid](#). This is because your system may not be able to produce electricity 24 hours a day, such as when the sun is down or the wind isn't blowing.

### Excess energy price

If you are generating more energy than you are using, and your generator is less than 100 [kW](#) in size, your [excess energy can be sold back](#) to us at the excess energy price.

**The excess energy price is \$0.06546/kWh until March 31, 2024.** This price is updated yearly and reflects the current market value. It is not equal to our electricity rates because our rates must recover service costs, such as:

- transmission;
- distribution;
- customer service;
- safety;
- emergency restoration.



The excess energy price will change from year to year and can vary significantly depending on the market value of excess energy.

The table below contains historical excess energy prices over the last 6 years.

### Historical prices

Effective date	Excess energy price (\$/kWh)
2023 April 1	\$0.06546
2022 April 1	\$0.05079
2021 April 1	\$0.02403
2020 April 1	\$0.02949
2019 April 1	\$0.03949
2018 April 1	\$0.03253

Note: the current \$0.06546/kWh excess energy price is much higher than the historical market values for excess energy. There is potential that future excess energy prices will be significantly lower than the price posted today.



## Large generators

If your generator is 100 [kW](#) or greater in size your purchase price will be determined on a case-by-case basis. [Learn more about selling excess electricity for generators 100 kW or greater.](#)

## Net billing

We use net billing instead of net metering. Net billing allows you to generate electricity for your own use and sell your excess electricity to us to receive a monetary credit on your Manitoba Hydro account. Net metering creates an energy credit to draw on at a later date.

Any electricity your system generates will reduce the amount of energy you need to buy at that time. If you use more than your system generates, you will purchase that energy from us at the current electricity rate, just like you did before you installed your system.

When your system generates more electricity than you use, you will receive a monetary credit for your excess generation at the excess energy price. This credit will be applied against other charges on your monthly bill.

## Payback estimates

The payback period of a non-utility generating system can depend on:

- the total install cost including any financing costs;
- ongoing operating and maintenance expenses;
- your site's annual energy needs relative to the size and type of system you are installing;
- the quantity of energy used to offset load versus excess sold to us;
- system performance;
- future electricity rates in Manitoba and the excess energy price.

A properly sized system that uses most of the energy generated, rather than selling excess to us, will typically provide a better payback.

Before you invest in a generating system, consider reducing your electricity use by adding insulation, buying energy-efficient appliances, or upgrading your lighting. It is more cost effective to reduce your electricity costs by improving your energy efficiency than by generating your own electricity.



## Calculate your payback period

### 1 Step 1: Determine your costs

Once you have a quote from your contractor, subtract the value of any federal/provincial grants and rebates from the total cost of your system and add any financing costs. We recommend getting at least 2 or 3 quotes and to be wary of estimates that promise quick paybacks.

### 2 Step 2: Determine your annual cost savings

Calculate your annual financial benefits, including your avoided electricity usage at your current electricity rate, and add any additional benefits, including any excess energy sold to us.

#### Annual cost savings formula:

$(\text{energy produced} \times \text{percent of energy used} \times \text{current electricity rate}) + (\text{energy produced} \times \text{percent of energy sold to us} \times \text{excess energy purchase price})$

### 3 Step 3: Calculate the payback period

Divide the total cost of your system from Step 1 by your annual financial benefits from Step 2 to calculate the number of years it will take for you to achieve your payback.

## Contact us

For more information about non-utility generation, [email us](#).

## RESIDENTIAL RATES

### RESIDENTIAL - TARIFF NO. 2023-01

Basic Charge:	\$9.42
PLUS	
Energy Charge:	
All kWh	@ 9.547 ¢ / kWh
Minimum Bill:	\$9.42

Services over 200 amps will have \$ 9.42 added to the Basic Charge.

#### Applicability:

The Residential rate is applicable for all residential purposes as follows:

- a) individually metered single family dwellings including those in multiple residential projects and single or three phase farm operations served through the same meter if:
  - i. the connected business load does NOT exceed 3 kW; or
  - ii. the combined agricultural and residential load does NOT exceed a demand of 50 kW.
  
- b) services for personal use outside the home, such as residential water wells, private garages, boat houses and swimming pools (use can be for household, recreational and hobby activities).
  
- c) single metered multiple residential projects meeting all the following criteria:
  - i. monthly demand does not exceed 50 kVA;
  - ii. the meter serves four or less individual suites or dwelling units;
  - iii. none of the units are used for business purposes;
  - iv. individual dwelling units are:
    - self-contained rental apartments with common facilities; or
    - row housing with self-contained rental dwelling units and common facilities; or
    - buildings with condominium type dwellings incorporated under *the Condominium Act*; or individual residential services within a trailer park established prior to May 1, 1969.

**GENERAL SERVICE**

**0 TO NOT EXCEEDING 200 kVA**

(Utility-Owned Transformation)

**SMALL SINGLE PHASE - TARIFF NO. 2023-20**

Basic Charge:			\$20.74
PLUS			
Energy Charge:			
First 11,000 kWh	@	9.570	¢ / kWh
Next 8,500 kWh	@	7.550	¢ / kWh
Balance of kWh	@	4.593	¢ / kWh
PLUS			
Demand Charge:			
First 50 kVA of Monthly Billing Demand			No Charge
Balance of Billing Demand	@	\$11.81	/ kVA
Minimum Bill:			
Demand Charge PLUS Basic Charge			

**SMALL THREE PHASE - TARIFF NO. 2023-21**

Basic Charge:			\$33.69
PLUS			
Energy Charge:			
First 11,000 kWh	@	9.570	¢ / kWh
Next 8,500 kWh	@	7.550	¢ / kWh
Balance of kWh	@	4.593	¢ / kWh
PLUS			
Demand Charge:			
First 50 kVA of Monthly Billing Demand			No Charge
Balance of Billing Demand	@	\$11.81	/ kVA
Minimum Bill:			
Demand Charge PLUS Basic Charge			

Accounts where the Monthly Billing Demand is 50 kVA or less within the past 12-month period:

All energy in excess of 11,000 kWh will be charged @ 7.550 ¢ / kWh.

**GENERAL SERVICE**

**EXCEEDING 200 kVA**

(Utility-Owned transformation)

**MEDIUM - TARIFF NO. 2023-30**

Basic Charge:				\$33.69
PLUS				
Energy Charge:				
First 19,500 kWh	@	8.626	¢ / kWh	
Balance of kWh	@	4.593	¢ / kWh	
PLUS				
* Demand Charge:				
First 50 kVA of Monthly Billing Demand				No Charge
Balance of Billing Demand	@	\$11.81	/ kVA	

Minimum Bill:  
Demand Charge PLUS Basic Charge

**\* Monthly Billing Demand**

The greatest of the following (expressed in kVA):

- a) measured demand; or
- b) 25 % of contract demand; or
- c) 25% of the highest measured demand in the previous 12 months.

Primary metering of multiple Utility-Owned transformation services has an additional 2% added to the kVA for each transformation greater than one. There is also a 1% reduction on recorded demand and energy to account for transformer losses.

**Applicability:**

The General Service Medium rate is applicable to services where the registered demand exceeds 200 kVA and where the transformation is provided by the Corporation.

Customers who, by nature of their business, do not require service during the months of December, January, and February may qualify for the General Service Short-Term Power rate. For further details see page 16.

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**PUB/DAYMARK I-1 Reference: Daymark Evidence p.63; 2017/18 & 2018/19 GRA  
Exhibit DEA-1 Daymark Export Report pp.59-61  
Premium for Long-Term Dependable Energy**

Preamble:

On pages 59 to 61 of Daymark's 2017 report on Export Revenues filed as exhibit DEA-1 in the 2017/18 & 2018/19 GRA, Daymark states that MH removed the long-term dependable energy premium from its forecast of uncontracted energy revenues:

Upon review of the reasons for first instituting a premium and then removing the premium, we believe the elimination of the premium 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's assessment of the softening of the market for exports in the near-term over the past several years.

...

- The elimination of the premium appears reasonable for the near term.
- The elimination of the premium in the longer term is not consistent with the longer term outlook for energy, capacity and clean energy requirements in the Northern MISO region. Based on Daymark's MISO market assessment provided in Section II and the independent consultants view on capacity needs in the near future, an opportunity for premiums in long-term contracts is a distinct possibility, as was observed by MH when it initiated the premium in 2013.

On page 63 of Daymark's April 13, 2023 report, Daymark states:

Based on Daymark's review of the filing and information requests, our conversations with MH personnel, and our review of supplemental materials provided by MH, we find that the Corporation's forecast of export revenues is reasonable....The export revenue as presented in the GRA assumes no renewal

or replacement contracts and assumes that MH's future supply sales are valued only at the MISO market energy price. We believe this is a reasonable, but conservative, assumption, and that it is likely that there will be opportunities for premium pricing or additional revenues for MH's exports as the MISO market continues to evolve.

**Request:**

Please explain the factors that have changed Daymark's view of the reasonableness of removing a long-term energy premium from MH's forecast of **uncontracted dependable energy exports**.

**Response:**

Daymark's change in position is largely due to several factors. First, the date at which MH anticipates being short on dependable energy and capacity is closer to current day now than in it was when Daymark reviewed the 2017/18 GRA. This means that there are fewer negotiating levers available to MH when trying to find counterparties for any remaining capacity. While that factor alone does not eliminate the potential for a premium for capacity or firm energy, it decreases the likelihood.

Second, our assessment of the MISO market is different in some important ways. While Daymark expected, and MISO has seen, the acceleration of renewable energy projects being developed, **MISO market rules have not yet meaningfully changed to reflect the evolving supply landscape and assign different value to firm, emission-free resources**. This results in a lack of clear market signals that will fully compensate resources providing the volume of emission-free balancing energy needed in response to the volume of intermittent resources serving MISO load. Additionally, the move to seasonal accreditation for capacity and the current uncertainty as to its treatment at FERC and the final market rules that will govern that changing market creates doubt as to whether MH summer capacity will be able to be sold in the short term before the new market structure and rules are finalized. This uncertainty, combined with the forecasted coming shortage of capacity in Manitoba, combines to decrease the probability of successfully monetizing **opportunity** capacity.



Finally, the passage of the Inflation Reduction Act of 2022 (2022 IRA) creates additional uncertainty for MH because there are strong incentives built into the 2022 IRA designed to encourage local (US based) development of the resources needed to meet US load.

While rules and regulations around the 2022 IRA are still evolving, it is clear that there are mechanisms designed to encourage a number of products that would compete directly with MH products. The 2022 IRA has earmarked money for storage, hydrogen and small modular nuclear, for instance. Each of these technologies could potentially provide some of the same benefits to the MISO market that MH has traditionally provided.

Given all of the above, we believe that there exist sufficient reasons to doubt the potential to monetize opportunity energy and capacity above basic spot energy prices. This does not mean that we believe there's no possibility that premiums might materialize in future negotiations between MH and its counterparties. Our understanding is that MH continues to seek such opportunities but selling short-term capacity requires finding a counterparty with specific needs for whom an agreement would be mutually beneficial. Such counterparties may emerge as MISO market conditions change, so MH should continue to make efforts to find opportunities for a premium for its water, and should continue to engage with MISO and other stakeholders to attempt to advocate for market rule changes that would be beneficial to MH and its customers. But for budgeting purposes, we do not believe that including any opportunity premium in a reference case is supported by the facts and activity within MISO activities or US policy.

**PUB/DAYMARK I-2 Reference: Daymark Evidence pp.33,36,55,57-58,63; MFR 43; MFR 84; 2017/18 & 2018/19 GRA Exhibit DEA-1 Daymark Export Report p.71  
Uncontracted Surplus Capacity**

**Preamble:**

On page 33 of Daymark's April 13, 2023 report, Daymark states:

The RRA concluded that after considering forecasted load growth, announced plans for generation retirements, and announced plans for new additions, the net effect is that LRZ 1 will have a capacity shortfall in just a few years.

On page 36 of Daymark's April 13, 2023 report, Daymark states:

**Resource adequacy and capacity market uncertainty.** The capacity situation has tightened dramatically in recent years, with an impending shortage expected MISO-wide, and in the subregion directly south of Manitoba (LRZ 1). Driven by increased resource adequacy concerns, MISO is moving to a seasonal capacity requirement which could result in some utilities experiencing capacity deficits in the near-term.

On page 55 of Daymark's April 13, 2023 report, Daymark states:

Beyond the firm contracts, MH's export forecast included in the GRA does not assume any revenue from future capacity sales.

On page 55 of Daymark's April 13, 2023 report, Daymark states:

In addition, while MH could theoretically sell surplus capacity on a short-term basis through the MISO PRA, [remainder is redacted]

On page 58 of Daymark's April 13, 2023 report, Daymark states:

Given these uncertainties, we agree with the Company's approach to assume no new sales of surplus export capacity in the revenue forecast. However, it should

be recognized that this is a conservative assumption, and there is potential for incremental revenue if MH can monetize its excess summer capacity.

The MISO region is not yet a winter peaking system, and there is a shortage of capacity that led to high PRA clearing prices in 2022.

On page 63 of Daymark's April 13, 2023 report, Daymark states:

The export revenue as presented in the GRA assumes no renewal or replacement contracts and assumes that MH's future supply sales are valued only at the MISO market energy price. We believe this is a reasonable, but conservative, assumption, and that it is likely that there will be opportunities for premium pricing or additional revenues for MH's exports as the MISO market continues to evolve.

On page 71 of Daymark's 2017 report on Export Revenues filed as exhibit DEA-1 in the 2017/18 & 2018/19 GRA, Daymark states:

There are a few areas where we believe that the assumptions or methods of producing the current export revenue forecast are not in keeping with a P50 reference forecast.

These items are:

- The methodology for forecasting the export energy and capacity prices;
- The assumption that no firm energy sales will be made from the forecasted surplus dependable energy;
- The assumption that no extension of sales will occur with existing buyers when current firm contracts expire; and,
- The assumption that MH will not receive any capacity revenue associated with surplus dependable energy or opportunity sale energy over the study period.

MFR 43 shows the surplus winter capacity to be at least 150 MW for the years 2023/24 to 2026/27.

MFR 84 provides MH's consensus forecast for export capacity prices.

**Request:**

- a) Please explain the factors that have changed Daymark's view from its 2017 report of the reasonableness of not including revenue from sales of surplus uncontracted capacity in MH's export revenue forecast, considering Daymark's other findings of capacity shortfalls in MISO.
- b) Please provide Daymark's views as to the likelihood of MH being able to contract for the sale of up to 150 MW of capacity until 2026/27.
  - i. If MH is likely able to contract for the sale of this capacity, please provide a range of expected revenues and explain whether these should be incorporated into MH's overall export revenue forecast.
  - ii. If MH is unlikely to be able to contract for the sale of this capacity, please explain the reasons.
- c) Please confirm whether the MISO Planning Resource Auction is the only opportunity for MH to sell surplus capacity on a short-term basis.
- d) Please explain whether MH is able, under the current MISO rules, to contract with a counterparty for the sale of summer capacity only, and whether such a capacity acquisition would be useful for the counterparty in meeting its capacity and reserve needs.

**Response:**

- a) See response to PUB/DAYMARK I-1.
- b) Manitoba Hydro is expected to have surplus summer capacity for the next few years, but it is unclear whether there is a market for that short-term capacity. Until recently the MISO Planning Resource Auction (PRA) clearing prices have indicated capacity surplus in northern MISO. The most recent PRA cleared at a much higher price, indicating that the surplus may have eroded in recent years. However, as described in Section VII of the Daymark Report, there are several significant uncertainties in the market for capacity in northern MISO, including the impact of the new seasonal capacity construct and the market response to new tax incentives and emerging capacity need. [REDACTED]

[REDACTED]

4a

Given these significant uncertainties, it is Daymark's view that it is appropriate for MH excluding revenue from potential capacity sales in its GRA forecast.

- c) The MISO PRA is not the only opportunity for MH to sell surplus capacity on a short-term basis, but it is the only option that MH would be able to use without negotiating with a counterparty. [REDACTED]

4a

[REDACTED]

[REDACTED] Other opportunities do exist but would require a counterparty that forecasts a shortage in their own capacity and sees value in a short-term bridge to whatever steps they are taking to develop longer term supply. Prior to the last PRA that might have been hard to imagine, as the northern MISO capacity zones that MH could deliver to have not cleared at high prices. With the 2021/22 PRA results leading to those zones clearing near the cost of new entry (CONE) there could be opportunity for a short-term sale. Our understanding is that MH is continually in contact with those counterparties and seeking such opportunities to see if there is a mutually beneficial commercial arrangement.

- d) Daymark's understanding is that MH could enter into a bilateral contract to sell summer capacity only to a counterparty. MISO's rules related to the seasonal capacity construct are still in development, but our expectation is that capacity could be transacted for one or multiple seasons. If a potential counterparty has a capacity need that could be fulfilled by a contract with MH, that capacity would be useful to the load-serving entity in meeting its resource adequacy requirements.

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