Public Utilities Board

Régie des services publics

Order No. 101/23

FINAL ORDER WITH RESPECT TO MANITOBA HYDRO'S 2023/24 AND 2024/25 GENERAL RATE APPLICATION

August 24, 2023

BEFORE: Robert Gabor, K.C., Board Chair
Marilyn Kapitany, B.Sc., M.Sc., Vice Chair
George Bass, K.C., ICD. D., Member
Carol Bellringer, FCPA, FCA, Member
Hamath Sy, B.Sc., M.Sc., Member

Table of Contents

1.0 EXECUTIVE SUMMARY

1.1 What is this Order About?

1.1.1 Overview

This is an order of the Public Utilities Board ("Board") in Manitoba Hydro's 2023/24 & 2024/25 General Rate Application. The order finalizes an existing 3.6% interim rate increase that came into effect on January 1, 2022 and approves two additional rate increases — an average increase of 1.0% that comes into effect on September 1, 2023, and another average increase of 1.0% that comes into effect on April 1, 2024.

Because of a current imbalance between the cost of serving different customer classes and the rate revenue collected from those classes, the rate increases described above are being applied in a differentiated manner, which means that not all customer classes are receiving the same rate increase. The actual rate increases approved for each customer class are shown in Figure 1.1:

Customer Class	September 1, 2023 Rate Increase	April 1, 2024 Rate Increase
Residential	1.4%	1.4%
General Service Small Non-Demand	no increase	no increase
General Service Small Demand	1.1%	1.1%
General Service Medium	1.1%	1.1%
General Service Large 750V-30kV	1.1%	1.1%
General Service Large 30-100kV	0.5%	0.5%
General Service Large >100kV	0.5%	0.5%
Area & Roadway Lighting	no increase	no increase

Figure 1.1 — Approved Rate Increases by Customer Class

In this order, the Board also:

- requires Manitoba Hydro to continue to use its existing depreciation methodology (called Average Service Life or ASL) and denies the utility's request to switch to a different methodology that would result in higher levels of depreciation in the near term;

- requires Manitoba Hydro to recognize a terminal loss related to the decommissioning of the Selkirk Generating Station in the current year instead of amortizing the loss over several decades;

- denies Manitoba Hydro's request to establish a regulatory deferral account for costs related to the replacement of Manitoba Hydro's existing enterprise resource planning software with a cloud-based solution before a business case has been completed;

- approves additional rate differentiation within the Area & Roadway Lighting customer class to better reflect the cost of providing service, and finalizes or approves rates for various types of light fixtures;

- approves the direct assignment of a portion of the costs related to the LED street lighting conversion program to the Area & Roadway Lighting customer class;

- approves changes to the rate structure of the commercial and industrial customer classes;

- approves changes to the Curtailable Rate Program and Surplus Energy Program (two special commercial and industrial rate programs) and finalizes interim rate orders with respect to those programs;

- makes rulings with respect to several regulatory deferral accounts;

- issues several procedural directives to Manitoba Hydro; and

- makes recommendations with respect to

    - energy poverty programs, and

    - the scope of Manitoba Hydro's Enterprise Risk Management.

After the conclusion of the evidentiary portion of the hearing and final submissions on June 25, 2023, the provincial government released Manitoba's Energy Roadmap on July 28, 2023 and Manitoba Hydro released its initial integrated resource plan on August 2, 2023. These documents were not in evidence before the Board during the hearing and the Board did not consider the content of those documents in making this order.

1.1.2 The Board's Rate Approval Mandate

The Board is required to approve Manitoba Hydro's rates for services under *The Crown Corporations Governance and Accountability Act*. Rates are set on a forward-looking basis based on Manitoba Hydro's revenue and cost projections. The Board considers both the utility's short-term revenue needs and long-term projections in an effort to achieve rate stability and avoid rate shock for consumers. The Board does so in accordance with the following principles:

1. Protect the public interest by balancing the interests of ratepayers against the financial health of the regulated utility;
2. Protect and ensure the institutional integrity of the Board as an independent, quasi-judicial administrative tribunal that makes apolitical decisions based on sound judgment;
3. Promote transparency and accountability through the hearing process; and
4. Promote and facilitate public participation in the hearing process.

1.1.3 Manitoba Hydro's General Rate Application

Manitoba Hydro initially filed its application on November 15, 2022, seeking rate increases of 3.5% on September 1, 2023 and April 1, 2024. Shortly after the filing date, the provincial government committed to reducing — by 50% — the water rental fee payments and debt guarantee fee payments Manitoba Hydro makes to the Province of Manitoba. The water rental fee is payable under *The Water Power Act* and is based on both the capacity of Manitoba Hydro's generating stations and the amount of energy generated. The debt

guarantee fee is a payment to the Province of Manitoba in exchange for the provincial government guaranteeing Manitoba Hydro's debt. Based on the reduced payments to government, Manitoba Hydro filed a revised application on December 9, 2022 that decreased the requested rate increases from 3.5% to 2.0%.

Under both versions of the application, Manitoba Hydro sought to finalize the existing 3.6% interim rate increase that came into effect on January 1, 2022.

1.1.4 The Board's Review Process

The Board conducted an extensive hearing process involving two rounds of written information requests, the participation of five approved intervener organizations, four weeks of oral evidence and cross-examination, and detailed written submissions. The Board was assisted by an independent expert consultant on utility operations and the U.S. electricity market. The Board also retained a facilitator who led a collaborative process on depreciation issues.

The Board's decision in this matter is based on the sworn evidence provided at the hearing by means of written exhibits and oral testimony.

1.2 Why is the Board Approving Rate Increases?

1.2.1 The Increases Form Part of a 4-Year Rate Period

The Board took a holistic approach to the rate period included in the current general rate application. Over the four-year rate period (which spans the 2021/22, 2022/23, 2023/24 and 2024/25 fiscal years), the Board's rate decisions in this order are equivalent to equal annual rate increases of 1.4%.

Manitoba Hydro's existing 3.6% interim rate increase was approved effective January 1, 2022 as a result of a severe drought in 2021. Shortly after the Board approved the interim increase, drought conditions ended and Manitoba experienced record water flows. Coupled with the provincial government's decision to reduce water rental fees and the provincial debt guarantee fee retroactive to April 1, 2022, the high water flows in 2022

resulted in Manitoba Hydro experiencing record net income of $751 million in the 2022/23 fiscal year. In retrospect, an interim rate increase was not required in response to short-term results. However, the Board considers it just and reasonable to finalize the increase as part of the Board's four-year rate decision, balancing the interests of ratepayers against the long-term financial stability of the utility. This has factored into the Board's decision to approve rate increases less than those applied for by Manitoba Hydro.

1.2.2 Reduced Export Revenues

Manitoba Hydro has benefitted from being able to sell energy into the U.S. market and into Saskatchewan. Generally, the utility's most profitable sales are made at fixed prices under export contracts. Lower-value opportunity sales are made into the spot market at prevailing market prices. With significant renewable energy subsidies in the United States, Manitoba Hydro expects to be unable to renew its existing export contracts with Northern States Power that expire in 2025. The utility also expects increasing demand in Manitoba towards the end of this decade to reduce the amount of energy available for export. While Manitoba Hydro expects to earn approximately $1.2 billion from exports during the 2023/24 fiscal year, it expects this amount to drop to below $800 million in the 2025/26 fiscal year.

1.2.3 Business Operations Capital Expenditures

With Manitoba Hydro's major generation and transmission projects such as the Keeyask generating station and the Bipole III transmission line now in service, Manitoba Hydro plans to shift its capital expenditures towards business operations capital. This is capital spent to maintain existing infrastructure, upgrade or expand that infrastructure to accommodate additional demand, and support the utility's day-to-day operations. The utility plans to spend $538 million on business operations capital in 2023/24 and $560 million in 2024/25. It cites decreasing system reliability, which is of particular concern to industrial customers.

The Board finds that none of Manitoba Hydro's planned capital expenditures are individually unreasonable, but that the utility has a demonstrated history of underspending

compared to its business operations capital forecasts. As such, the Board concludes that Manitoba Hydro's estimated capital expenditures during the 2023/24 and 2024/25 fiscal years are likely overstated. Capital expenditures do not have a one-for-one impact on the utility's revenue requirement, since they are recovered through depreciation expense over the useful life of each asset, which can be many years. However, they do affect the utility's cash flow requirement. The Board finds that Manitoba Hydro's cash flow requirement is likely overstated as a result of an overstated capital expenditure plan, which factored into the Board's decision to approve rate increases lower than those applied for by Manitoba Hydro.

1.2.4 Increased Operating Expenses

Manitoba Hydro expects its operating and administrative (O&A) expenses to increase by 11.5% in 2023/24 and 4.6% in 2024/25. As illustrated in Figure 1.2, the increases relate in part to an increase in the utility's planned staffing levels (as reflected through the full-time equivalent or FTE count), in part to expected salary increases, and in part to cloud-computing expenditures.

Beginning in 2017, Manitoba Hydro reduced its workforce by approximately 15% through a voluntary departure program. During the COVID-19 pandemic, Manitoba Hydro's labour force shrunk further, reaching an inflection point in 2021. The utility plans to increase its staffing level to a level slightly below that experienced at the conclusion of the voluntary departure program, citing primarily a need to rebuild its trades trainee program.

The projected salary increases relate to existing and anticipated collective agreements for the utility's labour force, which is approximately 80% unionized.

The Board considers Manitoba Hydro's proposed staffing level increase to be reasonable but unlikely to be fully achieved in 2023/24 and 2024/25, resulting in the forecast expenditure level being overstated. This has factored into the Board's decision to approve rate increases lower than those applied for by Manitoba Hydro.

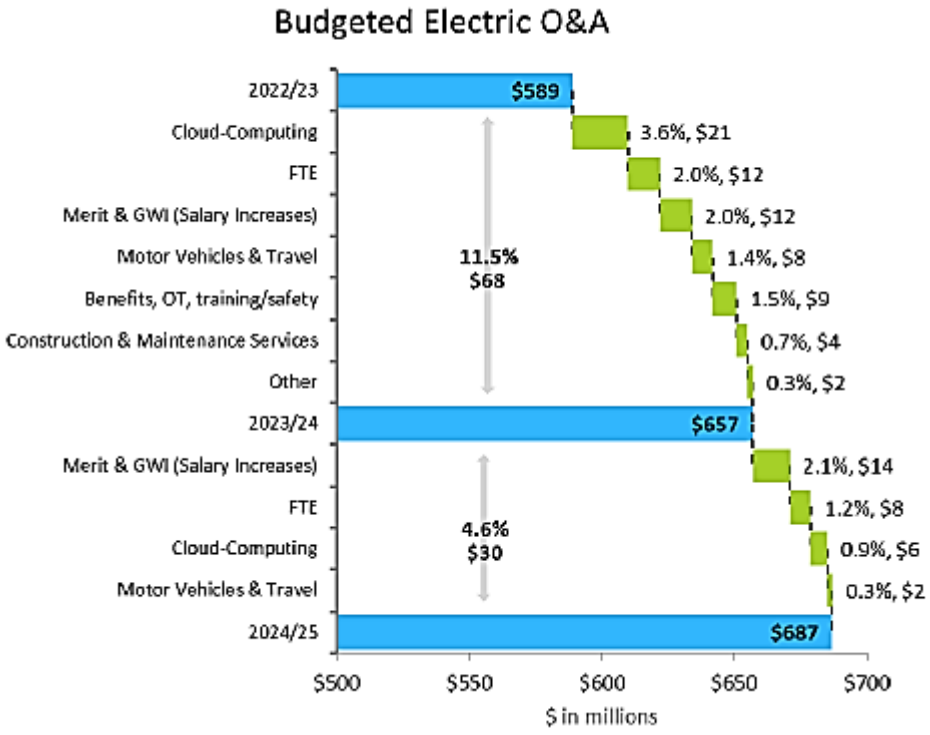

Figure 1.2 — Manitoba Hydro's Planned O&A Expense Increases

The cloud computing expenses relate in part to the replacement of small software systems and in part to a plan by Manitoba Hydro to replace its enterprise resource planning software with the SAP S/4HANA cloud computing solution, as the existing SAP software will not be supported beyond 2027. While software has historically been treated as a capital expense, accounting rules now require cloud-based software licences to be treated as an O&A expense. However, Manitoba Hydro has sought the Board's approval to pre-emptively establish a regulatory deferral account for SAP S/4HANA-related expenses to treat them in a similar manner as a capital expenditure.

The Board considers the projected expenses related to small software systems to be reasonable but finds that the SAP S/4HANA expenses are speculative, as no business case for the project has been completed yet. The Board denies Manitoba Hydro's application to pre-emptively establish a cloud computing deferral account but leaves it

open for Manitoba Hydro to apply for approval of such an account before the next general rate application, if a business case has been developed. The speculative nature of the SAP S/4HANA expenses factored into the Board's decision to approve rate increases lower than those applied for by Manitoba Hydro.

1.2.5 A Gradual Reduction of Manitoba Hydro's Debt Level

Manitoba Hydro's major capital projects that formed part of its "decade of investment" are now in service. The projects resulted in a doubling of Manitoba Hydro's asset base since the beginning of construction, but also of the utility's debt. This is illustrated in Figure 1.3. The Board considered Manitoba Hydro's current asset base and debt level in the context of the utility's retained earnings and financial targets.

Although Manitoba Hydro was able to lock in approximately 99% of the new debt at favourable fixed rates, the utility will have to refinance approximately $1 billion annually over the next decade at rates expected to be 100 basis points higher than the existing rates. While Manitoba Hydro's retained earnings have grown and currently stand at approximately $4 billion, the Board considers it prudent for the utility to gradually reduce its debt level to increase its debt-to-capitalization ratio from the current level of 85% to the Board's previously accepted long-term target of 75%. Based on recently passed legislation that is not yet in effect for this general rate application, the targeted level of debt reduction may have to increase beginning in 2025 to meet a debt-to-capitalization ratio of 70% by 2040.

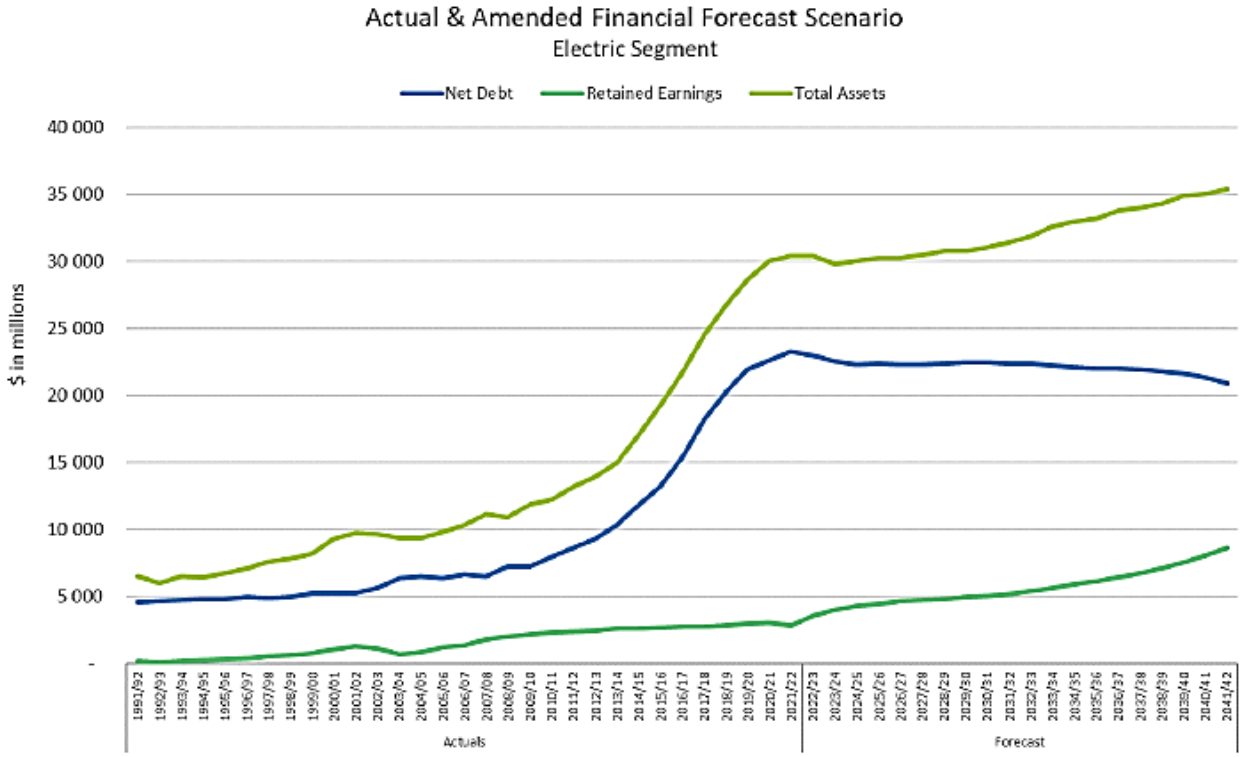

Figure 1.3 — Assets, Debt & Retained Earnings of Manitoba Hydro (Forecast Years Based on Manitoba Hydro's Application)

1.2.6 Depreciation Methodology

Manitoba Hydro recovers its capital expenditures through depreciation expense, which forms part of the utility's revenue requirement. For rate-setting purposes, the utility currently uses a methodology called Average Service Life ("ASL"). However, since 2013, Manitoba Hydro has planned to adopt the Equal Life Group ("ELG") methodology as part of the utility's adoption of International Financial Reporting Standards. Through multiple general rate applications, the Board required Manitoba Hydro to continue to utilize the ASL methodology until Manitoba Hydro filed a full comparison study.

In this order, the Board makes a final determination on the issue and requires Manitoba Hydro to continue to use the ASL methodology for rate-setting purposes. The Board finds that this is the most common methodology used by Crown-owned hydroelectric utilities,

and that the ELG methodology would result in unnecessarily high depreciation rates in the near term that are not just and reasonable.

The Board's decision on depreciation reduces Manitoba Hydro's annual level of depreciation expense compared to the utility's forecast, which has factored into the Board's decision to approve rate increases lower than those applied for by Manitoba Hydro.

As part of its ruling on depreciation, the Board approves the continued deferral of interim gains and losses resulting from the replacement of assets. However, the Board is denying a request by Manitoba Hydro to defer a terminal loss of approximately $43 million related to the decommissioning of the Selkirk Generating Station. The Board finds that terminal losses should be written off in the year in which they occur, unless there is a need to amortize those losses gradually to avoid rate shock. The Board's decision on this matter will result in a one-time write-off to Manitoba Hydro that will not affect future years.

A Note on Manitoba Hydro's Financial Statement:

For financial reporting purposes (as opposed to rate-setting purposes), Manitoba Hydro currently uses the ELG methodology but has recorded the difference between the two methodologies in a deferral account that has not been approved by the Board.

As a result of the Board's ruling on depreciation, Manitoba Hydro will have to make decisions on how to reflect the ruling in its financial statements, including what to do with the deferral account set up by the utility. This is outside the jurisdiction of the Board, which has never approved the use of the ELG methodology for rate-setting purposes or approved the recovery of the deferral account balance.

1.3 Why Aren't All Customer Classes Receiving the Same Rate Increase?

1.3.1 Cost of Service and the Zone of Reasonableness

The rates charged to a class of customers should generally reflect the cost of providing service to that class. However, the Board balances cost of service criteria against other ratemaking principles when approving just and reasonable rates.

Manitoba Hydro prepares periodic cost of service studies following a methodology approved by the Board. Based on these studies, it is possible to determine the ratio of the amount of rate revenue recovered from a class to the cost of serving that class. This number is known as the revenue-to-cost coverage ratio, or RCC ratio. The Board for many years has assessed RCC ratios against a "zone of reasonableness" of 95-105% and continues to consider this zone to be appropriate.

In Order 59/18, which followed Manitoba Hydro's 2017/18 & 2018/19 General Rate Application, the Board ordered the utility to differentiate rate increases to gradually bring all customer classes into the zone of reasonableness within ten years. Since then, all rate increases approved by the Board have been differentiated to meet this initial timeline. However, during the COVID-19 pandemic, the government legislated a single 2.9% rate increase that was applied evenly to all customer classes on December 1, 2020.

Figure 1.4 shows the RCC ratios for Manitoba Hydro's various customer classes and the level of rate differentiation proposed by Manitoba Hydro. Column 2 indicates the current RCC ratio of each class as determined by the utility's most recent cost of service study. Column 3 indicates the class's position with respect to the zone of reasonableness. Column 4 shows the rate increases proposed by Manitoba Hydro for each class. Column 5 indicates the level of rate differentiation proposed by Manitoba Hydro, meaning the amount added to or subtracted from the proposed average rate increase. Column 6 contrasts this against the level of differentiation that would be required under the methodology the Board previously established in Order 59/18.

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Customer Class	RCC Ratio	Zone of Reasonableness	Rate Increase Proposed by Manitoba Hydro	Differentiation Proposed by Manitoba Hydro	Differentiation Indicated by PCOSS24 to Meet Order 59/18 Timeline
Residential	94.4%	Below	2.4%	+ 0.4%	+ 0.43%
General Service Small Non-Demand	109.7%	Above	1.0%	– 1.0%	– 0.87%
General Service Small Demand	101.8%	In	2.1%	+ 0.1%	+ 0.43%
General Service Medium	100.3%	In	2.1%	+ 0.1%	+ 0.43%
General Service Large 750V-30kV	97.9%	In	2.1%	+ 0.1%	+ 0.43%
General Service Large 30-100kV	112.4%	Above	1.5%	– 0.5%	– 1.35%
General Service Large >100kV	113.3%	Above	1.5%	– 0.5%	– 1.49%
Area & Roadway Lighting	108.2%	Above	1.0%	– 1.0%	– 1.49%

Figure 1.4 — RCC Ratios and Rate Differentiation

1.3.2 Balancing Cost of Service Against Rate Stability and Gradualism

The Board is satisfied with Manitoba Hydro's cost of service methodology. It continues to be of the view that there is a need to move all customer classes towards the zone of reasonableness. However, in reaching a decision on rate differentiation, the Board balanced cost of service criteria against the principles of rate stability, affordability, and gradualism. Based on this balancing, the Board finds that the timeline set out in Order 59/18 is no longer just and reasonable. The Board instead approves the level of rate differentiation proposed by Manitoba Hydro, as reflected in Column 5 of Figure 1.4. This approach reflects a more gradual move of different customer classes towards the zone of reasonableness compared to the Board's previous approach. It also reduces the level of differentiation for those classes that are already within the zone of reasonableness.

With the overall approved rate increase being less than what Manitoba Hydro applied for, the approved level of rate differentiation results in all classes — including the residential class — receiving rate increases less than inflation during each of the two fiscal years in question, while no class is receiving an overall rate decrease.

1.3.3 The Impact of Energy Poverty

In approving a level of rate differentiation that is less than the level previously approved, the Board was influenced by the absence of a meaningful energy poverty program in Manitoba. The only customer class currently below the zone of reasonableness is the residential customer class. It is not feasible to bring industrial customers into the zone of reasonableness without further rate increases for residential customers.

The government's recent decision to reduce water rental fees and the debt guarantee fee is a step towards affordability for all ratepayers, but it is not a replacement for targeted measures. Not all residential customers face affordability issues, as Manitoba's residential electricity rates remain the second-lowest in the country. However, a significant number of households continue to experience energy poverty. For these households, energy bills constitute too high a percentage of their household income. The problem is especially acute in the 61 of 63 First Nations communities that do not have access to natural gas for heating purposes. For residential customers on those reserves, annual electricity bills are twice as high as for off-reserve customers. On-reserve residential customers also account for a disproportionate amount of residential service disconnections and bill arrears. While Manitoba Hydro operates bill affordability programs, it has limited evidence on how useful those programs are in reducing energy poverty. The Board accordingly recommends that Manitoba Hydro review the effectiveness of its existing bill affordability programs and consult with First Nations about creating targeted energy poverty programs for First Nations.

The Manitoba Court of Appeal's decision in *Manitoba (Hydro-Electric Board) v. Manitoba (Public Utilities Board) et al*, 2020 MBCA 60, made it clear that the Board does not have jurisdiction to create a separate customer rate based on socio-economic factors. As a

result, the Board finds that it must give increased weight to issues of rate stability and affordability for the residential class as a whole in order to avoid exacerbating energy poverty issues. This slows the pace at which the industrial customer classes can be moved into the zone of reasonableness.

If The Manitoba Court of Appeal decision means that social policy and bill affordability issues are matters reserved for the government, the government must devote resources to those matters, especially in the face of continued rate increases in the future. In Manitoba's climate, heating is not a matter of comfort, but of necessity. The Board accordingly recommends that the Province of Manitoba establish an energy poverty program and that Manitoba Hydro review the effectiveness of its existing bill affordability programs.

In the Board's view, an energy poverty program is also required under *The Path to Reconciliation Act*. That Act requires the government to develop a strategy that builds upon meaningful engagement with Indigenous nations and Indigenous peoples and establishes actions responsive to their priorities and needs. Reconciliation in Manitoba cannot take place without acknowledging that northern First Nations disproportionately bear the adverse effects of hydroelectric development. Many people in those communities saw their lands flooded and lost their livelihood through northern hydroelectric development. A targeted energy poverty program for members of those communities is justified under the principle of substantive equality, meaning a focus on equality of outcomes that takes into account the particular group's disadvantages or an unequal distribution of opportunity.

1.4 How Else Are Rates Changing?

There are no changes to the rate structure of residential customers, who will continue to pay a basic monthly charge and a fixed energy charge per kilowatt-hour of energy consumed.

For other rate classes and special rates, this order approves the following changes:

- Area & Roadway Lighting: There is additional rate differentiation within the Area & Roadway Lighting Class based on the type of luminaire used. This order also approves the direct assignment of a portion of the LED conversion program to that class, as well as several new rates.

- General Service Small and General Service Medium: These classes, which have a declining block rate structure, are no longer harmonized. Ending harmonization allows for rate differentiation for the General Service Non-Demand customer class to bring it closer to the zone of reasonableness. The individual rate components are also adjusted on a differentiated basis.

- General Service Large: The rate increase is applied exclusively to the demand charge, with no increase to the energy charge. This order also approves a change to how the billing demand is determined for the purpose of determining the demand charge.

- Diesel Zone Rates: This order makes no change to rates paid by customers in the four diesel zone communities, other than the demand charge and first block grid-equivalent rate for Diesel General Service Customers, which are aligned with the General Service Small Non-Demand Class.

- Curtailable Rate Program: The terms and conditions of this program are changed to require an annual curtailment test, increase the number of possible curtailments, extend the notice period for conversion to firm service, and make minor editorial changes. This order also finalizes all outstanding interim *ex parte* orders.

- Surplus Energy Program: The terms and conditions of this program are changed to temporarily suspend new enrollment, reduce the notice period for interruptions

from 36 hours to 12 hours, and make minor editorial changes. This order also finalizes all outstanding interim *ex parte* orders.

1.5 Recommendations

The Board is making a non-binding recommendation to the provincial government to establish an energy poverty program for households that are facing energy poverty. The Board also recommends that Manitoba Hydro evaluate its existing bill affordability programs to assess the effectiveness of those programs and consult with First Nations about creating targeted programs to alleviate energy poverty faced by the utility's customers living in First Nation communities. Another recommendation relates to the development of Manitoba Hydro's Enterprise Risk Management framework.

Over the years, the Board has made a number of recommendations to the provincial government and to Manitoba Hydro, several of which have been accepted. Recommendations are a powerful tool because the Board can make recommendations that are within its specialized expertise but outside its jurisdiction to make binding directives. A recent legislative amendment curtails the Board's ability to make recommendations in the future without the prior approval of the Minister. The Board considers this impracticable because the requirement undermines the independence of the Board and its ability to make recommendations it considers to be in the public interest.

1.6 What Other Matters Did the Board Consider?

The Board retained an independent expert consultant to review Manitoba Hydro's drought management and hydrological forecasting. Based on this review, the Board finds that Manitoba Hydro has managed the 2021 drought with a high degree of competence but should have advised the Board of its deteriorating financial condition earlier. The independent expert consultant also reviewed Manitoba Hydro's export revenue forecasts and concluded that the forecasts are reasonable.

The Board considered Manitoba Hydro's asset management strategy and finds that while the utility is maturing its approach to asset management, progress has been slow. The Board requires Manitoba Hydro to provide an update at its next general rate application.

The Board considered Manitoba Hydro's interest rate, export revenue, and load forecasts and finds that, while the forecasts are reasonable for the two years that are the subject of this application, there is significant long-term uncertainty. The Board requires Manitoba Hydro to include an uncertainty analysis with its next general rate application.

2.0 BACKGROUND

2.1 What is a General Rate Application?

Manitoba Hydro is an electric utility owned by the provincial government. It is a Crown corporation and, under *The Manitoba Hydro Act*, has been granted a monopoly on the retail sale of electrical power in Manitoba. The utility's customers, which are grouped into customer classes based on the type of service they receive, are Manitoba's electric ratepayers.

Manitoba Hydro is vertically integrated, which means that it is responsible for the generation, transmission, and distribution of electricity. Manitoba Hydro generates electricity at its sixteen hydroelectric generating stations in Northern and Eastern Manitoba, as well as a gas-fired generation station in Brandon. Transmission is the long-distance transportation of electricity over high-voltage lines. Distribution involves the provision of electricity to individual neighbourhoods and, eventually, the end user. In many other jurisdictions, the generation, transmission, and distribution functions are divided among different companies.

The Public Utilities Board ("Board") is an independent quasi-judicial tribunal created by the provincial government to regulate utilities and approve rates charged to consumers, including Manitoba Hydro's rates. It does so through a public process called a "general rate application". In a general rate application, Manitoba Hydro provides evidence under oath as to why it should be awarded a rate increase, as well as whether and how that rate increase is to be apportioned among different customer classes.

2.2 The Board's Jurisdiction to Approve Rates

The Board's jurisdiction to approve Manitoba Hydro's rates is set out in section 25 of *The Crown Corporation's Governance and Accountability Act*. According to the legislation, the Board may consider the following factors in approving Manitoba Hydro's rates:

- the amount required to provide sufficient funds to cover operating, maintenance, and administration expenses of Manitoba Hydro;
- interest and expenses on debt incurred for the purposes of Manitoba Hydro by the government;
- interest on debt incurred by Manitoba Hydro;
- reserves for replacement, renewal, and obsolescence of works of Manitoba Hydro;
- any other reserves that are necessary for the maintenance, operation, and replacement of works of Manitoba Hydro;
- liabilities of Manitoba Hydro for pension benefits and other employee benefit programs;
- any other payments that are required to be made out of the revenue of Manitoba Hydro;
- any compelling policy considerations that the Board considers relevant to the matter; and
- any other factors that the Board considers relevant to the matter.

The Board fulfills its mandate in accordance with the following principles:

1. Protect the public interest by balancing the interests of ratepayers against the financial health of the regulated utility;
2. Protect and ensure the institutional integrity of the Board as an independent, quasi-judicial administrative tribunal that makes apolitical decisions based on sound judgment;

3. Promote transparency and accountability through the hearing process; and

4. Promote and facilitate public participation in the hearing process.

The Manitoba Court of Appeal considered and summarized the Board's mandate as follows in *Consumers' Association of Canada (Man.) Inc. et al. v. Manitoba Hydro, Electric Board*, 2005 MBCA 55:

> *The PUB has two concerns when dealing with a rate application; the interests of the utility's ratepayers, and the financial health of the utility. Together, and in the broadest interpretation, these interests represent the general public interest.*

In Order 5/12, the Board endorsed the following description of its role in rate-setting:

> *The Board's role, according to [the Consumers' Association of Canada and the Manitoba Society of Seniors], must involve ensuring that MH's forecasts are reasonably reliable, ensuring that actual and projected costs incurred are necessary and prudent, assessing the reasonable revenue needs of the Corporation in the context of the overall general health of MH, determining an appropriate allocation of costs between classes, and setting just and reasonable rates in accordance with statutory objectives.*
>
> *The Board endorses these principles and the objectives as set out above that must inform it in the present circumstances when fixing rates for the test years in question.*

2.3 *Bonbright* Criteria and Manitoba Hydro's Ratemaking Principles

Utility regulators across Canada often assess rate proposals against a series of ratemaking principles described in Dr. James Bonbright's text *Principles of Public Utilities Rates*. In the original 1961 version of Dr. Bonbright's text, the criteria are presented as follows:

1. The related, "practical" attributes of simplicity, understandability, public acceptability, and feasibility of application.

2. Freedom from controversies as to proper interpretation.

3. Effectiveness in yielding total revenue requirements under the fair-return standard.

4. Revenue stability from year to year.

5. Stability in the rates themselves, with a minimum of unexpected changes seriously adverse to existing customers. (Compare: “The best tax is an old tax”.)

6. Fairness of the specific rates in the apportionment of total costs of service among the different customers.

7. Avoidance of “undue discrimination” in rate relationships.

8. Efficiency of the rate classes and rate blocks in discouraging wasteful use of service while promoting all justified types and amounts of use:

    a) in the control of the total amounts of service supplied by the company;

    b) in the control of the relative uses of alternative types of service (on-peak versus off-peak electricity, Pullman travel versus coach travel, single-party telephone service versus service from a multi-party line, etc.).

These criteria can be grouped into four categories, as set out in Figure 2.1.

	Bonbright Criteria	Category
1.	Price signals that encourage efficient use and discourage inefficient use	Efficiency
2.	Fair apportionment of costs among customers	Fairness
3.	Avoid undue discrimination	
4.	Customer understanding and acceptance, practical and cost effective to implement	Practicality
5.	Freedom from controversies as to proper implementation	
6.	Recovery of the revenue requirement	Stability
7.	Revenue stability	
8.	Rate stability	

Figure 2.1 — Simplified Bonbright Criteria

The Bonbright principles are not a technically precise set of rules. Rather, they reflect the balancing of interests performed by utility regulators, including the Board.

Manitoba Hydro assesses its rate proposals against a set of ratemaking principles developed by the utility, recognizing that it may not be possible to optimize all objectives at once:

- Reflect the cost of providing service:
  - ensure rates fully recover revenue requirement
  - target achieving class revenue-to-cost coverage ratios in the range of 95-105%
- Stability:
  - considers the importance to customers of having stable and predictable bills
- Flexibility:
  - considers ability of Manitoba Hydro to respond to future changes
- Efficiency:
  - considers whether price signals correspond with underlying embedded and marginal costs
- Affordability
  - considers magnitude of bill impacts created by rate design changes

While Manitoba Hydro's ratemaking principles described above do not directly mirror the Bonbright criteria, they broadly align with them. However, Manitoba Hydro also includes an express goal of affordability. In the context of energy poverty, the Board shares this goal. Issues of energy poverty are discussed in section 16 of this order.

2.4 The Rate-Setting Process

Establishing consumer rates for electricity is a multi-step process, as illustrated in Figure 2.2. below. As a first step, the Board reviews and approves the costs Manitoba Hydro plans to incur during the fiscal year for which rates are being set (known as a "test year"). Together with any required contributions to reserves in order to meet financial targets, this determines the revenue requirement for the test year, which is the amount Manitoba Hydro is given the opportunity to recover through rates charged to consumers.

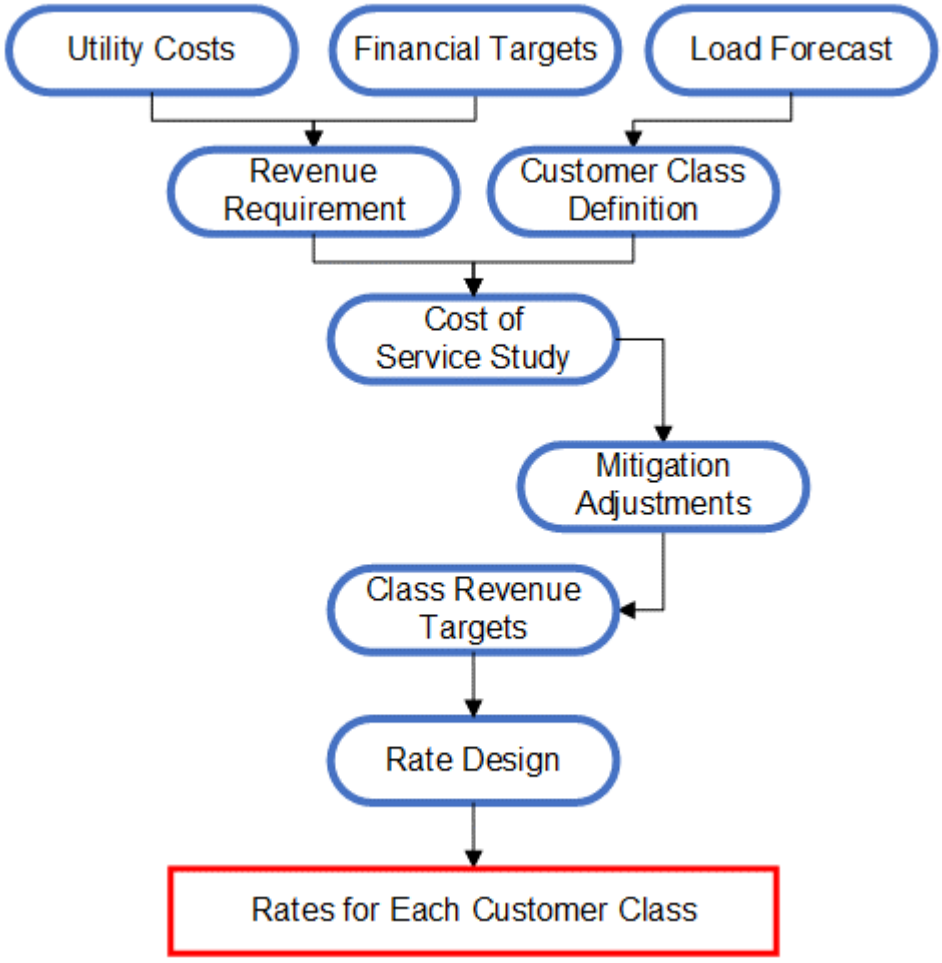

Figure 2.2 — Rate-Setting Process for Manitoba Hydro (Simplified)

To determine how much Manitoba Hydro will recover from domestic sales to Manitoba ratepayers, the utility develops a load forecast to estimate the amount of electricity customers will consume during the test year or years, with detailed estimates by customer

class. Manitoba Hydro also estimates the amount of electricity it will export to neighbouring jurisdictions and the resulting revenues from these export sales.

Many of the costs incurred by Manitoba Hydro are shared costs, meaning they are incurred to provide service to more than one customer class. The utility conducts cost of service studies to calculate how different customer classes contribute to overall costs, a regulatory principle known as “cost causation”.

Figure 2.3 illustrates how a cost of service study works. In the case of Manitoba Hydro, the assets are first functionalized into five physical functions. The cost of each of these functions is then classified into one or a combination of three components, namely energy, demand or customer. Energy costs are costs that vary based on the amount of electricity consumed. Demand costs are costs driven by the maximum amount of electricity consumed at any particular point in time. Customer costs are costs that vary by the number of customers and that do not vary based on either the total amount of electricity consumed or the maximum point-in-time demand for electricity. Once Manitoba Hydro’s costs are classified, those costs are then allocated to Manitoba Hydro’s various customer classes through allocation factors based on the contribution of each customer class to the total cost. The Board assessed Manitoba Hydro’s cost of service methodology in Order 164/16, and that order provides a more in-depth description of Manitoba Hydro’s cost of service methodology.

Based on its cost of service study, Manitoba Hydro determines the cost of providing service to each customer class. By comparing those costs against the revenues the utility expects to receive from electricity sales to each class, Manitoba Hydro can assess whether revenues equal costs or whether under the existing rates, the utility expects to over- or under-recover costs. By making mitigation adjustments through differentiated rate increases or a redesign of the rate structure, revenues can be aligned with costs. This process is further discussed in sections 14 and 15.

Manitoba Hydro's rates consist of three components, which are invoiced monthly to the appropriate customer class: (1) a basic monthly charge intended to recover the fixed costs of providing electricity service, (2) an energy charge per kWh of consumption, and (3) a demand charge based on a customer's peak demand during the month. Not all customer classes pay all three rate components. For example, residential consumers do not pay a demand charge and industrial customers do not pay a basic monthly charge. In these customer classes, the fixed costs or demand costs are recovered through other rate components. In addition, Manitoba Hydro's Area & Roadway Lighting customer class is invoiced a flat monthly fee per luminaire.

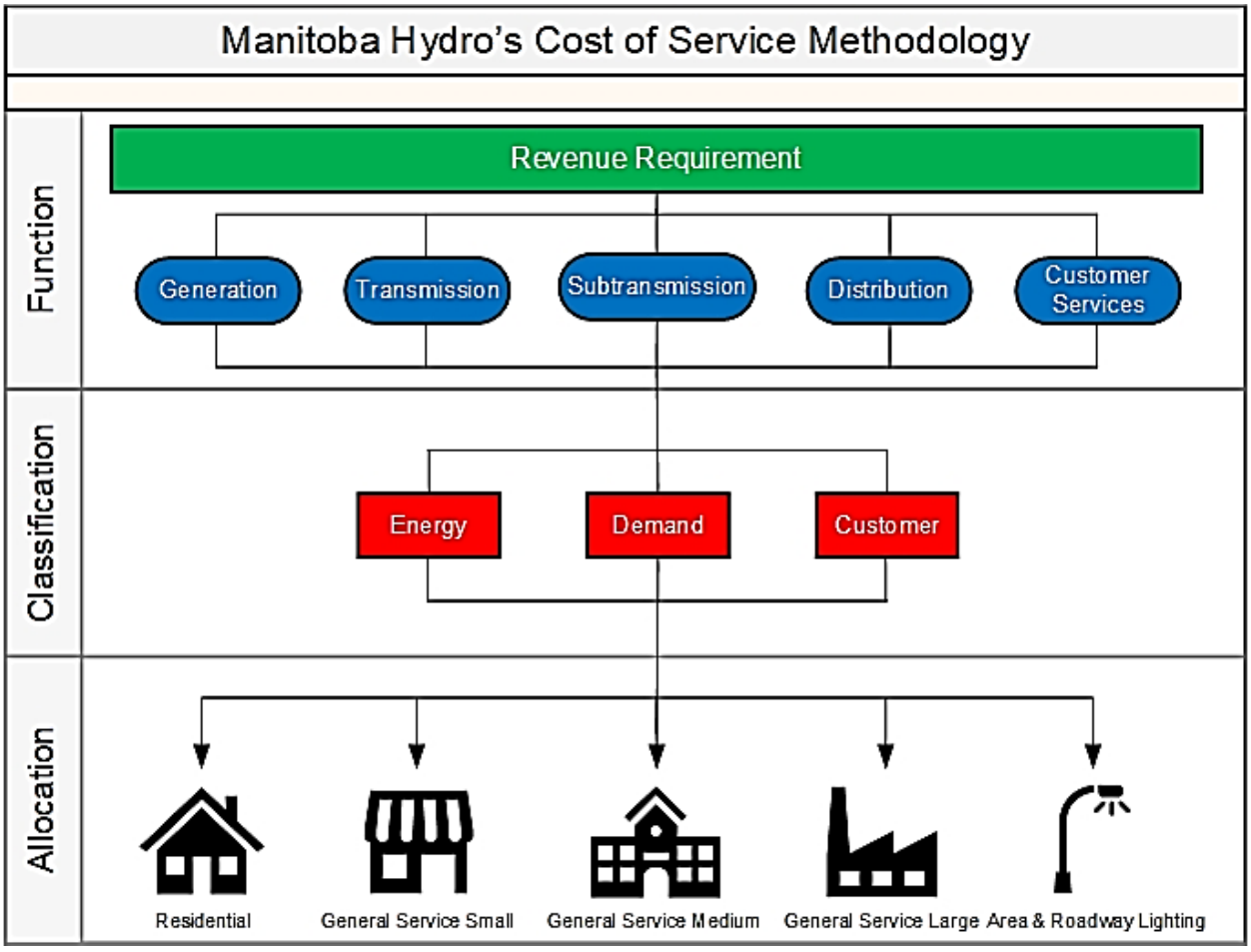

Figure 2.3 — Manitoba Hydro Cost of Service Methodology (simplified)

2.5 Approvals Sought by Manitoba Hydro in this Application

Manitoba Hydro filed the current general rate application twice. In its original application filed on November 15, 2022, the utility requested rate increases of 3.5% on each of September 1, 2023 and April 1, 2024. As set out in section 4.1.3, after Manitoba Hydro filed its original Application, the provincial government committed to reducing the water rental fee and debt guarantee fee Manitoba Hydro pays to the government by 50%. Following that announcement, the utility filed an amended application on December 9, 2022 in which the requested rate increases were reduced from 3.5% to 2.0%. In its amended version of the Application, Manitoba Hydro seeks the following approvals:

1. Final approval of Orders 137/21 and 140/21, which approved, on an interim basis, a 3.6% average rate increase effective January 1, 2022;

2. Approval of rate schedules incorporating an overall increase in General Consumers Revenue of 2.0% effective September 1, 2023, sufficient to generate additional revenues of $24 million in 2023/24;

3. Approval of a further overall increase in General Consumers Revenue of 2.0% effective April 1, 2024, sufficient to generate additional revenues of $38 million in 2024/25;

4. Final approval of the Light Emitting Diode rates for the Area and Roadway Lighting class approved on an interim basis in Order 150/20;

5. Final approval of all Surplus Energy Program and Curtailable Rate Program interim *ex parte* rate Orders approved since order 59/18;

6. Endorsement of modifications to the Terms and Conditions of the Surplus Energy Program;

7. Endorsement of modifications to the Terms and Conditions of the Curtailable Rate Program;

8. Endorsement of changes to existing deferral accounts and the establishment and amortization of new regulatory deferral accounts, summarized as follows:

a) The endorsement of the established Keeyask in-service deferral account and the approval of the amortization period;

b) The establishment and amortization of a new regulatory deferral for SAP S/4HANA cloud computing arrangements;

c) The determination of a depreciation methodology for rate-setting purposes and establishment and amortization of related deferral accounts;

d) The determination of an amortization period for the Major Capital Projects deferral account; and

e) The write-off of the Demand-Side Management deferral debit and credit accounts;

9. Approval of additional Area & Roadway Lighting Rates;

10. Endorsement of a change in the cost of service methodology for costs relating to the light-emitting diode (LED) roadway lighting conversion program; and

11. Approval to remove the Cooking and Heating Standard and Cooking and Heating Seasonal rates from Manitoba Hydro's rate schedule.

2.6 Approved Interveners

The Crown Corporations Governance and Accountability Act allows the Board to hear from persons or classes of persons who have an interest in the rate application that is before the Board. The Board, under its rules of procedure, has a process to receive applications for intervener status from entities wanting to participate in the hearing of the general rate application.

After receiving applications for intervener status on the current application, the Board held a pre-hearing conference, and in Order 130/22, approved the following parties as interveners:

- the Assembly of Manitoba Chiefs, the political and technical coordination organization for 62 of the 63 First Nations in Manitoba that primarily represents the interests of First Nation residential and commercial customers;
- the Consumers Coalition, a coalition of the Manitoba Branch of the Consumers' Association of Canada, Harvest Manitoba, and the Aboriginal Council of Winnipeg that primarily represents the interests of residential customers;
- the Representative of the General Service Small and General Service Medium Customer Classes (GSS/GSM Representative), an association that primarily represents the interests of commercial customers;
- the Manitoba Industrial Power Users Group (MIPUG), an association of large energy consumers that primarily represents the interests of industrial customers; and
- Manitoba Keewatinowi Okimakanak, a non-profit advocacy organization that represents more than 65,000 Treaty First Nation citizens in Manitoba and that primarily represents the interests of Northern First Nation residential customers.

2.7 Scoping and Oral Evidence

Leading up to the oral hearing of the Application, the Board issued several procedural orders that narrowed the scope of the Application as a whole as well as the issues in scope for oral evidence. In Order 130/22, the Board ruled Manitoba Hydro's draft integrated resource plan out of scope, except to the extent assumptions made with respect to that forecast underpinned the application. In Order 42/23, the Board ordered the issue of a choice of depreciation methodology to be dealt with by way of a collaborative joint evidence panel. The Board also made a ruling on issues that were in scope for oral evidence and issues that were to be dealt with exclusively in writing.

The Board heard oral evidence from May 15, 2023 to June 9, 2023, with final submissions being made on June 19, 22, and 25, 2023.

2.8 Energy Roadmap and Integrated Resource Plan

As a quasi-judicial tribunal, the Board makes its decisions and issues orders based on the sworn evidence before it in a proceeding. After the conclusion of the evidentiary portion of the hearing and final submissions, the provincial government released Manitoba's Energy Roadmap on July 28, 2023 and Manitoba Hydro released its initial integrated resource plan on August 2, 2023. These documents were not in evidence before the Board during the hearing and the Board did not consider the content of those documents in making this order.

3.0 FINALIZATION OF THE EXISTING 3.6% INTERIM RATE INCREASE

3.1 Background

In the summer of 2021, Manitoba Hydro was experiencing a drought that resulted in some of the lowest water flows on record. This resulted in a downward projection of Manitoba Hydro's export revenue and net income through the summer. In a letter to the Board dated June 9, 2021, the utility stated that it was expecting a net income of $177 million during the 2021/22 test year. By the time the company's quarterly financial report for the quarter ending on June 30, 2021 was prepared, the projected revenue had eroded and the utility projected breakeven net income. On September 21, 2021, the Minister responsible for Manitoba Hydro issued a directive to the utility to proceed with an interim rate application to the Board. By the time Manitoba Hydro filed its interim rate application on November 15, 2021, the utility was projecting a loss of $190 million, assuming a 5% rate increase on January 1, 2022.

While Manitoba Hydro applied for an interim rate increase of 5%, the Board, after hearing and deliberating on the application, approved a 3.6% interim rate increase effective January 1, 2022. The rate increase came into effect at the beginning of Manitoba Hydro's fourth quarter. In a February 2022 response to Directive 2 of Order 9/22, Manitoba Hydro projected the rate increase to recover an additional $20 million, leaving the utility with a projected $210 million loss after factoring in other changes directed by the Board. After Manitoba Hydro's books closed for the 2021/22 fiscal year, its actual losses for the year were $249 million, despite the interim rate increase having resulted in an additional $19.8 million of revenue in the fourth quarter.

In Order 9/22, the Board concluded that it had insufficient evidence to allow it to divide the approved interim rate increase into separate categories of a drought rate increase and a base operations rate increase but indicated that it would canvass this issue at the next general rate application.

Manitoba Hydro did not apply for a rate increase effective at the beginning of the 2022/23 year, so the interim rate increase of January 1, 2022 remained in effect for that year. The utility's financial fortunes quickly turned, as the 2022/23 year brought record water flows and the provincial government reduced the water rental fee and the debt guarantee free retroactive to the beginning of that year. As illustrated in Figure 3.1, the combined effect of those two changes resulted in an additional $554 million of revenue, resulting in the utility's record net income of $751 million for the year.

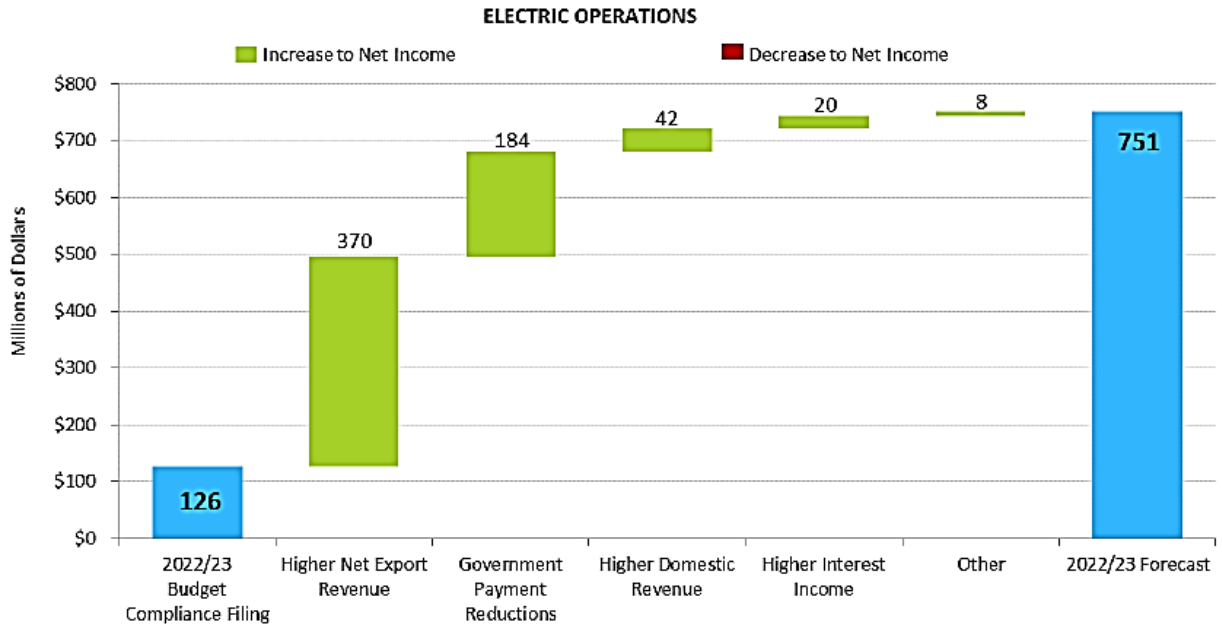

Figure 3.1 — Impact of Changes in Circumstances on 2022/23 Net Income

According to Manitoba Hydro's projections, the interim rate increase generated approximately $65 million in 2022/23. Without the $65 million generated from the interim rate increase, Manitoba Hydro's 2022/23 net income would still be at record levels. However, the utility seeks to have the 3.6% interim rate increase finalized as part of a "long game", meaning a rate path in which the interim rate adds to revenues every year.

3.2 Position of the Parties

3.2.1 Manitoba Hydro

Manitoba Hydro considers the finalization of the 3.6% interim rate increase essential to the utility's financial health. The utility emphasizes that none of the expert witnesses retained by interveners in the current hearing recommended reducing or changing the interim rate. Manitoba Hydro states that if the interim rate were to be rolled back on September 1, 2023 and there were to be no rate increase for the 2023/24 test year on that date, the utility's finance expense would increase by $1.2 billion over the 20-year period of the forecast and retained earnings would be $3.7 billion less.

In Manitoba Hydro's submission, the granting of interim relief was just and reasonable at the time the rate was approved. The utility concedes that legally, regulators may review interim rates in a retrospective matter, citing the case of *Bell Canada v. Canadian Radio-Television & Communications Commission*, [1989] 1 S.C.R. 1722. However, Manitoba Hydro urges the Board to consider the negative impact of a refund or rollback on the company's financial forecast.

3.2.2 Interveners

Assembly of Manitoba Chiefs

The Assembly of Manitoba Chiefs is not taking a position on the finalization of the interim rate increase. However, this intervener notes that Manitoba Hydro is making the request despite the fact that the drought was significantly less detrimental than the utility predicted.

Consumers Coalition

The Consumers Coalition is similarly not taking a firm position on the interim rate, noting that it was included in many of the financial projections used in the hearing of the Application. In the view of the Consumers Coalition, the Board could reasonably conclude that the interim rate increase was excessive or not needed, since Manitoba Hydro earned a combined $417 million in 2021/22 and 2022/23 without the increase. Two expert

witnesses retained by the Consumers Coalition, Darren Rainkie and Pelino Colaiacovo, both support the finalization, as the increase has already been accepted by customers and it would be counterproductive to roll it back only to award a higher rate increase later. The Consumers Coalition suggests that if the Board were to find that the increase was excessive, the Board could defer all or half of the income generated from the increase into a deferral account, for which an amortization period could be established at the next general rate application.

GSS/GSM Representative

The GSS/GSM Representative supports the finalization of the 3.6% interim rate increase, noting that while much of the increase was not actually required for the drought, the rate already has set Manitoba Hydro on track to meet its legislated debt-to-capitalization targets.

Manitoba Industrial Power Users Group

MIPUG supports the finalization of the 3.6% interim rate increase. It also recommends that no further rate adjustments be implemented for that increase.

Manitoba Keewatinowi Okimakanak

Manitoba Keewatinowi Okimakanak states that Manitoba Hydro has not proven any revenue requirement that would justify confirmation of the 3.6% interim rate increase. In its view, the Board should not confirm the increase.

3.3 Board Findings

The Board approves the finalization of the 3.6% interim rate increase.

In Order 9/22, the Board indicated that at the general rate application, it would assess what portion of the rate increase was required for drought purposes. With Manitoba Hydro's 2022/23 net income at record levels, the Board has no difficulty finding that, in retrospect, no portion of the rate increase was required for drought purposes. Without the $65 million from the interim rate increase, Manitoba Hydro's net income in 2022/23 would

have still been a record high of $685 million, which would have more than offset the losses of 2021/22.

Nonetheless, the Board agrees with Manitoba Hydro and with most interveners that the 3.6% interim rate increase should not be considered in isolation but must be viewed as part of an overall four-year rate decision encompassing 2021/22 and 2022/23 as well as the 2023/24 and 2024/25 test years. As set out in section 11, the Board considers it reasonable for Manitoba Hydro to make gradual progress towards its existing long-term financial targets, including a 75% debt-to-capitalization ratio. The cumulative rate increase over the four-year period addressed in this order is 5.7%, or approximately 1.4% per year, taking into account the compounding effect. The Board considers such annual rate increases to be just and reasonable as a mechanism to move the utility closer to its financial targets.

While it would be possible for the Board to roll back or refund the 3.6% rate increase, Manitoba Hydro would require a higher September 1, 2023 or April 1, 2024 rate increase as a result. A roll-back would also require the Board to set up an administrative mechanism by way of a deferral account, rate rider, or rebate. Such mechanisms are administratively burdensome and, in the case of a rebate, can be expensive to implement. They are also imprecise, as rate riders applied on future bills may not refund these amounts to the ratepayers who originally paid the higher rates. An example of such a situation would be a ratepayer who has moved into, out of, or within the Province of Manitoba since January 1, 2022.

As a result, the Board is persuaded that it is just and reasonable to finalize the 3.6% rate increase. However, the Board has taken the additional income resulting from this increase into consideration in approving a rate increase for the two test years that is lower than the amount applied for by Manitoba Hydro.

4.0 RATE INCREASES FOR 2023/24 AND 2024/25

4.1 Background

4.1.1 Manitoba Hydro's Rate Request

Manitoba Hydro filed its application twice. In its initial application filed on November 15, 2022, the utility was seeking rate increases of 3.5% during each of the 2023/24 and 2024/25 test years. On December 9, 2022, the utility filed a revised application, reducing the requested rate increases from 3.5% to 2.0%. With those rate increases, Manitoba Hydro projects a net income of $469 in 2023/24 and $295 million in 2024/25, before any adjustments made by the Board in this order. With this level of anticipated net income, Manitoba Hydro projects its retained earnings to be $4.0 billion by the end of 2023/24 and $4.3 billion by the end of 2024/24.

4.1.2 Manitoba Hydro's Proposed Rate Path

Manitoba Hydro's request for 2.0% rate increases in each of 2023/24 and 2024/25 forms part of a proposed rate path of 2.0% annual rate increases over a period of 20 years. Manitoba Hydro based this rate path in large part on recent legislative amendments made by *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act*, S.M. 2022, c. 42. Part 1 of this statute makes the following key changes to *The Manitoba Hydro Act*:

1. The Board must fix Manitoba Hydro's rates using a series of seven rules set out in section 39(5) of *The Manitoba Hydro Act*. Currently, rates are set under *The Crown Corporations Governance and Accountability Act*, as described in section 2.2.

2. The government has declared it to be government policy that Manitoba Hydro is to achieve a debt-to-capitalization ratio of 80% by March 31, 2035 and 70:30 by March 31, 2040, and that rates and rate changes should be stable and predictable.

3. The maximum permitted general annual rate increase is capped at the lesser of 5% or inflation, with inflation determined based on a 12-month average of the Manitoba CPI (All-Items).

Although Part 1 is now law, a transitional provision in section 65 of the amending statute states that the existing legal framework continues to apply to any rate period ending before April 1, 2025. As such, this may be the last general rate application decided under the existing framework, unless further legislative amendments are made before April 1, 2025.

Manitoba Hydro's initial filing on November 15, 2022 was intended to meet the debt-to-capitalization targets set out in the amending statute, i.e., 80:20 by 2035 and 70:30 by 2040. To achieve those targets, the utility proposed even annual rate increases of 3.5% until the 2032/33 fiscal year, followed by even annual rate increases of 0.5% until the end of the forecast period. Manitoba Hydro acknowledged that rate increases of 3.5% would be prohibited under the rate cap based on Manitoba Hydro's inflation projections and noted that there was an incongruence between the rate cap and the debt-to-capitalization targets in set out in legislation. Manitoba Hydro also filed an alternative rate path consisting of rate increases of 3.5% in each of 2023/24 and 2024/25 with 2% each year thereafter throughout the forecast period. Manitoba Hydro forecasts that inflation will be 2% by 2025/26. Thus, 2% is the maximum expected rate increase under the inflationary rate cap.

The utility further acknowledged that with an inflationary rate cap, it would be able to meet a debt-to-capitalization target of 80% one year late (during the 2038/39 fiscal year) but by 2040/41 the ratio would remain close to 78% instead of the legislated 70%. The utility acknowledged that legally, the rate cap takes precedence over the debt-to-capitalization target.

As a result of the reduction in payments to government described in section 4.1.3 below, Manitoba Hydro subsequently revised its application to the current proposed rate path of equal annual 2.0% rate increases over 20 years. As shown in Figure 4.1, under this proposal, Manitoba Hydro expects to be able to meet the initial 80:20 debt-to-capitalization target in 2028/29 (six years ahead of schedule) while meeting the final 70:30 target in 2039/40, as required under the new statutory provision.

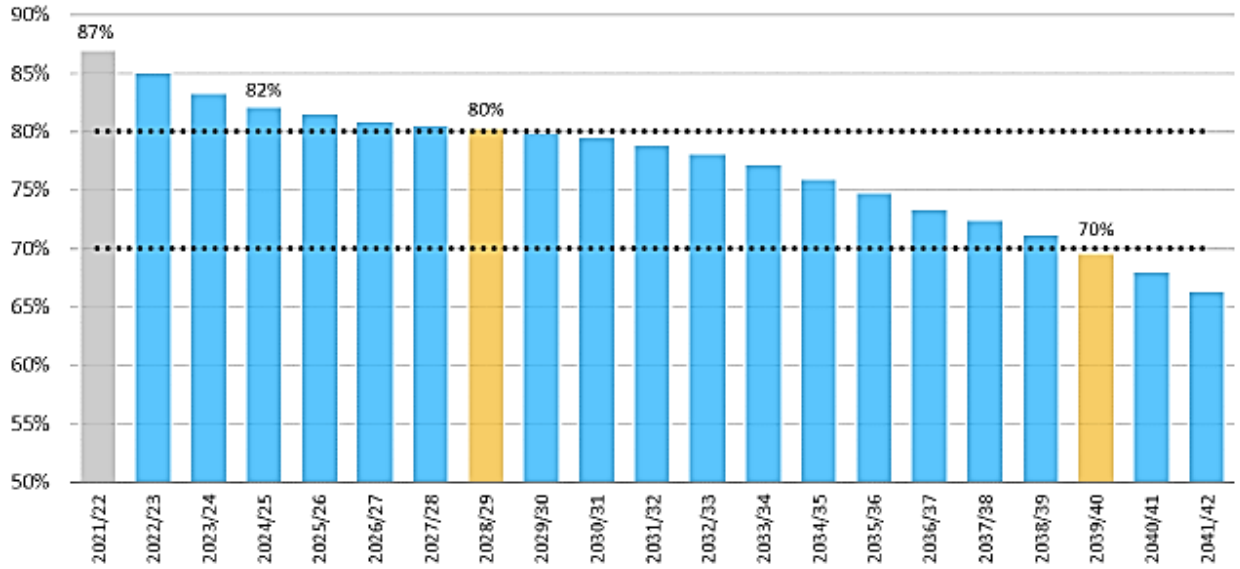

Figure 4.1 — Debt-to-Capitalization Ratios Under the Proposed 2.0% Rate Path

A significant point of contention in this application was whether the Board should take into account the debt-to-capitalization targets and upcoming rate caps set out in *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act*, or whether the Board should establish rates according to its usual process because the provisions do not yet apply.

4.1.3 Reduction in Water Rental Fees and the Provincial Debt Guarantee Fee

Manitoba Hydro's obligation to make water rental payments is set out in *The Water Power Act*. The fees are based on the capacity and annual output of Manitoba Hydro's hydroelectric generating facilities and prescribed in subsection 48(3.2) of the *Water Power Regulation*. Until 2022, the capacity fee was $8.13 per horsepower while the output-based fee was $20.32 per horsepower-year.

Manitoba Hydro's debt guarantee fee is established by government policy in exchange for the provincial government guaranteeing Manitoba Hydro's debt. Until 2022, the provincial debt guarantee fee was 1% of Manitoba Hydro's borrowings.

On November 23, 2022, the Minister responsible for Manitoba Hydro made the following announcement in the Manitoba Legislative Assembly:

> *Hydro payments to Manitoba are higher than other public utilities to their provincial governments. Hydro pays over 16 per cent of its revenue in transfers to Manitobans, including the rental, the fee, capital tax and the payroll tax. Only Hydro-Québec pays more money to the provincial government, primarily because, with a lower debt-equity ratio of 70-30, it is solvent enough to also pay a dividend.*
>
> *In this regard, I want to confirm today that our government has approved the following changes to better support Manitoba Hydro and better support Manitoba Hydro ratepayers:*
>
> *Under The Water Power Act and accompanying water power regulation, Manitoba Hydro currently pays rent for the use of water. We have approved an amendment to reduce the water power rental rate by 50 per cent. Once signed by the Lieutenant Governor-in-Council, the order-in-council and regulation will be posted on the government's website under proactive disclosure.*
>
> *A debt guarantee fee paid annually for the Province's guarantee of Manitoba Hydro's gross outstanding debt balances at the previous fiscal year-end is currently calculated based on the rate of 1 per cent or 100 basis points. Manitoba is reducing the rate of the fee from 100 basis points to 50 per cent – 50 basis points, a 50 per cent reduction.*
>
> *Mr. Deputy Speaker, the savings from these reductions will be applied annually to Manitoba Hydro's debt. For 2022-2023, these savings are estimated at nearly $190 million. As part of this initiative, the government will require that Manitoba Hydro annually confirm the projected amount of the savings through the budget Estimates review process and report the actual savings realized in Manitoba Hydro's annual report as a payment against debt.*
>
> *It is anticipated that applying these savings to debt will save Manitoba Hydro and ratepayers $4 billion in accumulated debt over the next 20 years.*

Ultimately, the impact on rates will be determined through general rate application hearings and the Public Utilities Board.

Source: November 23, 2022 Hansard, page 191.

Manitoba Regulation 140/2022 subsequently amended the *Water Power Regulation* retroactive to April 1, 2022 to reduce the output-based water rental fee from $20.32 per horsepower year to $10.16 per horsepower year. The capacity-based fee remained at $8.13 per horsepower.

Because the reductions to water rental payments and the debt guarantee fee were retroactive, excess payments made during Manitoba Hydro's 2022/23 fiscal year are considered a pre-payment for the 2023/24 fiscal year. As a result, Manitoba Hydro's payment obligations changed as set out in Figure 4.2. In particular, because all of Manitoba Hydro's 2022/23 debt guarantee payments were made on April 1, 2022, the 50% reduction means that Manitoba Hydro is not required to make any debt guarantee payments in 2023/24. In the medium term, the reductions amount to approximately $180 million annually.

		2022/23	2023/24	2024/25
Water Rental Fee	Initial Amount ($M)	$137	$132	$126
	50% Reduction ($M)	($26)	($109)	($63)
	Revised Amount ($M)	$111	$23	$63
Debt Guarantee Fee	Initial Amount ($1M)	$232	$229	$228
	Reduction ($M)	$0	($229)	($117)
	50% Revised Amount ($M)	$232	$0	$111
Total Reduction		($25)	($338)	($179)

Figure 4.2 — Changes in Water Rental and Debt Guarantee Fee Payments

4.2 Manitoba Hydro's Existing Financial Targets

While Manitoba Hydro based its rate path primarily on the new legislated debt-to-capitalization targets, the utility also has a series of long-standing financial targets it uses for planning purposes. These targets are as follows:

- A debt-to-equity ratio of 75:25 (or debt-to-capitalization ratio of 75%);
- A capital coverage ratio of 1.2;
- an interest coverage ratio based on earnings before interest and taxes (EBIT) of 1.2; and
- an interest coverage ratio based on earnings before interest, taxes, depreciation, and amortization (EBITDA) of 1.8.

In Manitoba Hydro's 2017/18 & 2018/19 General Rate Application, the utility filed an external review of its financial targets prepared by KPMG LLP in May 2015 (the "KPMG Report").

4.2.1 Debt-to-Equity (or Debt-to-Capitalization) Ratio

The debt-to-equity ratio measures the ratio of Manitoba Hydro's debt to its equity. In *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act*, a similar concept is referred to as the debt-to-capitalization ratio and expressed as a percentage.

In the 2015 KPMG Report, KPMG concluded that a debt-to-equity target of 75:25 was a reasonable long-term target for planning purposes. However, KPMG indicated that a change to 70:30 would provide additional financial strength to address the utility's unique financial challenges and risks. Overall, KPMG recommended that the target in the long term should fall within the range of 75:25 to 70:30. After hearing and deliberating on the 2017/18 & 2018/19 General Rate Application, the Board concluded, in Order 59/18, that a ratio of 75:25 could remain a long-term objective, finding that there is a cost to ratepayers associated with equity, as equity is provided by ratepayers who could otherwise use those funds.

In the current application, Manitoba Hydro filed a financial forecast that includes the debt-to-capitalization ratio as expressed in the new legislation. The utility's debt-to-capitalization ratio at the end of the 2022/23 fiscal year was 85%. With two years of 2.0% rate increases, the utility expects that ratio to improve to 82% by the end of 2024/25. As shown in Figure 4.1, with 2.0% equal annual rate increases, Manitoba Hydro expects to achieve a 75% ratio by 2035/36.

4.2.2 Capital Coverage Ratio

The capital coverage ratio measures Manitoba Hydro's ability to fund ongoing reinvestment in and replacement of existing assets (referred to by Manitoba Hydro as "business operations capital") out of current cash flow. The ratio is calculated by dividing Manitoba Hydro's cash flow from operations by its capital expenditures, not including capital expenditures on major new generation and transmission.

Under its proposed rate path, Manitoba Hydro expects the utility's capital coverage ratio to be 2.23 in 2023/24 and 1.61 in 2024/25. However, Manitoba Hydro expects the ratio to begin to dip below its target level of 1.2 over six years, beginning in 2027/28 and ending in 2032/33.

4.2.3 Interest Coverage Ratio (EBIT and EBITDA)

The interest coverage ratio measures Manitoba Hydro's ability to pay interest on outstanding debt without requiring new debt to make those payments. Traditionally, Manitoba Hydro calculated the interest coverage ratio on an EBIT basis and set a target ratio of 1.2. In the KPMG Report, KPMG recommended that Manitoba Hydro should use an EBITDA-based interest target that is 50% higher than the existing EBIT target. KPMG accordingly recommended an EBITDA-based ratio of 1.8. Manitoba Hydro's board of directors approved both targets.

Under its proposed rate path, Manitoba Hydro expects its EBIT-based interest coverage ratio to be 1.51 in 2023/24 and 1.32 in 2024/25. However, Manitoba Hydro expects the ratio to begin to dip below its target level of 1.2 over a seven-year period beginning in

2025/26 and ending in 2031/32. In contrast, Manitoba Hydro expects the EBITDA-based ratio to be 2.21 in 2023/24 and 2.06 in 2024/25 and remain consistently above its target level of 1.8 over the 20-year forecast period.

4.3 Position of the Parties

4.3.1 Manitoba Hydro

Manitoba Hydro takes the position that while the rate cap and debt-to-capitalization targets now set out in *The Manitoba Hydro Act* do not strictly apply to this application, it is reasonable for the utility to plan for this legal requirement and establish a smoothed rate path that complies with the statute. The utility states that in developing its rate path, it was guided by four priorities, namely:

- compliance with the legislated rate-setting framework, including both the rate cap and the debt-to-capitalization targets;
- stable and predictable rates, together with keeping rates low relative to other jurisdictions;
- gradually improving Manitoba Hydro's financial health over time; and
- ensuring system reliability and modernizing the grid through system investments funded from cash from operations where possible.

The utility submits that it is entering a period when both its revenues and projected expenditures become more uncertain. While the results of Manitoba Hydro's first-ever integrated resource plan will provide guidance, a long-term rate path will help to mitigate the impact of such risks. Manitoba Hydro points out that under its 2.0% long-term rate path, rate increases are not projected to exceed inflation in any of the years, nor does the rate path achieve the 70:30 debt-to-capitalization target earlier than required.

Manitoba Hydro cites the testimony of MIPUG's expert witness Patrick Bowman that a credible financial forecast must build in the law of the land as the person making the forecast understands it to apply at the time for which they are making the forecast. The

utility also notes that under the proposed 2.0% rate path, debt growth is minimized until 2032/33, while a noticeable reduction in the utility's debt will only occur beyond that time. This is illustrated in Figure 4.3, which shows the annual increases and decreases to debt, as well as Manitoba Hydro's self-financing ratio. The self-financing ratio is the ratio of total cash provided by operating activities to net debt.

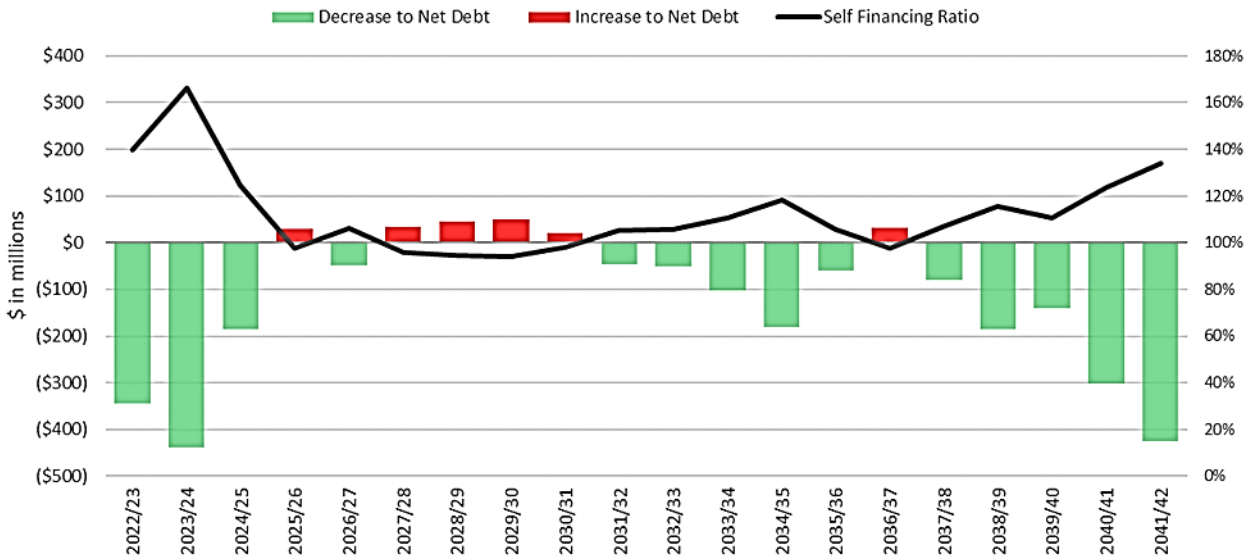

Figure 4.3 — Manitoba Hydro's Proposed Debt Reduction

Manitoba Hydro also argues that absent *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act*, a 2% rate path still achieves the utility's long-standing 75% debt-to-capitalization target in the same year as forecast under Exhibit MH-93 from the 2017/18 & 2018/19 General Rate Application that was considered by the Board in awarding the rate increases approved by Order 59/18. The utility indicates that the cumulative rate increases projected under the current application are significantly less than those under Exhibit MH-93. While Manitoba Hydro acknowledges that there is unprecedented uncertainty inherent in the utility's forecast, it argues that the degree of uncertainty is much lower in the early years.

Manitoba Hydro submits that in the absence of rate increases during the test years, the utility's finance expense continues to grow over time as insufficient money is available to retire debt. The utility states that without rate increases in 2023/24 and 2024/25, the additional finance expense during the 20-year forecast will be approximately $800 million. The utility also states that the 3.6% interim rate increase and the proposed 2.0% rate increases during the test years provide a cushion against risks such as below-average water flow. Manitoba Hydro cites the testimony of MIPUG's expert witness Patrick Bowman, who supported the 2.0% rate increases in part because of the pending end of the utility's export contract with Northern States Power.

Manitoba Hydro acknowledges that rate increases of more than 2.0% during the test years, before the rate cap applies, would provide the utility with additional breathing room in future years, but is not seeking such increases. The utility prefers a stable rate path.

4.3.2 Interveners

Assembly of Manitoba Chiefs

The Assembly of Manitoba Chiefs recommends a 0% increase in each of the 2023/24 and 2024/25 test years. This intervener submits that the long-term debt-to-capitalization targets introduced in *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act* do not apply to the current application and that Manitoba Hydro has not proven that it should have a revenue requirement involving rate increases outside the long-term financial targets. In the Assembly of Manitoba Chiefs' view, until the legislated targets are in force, they remain arbitrary and untested. It argues that the proposed rate path means Manitoba Hydro is building up a large cushion to reduce its financial risk profile at the expense of vulnerable customers. In the submission of the Assembly of Manitoba Chiefs, a rate pause is justified. It notes that with a rate pause for two years, Manitoba Hydro is still in a position to achieve the earlier 80:20 target in 2035 with 2.0% rate increases in future test years.

In the alternative that the Board sees a rate increase as justified, the Assembly of Manitoba Chiefs recommends a rate increase not exceeding 1.4% in each of the test

years. In making this recommendation, the Assembly of Manitoba Chiefs is guided by evidence that shows Manitoba Hydro can meet its earlier 80:20 debt-to-capitalization target by 2034/35 through even annual rate increases of 1.43%.

The Assembly of Manitoba Chiefs is critical of Manitoba Hydro's proposed rate path in light of the significant uncertainty involving the utility's long-term forecast. In its view, the most significant aspect missing is an integrated resource plan, which will provide a more detailed and robust analysis of the cost of energy and the optimal supply mix over the next two decades. The Assembly of Manitoba Chiefs states that Manitoba Hydro's forecast also does not take into account the federal Clean Electricity Investment Tax Credit for which the utility should be eligible and which could result in savings to ratepayers.

The Assembly of Manitoba Chiefs also considers Manitoba Hydro's export revenue projections to be conservative and believes there are opportunities to reduce asset management and operations spending.

Consumers Coalition

The Consumers Coalition emphasizes that in this general rate application, the Board is not bound by the legislated rate cap, the legislated financial targets, or the approval by Treasury Board of capital projects in the future. It submits that it is the will of the legislature that *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act* does not yet apply. In the view of the Consumers Coalition, the Board remains bound by the principles set out in *The Crown Corporations Governance and Accountability Act* and, to the extent it applies, *The Public Utilities Board Act*. This means Manitoba Hydro's revenue requirement is determined in accordance with the criteria set out in clause 25(4)(a) of *The Crown Corporations Governance and Accountability Act*.

According to the Consumers Coalition, Manitoba Hydro's forecasts are subject to significant and overarching uncertainty related to hydrology and export prices. Beyond the immediate test years, the forecasts are not reasonably reliable due to the

unprecedented uncertainty concerning government policy and developments in the marketplace. The Consumers Coalition states that at this time, it is unclear whether the outcome of this uncertainty will be positive or negative for Manitoba Hydro and argues that Daymark Energy Advisors, the independent expert consultant appointed for this hearing, shares the Consumers Coalition's assessment about uncertainty. The Consumers Coalition, like Manitoba Hydro, has more confidence in Manitoba Hydro's immediate forecast.

The Consumers Coalition urges the Board to reject a 70:30 debt-to-capitalization target for Manitoba Hydro as unjust, unreasonable, and unnecessary, and place heavy weight on the test years. In its view, Manitoba Hydro's financial situation has materially improved since the last general rate application and the utility has not established that its risk profile is higher than at that hearing. The Consumers Coalition also asks the Board to acknowledge that Manitoba Hydro is now significantly more resilient to drought, as a result of the Manitoba Minnesota Transmission Project (which allows Manitoba to import electricity from the United States) being in service and the utility having increased generation capacity due to Keeyask.

As set out in sections 9 to 11, the Consumers Coalition has concerns about Manitoba Hydro's projected level of business operations capital, operating & administrative (O&A) expense, and finance expense projections.

The members of the Consumers Coalition differ in their overall recommendation as to a suitable rate path. They unanimously reject the proposed 2.0% rate path and recommend that the Board should give heavy weight to two overall rate recommendations:

- the recommendation for a 0% rate increase in 2023/24 and a 1.3% rate increase in 2024/25 made by the Consumer Coalition's expert witness Darren Rainkie, which would place primary weight on the early years of the forecasts, send a critically important economy and efficiency signal by incorporating projected savings on business operations capital, O&A expense, and finance expense, and allow the utility to achieve a debt-to-capitalization ratio of 80% by 2028; and

- the recommendation of a two-year rate pause made by the Consumer Coalition's expert witness Pelino Colaiacovo, which focuses on the test years instead of the financial forecast, places critical weight on the interest coverage ratio, and recognizes the ongoing burden of ratepayers related to major capital projects.

Harvest Manitoba and the Aboriginal Council of Winnipeg endorse the first of these proposals, while the Consumers Association of Canada (Manitoba Branch) endorses the latter.

GSS/GSM Representative

The GSS/GSM Representative does not take a position on Manitoba Hydro's proposed rate path. However, as set out in section 10, this intervener is concerned about Manitoba Hydro's projected level of O&A expenditures and recommends several reductions. For the test years, the GSS/GSM Representative submits that Manitoba Hydro has not satisfied its onus to establish that the requested rate increases will result in just and reasonable rates, and that a lower rate increase would be more appropriate. In particular, the GSS/GSM Representative states that Manitoba Hydro can make progress towards the legislated targets by adjusting its forecasted expenses and using the Average Service Life depreciation methodology (as discussed in section 12).

Manitoba Industrial Power Users Group

MIPUG, like other interveners, takes the position that *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act* includes a transitional provision that states that the existing framework applies to the current hearing. However, MIPUG acknowledges that the Board has had a long-standing approach to consider Manitoba Hydro's long-term outlook as one element in setting just and reasonable rates. MIPUG states that had the Board not done so through Manitoba Hydro's decade of investment, Manitobans would have faced a rate shock when the utility's major projects entered into service.

In MIPUG's submissions, the Board may take one of two approaches — the strict compliance or "blinders" approach under which the Board ignores *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act* to set rates during the test years,

or the cautionary or “outlook” approach in which the Board considers the upcoming mandatory financial targets as part of its rate decisions for 2023/24 and 2024/25. However, in MIPUG’s view, it is not the role of the Board to rewrite the legislature’s transitional provision that states that the existing framework continues to apply.

MIPUG argues that under either the blinders approach or the outlook approach, there is sufficient evidence to make it possible to meet the initial 80:20 debt-to-capitalization target Manitoba Hydro is required to meet by 2035 even if the Board were to impose a two-year rate pause without any increases during the test years. However, MIPUG does not recommend a complete rate pause, citing the need for Manitoba Hydro to improve system reliability, the potential for O&A cost escalation, the potential that Manitoba Hydro’s capital spending must be focused on improving customer outcomes, and the potential that Manitoba Hydro’s export price forecasts may be conservative. MIPUG accordingly recommends a rate increase of 0% in 2023/24 and an increase of more than 0% but less than 2% in 2024/25, with a finalization of the existing 3.6% interim rate increase.

Manitoba Keewatinowi Okimakanak

Manitoba Keewatinowi Okimakanak endorses the arguments made by the Assembly of Manitoba Chiefs that Manitoba Hydro has not proven any revenue requirement that would justify confirmation of the existing 3.6% interim rate increase on January 1, 2022 or the granting of new increases for 2023/24 and 2024/25. If the Board is not prepared to freeze rates, even in light of the hardship that existing rates impose on indigenous citizens, then Manitoba Keewatinowi Okimakanak endorses the proposal of the Assembly of Manitoba Chiefs of approving a rate increase of not more than 1.4%.

4.4 Board Findings

The Board denies Manitoba Hydro's application for 2.0% rate increases on September 1, 2023 and April 1, 2024 and instead approves rate increases of 1.0% on each of those dates.

The Board finds that the transitional provision of *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act* is clear and unambiguous that the existing regulatory framework continues to apply to this general rate application. However, in the Board's view, it is not necessary to adopt a "blinders" approach that ignores the legislative amendments, as suggested by MIPUG. The debt-to-capitalization targets set out in the statute are subject to the legislated inflationary rate cap. This limits the potential for rate shock, as the rate cap overrides the debt-to-capitalization targets. While the combination of the rate cap and legislated targets may significantly constrain the Board's discretion to fix just and reasonable rates in future proceedings, such a constraint does not currently exist.

In reaching its rate determination, the Board places more emphasis on Manitoba Hydro's needs during the test years than on the utility's long-term rate projections. With the utility's current state of uncertainty, long-term projections can serve as a useful guideline but should not always be determinative. They do, however, provide a directional view that allows the Board to periodically re-adjust rates through general rate applications.

It is apparent to the Board that with an exclusive focus on the test years, Manitoba Hydro would not require a rate increase in either 2023/24 or 2024/25. However, the Board continues to endorse a debt-to-capitalization ratio of 75% as a prudent long-term financial target for Manitoba Hydro, and a modest rate increase is justified to achieve a gradual paydown of the utility's debt and allow it to make progress towards this target.

While Manitoba Hydro provided a scenario with a 0% increase in 2023/24 and a 2.0% increase in 2024/25 in its sensitivity analysis, and several interveners based submissions on a variant of this scenario that would result in a rate increase only in the second year,

the Board considers it just and reasonable for the rate increase to be spread out over two test years. Firstly, this achieves the goal of gradualism in rate-setting, achieving rate increases of less than half of the projected rate of inflation in both test years. Secondly, it allows differentiated rate increases in both test years, enabling the movement of various customer classes closer to the zone of reasonableness.

All other things equal, a rate increase of 1.0% in each of the test years allows Manitoba Hydro to achieve a debt-to-capitalization ratio of 75% in 2039. It also allows Manitoba Hydro to meet the first of the targets (debt-to-capitalization ratio of 80%) set out in the new statutory provision by 2033, two years ahead of schedule.

While the focus of all parties to the hearing was on Manitoba Hydro's debt-to-capitalization targets, the Board, in reaching a determination on the overall rate increase to be approved, also took into consideration Manitoba Hydro's other financial targets. In particular, the Board notes that, while the EBIT-based interest coverage ratio decreases to below 1.2, even under Manitoba Hydro's proposed 2.0% rate path, such a deterioration would happen. Furthermore, the utility's EBITDA-based interest coverage ratio remains consistently above 1.8 throughout the forecast period. While Manitoba Hydro projects its capital coverage ratio to dip marginally below 1.2 in 2026 and remain below that amount until 2035/36, the Board notes that even under the utility's proposed 2.0% rate plan, such a deterioration would also happen by 2028, and the ratio would remain below 1.2 until 2033/34. Given the level of uncertainty in Manitoba Hydro's forecast and the utility's assertion that the level of uncertainty is "unprecedented", the Board does not consider this to be a sufficient reason to approve a rate increase of more than 1.0% in each test year. Furthermore, as set out in section 9, the Board considers Manitoba Hydro's proposed business operations capital expenditures to likely be overstated compared to what the utility will actually spend.

Rate increases of 1.0% in each test year are also adequate in light of Manitoba Hydro's risk profile. Manitoba Hydro's most significant risk is drought risk, with a seven-year drought having an impact of $2.4 billion on retained earnings. In Order 59/18, the Board

found that Manitoba Hydro's retained earnings should be used to manage drought risk, in combination with regulatory action by the Board. The Board further found that interest rate and export price risk should be addressed as those risks materialize. With the rate increases approved by the Board, Manitoba Hydro expects to achieve $4.3 billion of retained earnings by the end of the second test year, which is more than the impact of a seven-year drought. This indicates that higher rate increases in the test years are not required to increase retained earnings.

The Board directs Manitoba Hydro to continue to include all of the utility's existing financial targets in future financial forecasts provided to the Board, as those targets provide valuable guideposts when assessing the impact of different rate scenarios.

5.0 DROUGHT RESPONSE AND HYDROLOGY

5.1 Background

5.1.1 Drought Response

The 2021 Drought

In 2021, Manitoba experienced a severe drought that resulted in a net loss to Manitoba Hydro of $249 million in 2021/22. The loss occurred despite a 3.6% interim general rate increase approved by the Board effective January 1, 2022, the beginning of the 4th quarter of Manitoba Hydro's 2021/22 fiscal year. This rate increase was awarded following the Board's review of Manitoba Hydro's 2021/22 Interim Rate Application filed on November 15, 2021. In Order 9/22, the Board indicated that it would inquire into Manitoba Hydro's management of the drought at the next general rate application. For this purpose, the Board appointed Daymark Energy Advisors ("Daymark"), an energy and utility consulting firm, as an independent expert consultant for this hearing. Daymark submitted written and oral evidence in the hearing and was subject to cross-examination. Daymark's findings are discussed in section 5.2 below.

The 2021 drought was the result of below-normal precipitation throughout the Nelson-Churchill watershed supplying Manitoba Hydro's hydroelectric generating system, starting in the fall of 2020 and continuing to be significantly below normal through the fall of 2021. The 2021 drought resulted in Manitoba Hydro's water reservoir storage levels being the third-lowest in 40 years. Water conditions only began to improve in January 2022, with above-average snowfall accumulating over much of the watershed supplying Manitoba Hydro. In the spring of 2022, conditions rapidly transitioned from severe drought to flooding following record precipitation from successive Colorado lows passing over the southern portion of Manitoba Hydro's basin. Figure 5.1 illustrates the change in conditions by comparing Manitoba Hydro's reservoir storage levels in 2021 and 2022.

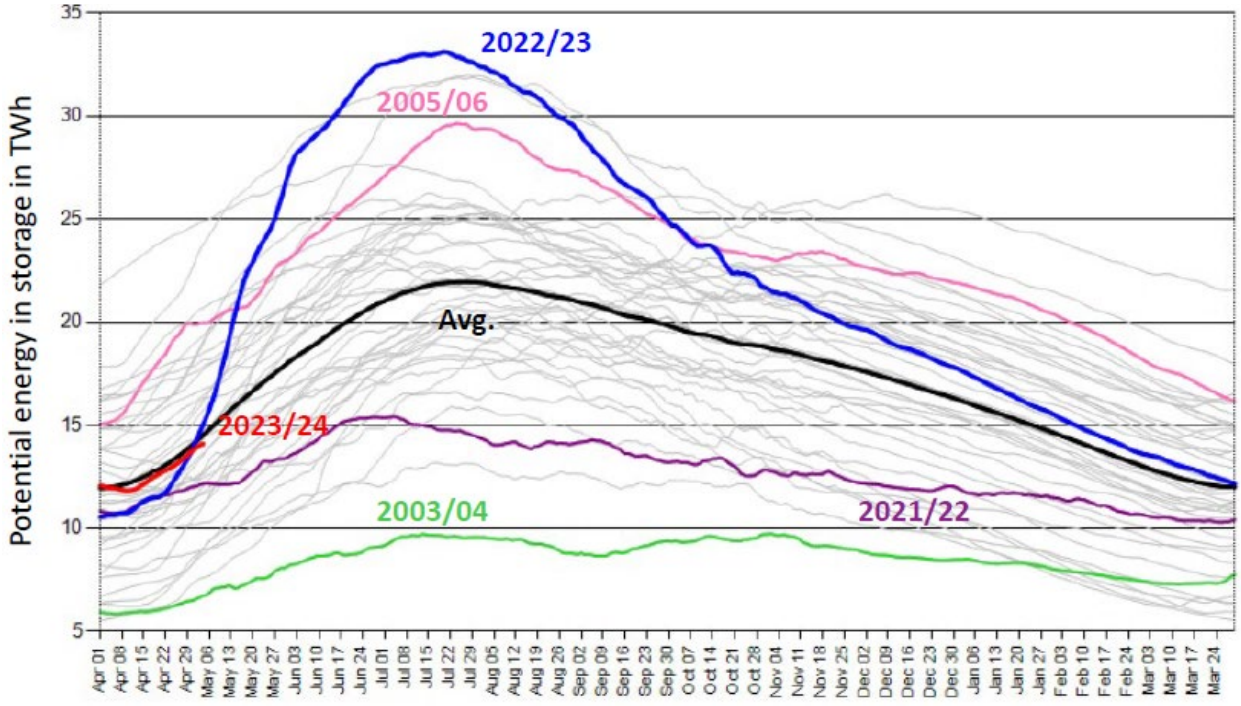

Figure 5.1 — System Daily Potential Energy in Manitoba Hydro's Reservoir Storage

Operations During the 2021 Drought

To reliably meet the demands of its customers throughout the year, and avoid the financial and societal consequences of prolonged curtailments, Manitoba Hydro continually monitors system conditions, updates its water flow forecasts, and manages its operations accordingly. Operationally, Manitoba Hydro took the following steps to manage the impact of the 2021 drought:

- With below-average snowmelt runoff in the south, Manitoba Hydro reduced reservoir releases in the spring of 2021, which resulted in export volumes being below the amounts projected in the utility's 2021/22 budget. Manitoba Hydro first reduced off-peak opportunity exports, followed by reductions in on-peak opportunity exports.

- By the end of May 2021, Manitoba Hydro operated Lake Winnipeg outflows near the lower decile for the time of year. Through the summer, the reduced outflows resulted in a need to import power during off-peak periods and, to the extent Manitoba Hydro considered it economical, during on-peak periods.

- In June 2021, Manitoba Hydro was still maintaining substantial on-peak and off-peak exports and had not commenced any appreciable imports. Manitoba Hydro explained that it takes three to four weeks for water released from Lake Winnipeg to reach the generating stations on the Lower Nelson River. Therefore, decisions to restrict Lake Winnipeg outflows are not reflected in reduced exports for several weeks.

- As dry conditions persisted and expanded across southern portions of the Nelson River Basin through the early summer of 2021, Manitoba Hydro transitioned to water preservation for the purpose of energy reliability.

- In July 2021, Manitoba Hydro reduced Lake Winnipeg and Cedar Lake outflows to near minimum. In August 2021, outflows were further reduced to the minimum permitted under Manitoba Hydro's environmental licences. At this point, Manitoba Hydro concluded that reservoir storage conservation was necessary to ensure that firm demands could be met in the event drought conditions persisted for the remainder of the year and above-average winter loads would occur in 2021/22, followed by a continued drought and further above-average winter loads the following year.

- As a result of the reduction in reservoir outflows, Manitoba Hydro's hydraulic generation was significantly below budget in the summer and fall of 2021, resulting in progressively larger imports being required. Manitoba Hydro first increased off-peak imports, followed by on-peak imports.

- Beginning in the late summer, Manitoba Hydro assessed the need for large volumes of imports or purchases in winter as more certain, and the utility entered into forward purchases to hedge its exposure to price risk.

- On-peak exports continued to decline throughout the summer and winter and were, at times, below what Manitoba Hydro would ordinarily deliver under its long-term contracts. To reduce exports under the contracts, the utility relied on contractual provisions allowing market settlements, meaning that some of the energy required to fulfill the contracts was obtained through market supply rather than generated by Manitoba Hydro.

- In November 2021, Manitoba Hydro increased outflows from Lake Winnipeg to supply generating facilities on the Nelson River and meet increased winter demand.

- Through the early winter of 2021/22, Manitoba Hydro's operations continued to be governed by energy reliability criteria, guided by its drought operating practices.

- Manitoba Hydro also used thermal generation to backstop imports. For the most part, Manitoba Hydro found it more economical to import power rather than generate it through the utility's gas-fired power plant in Brandon. As a result, Manitoba Hydro generated less than 30 GWh of energy in the winter from thermal generation.

- By mid-January 2022, Manitoba Hydro realized that snowmelt runoff would be better than the extreme dry scenario that had been assumed for managing storage operations. As a result, Manitoba Hydro increased reservoir outflows, although the increases were limited to avoid causing excessive slush to form on the waterways which would make travel hazardous for the communities that rely on the frozen waterways.

- By April 2022, it had become clear the spring of 2022 was one of the wettest springs in the last century. This resulted in Manitoba Hydro quickly increasing outflows to the maximum possible, with all spill gates fully raised at Jenpeg generating station at the outlet of Lake Winnipeg by the end of May 2022. Lake Winnipeg outflows were subsequently operated at maximum discharge through the entire summer and export sales were maximized throughout this period.

Manitoba Hydro's reservoir outflows and import and export activities during the drought of 2021 and into the summer of 2022 are illustrated in Figure 5.1.

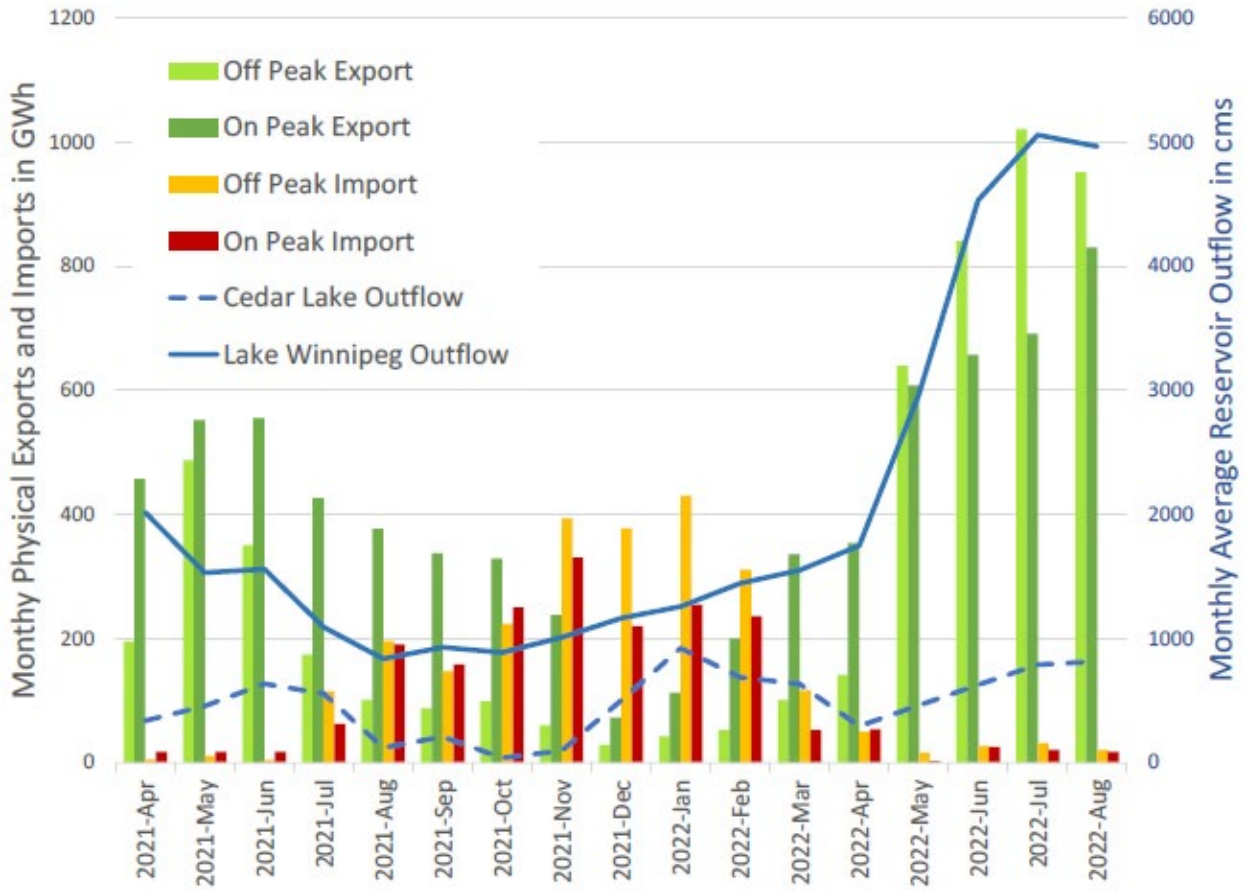

Figure 5.2 — Reservoir Outflows, Imports, and Exports During the 2021 Drought

As part of its regular operating procedure, Manitoba Hydro holds weekly meetings of its resource planning and production scheduling committee to manage reservoir releases and the operation of the generating stations. Decisions on energy generation are made by a team of energy operations planning engineers under the direction of the Manager of Energy Operations Planning, based on input from experts across the organization. Members of Manitoba Hydro's executive team are also informed through monthly reporting of water conditions. In light of the evolving drought, an executive committee was struck in the summer of 2021 to oversee drought management activities and to assess the associated risks to the organization.

Hedging Activities

Manitoba Hydro has identified drought risk as a top enterprise risk with the potential for significant, negative financial impacts to the corporation (such as reduced net extraprovincial revenue). As a result of the significant energy imports forecast to address the reduced hydraulic generation in the winter of 2021/22, and with increasing energy market prices, Manitoba Hydro implemented a hedging strategy through forward contracts to lock in future prices and mitigate its energy import price risk. Manitoba Hydro's objective in placing hedges is to prevent large or unsustainable losses, in the same manner as an insurance policy. The utility's stated objective when placing hedges is to mitigate downside risk rather than speculate on prices to beat the market.

Starting in late summer 2021, Manitoba Hydro began making forward financial purchases for the winter of 2021/22 to hedge exposure to price risk on expected imports. The hedges placed by Manitoba Hydro during the drought were based on the utility's median weather forecast for the rest of the year. The utility placed its hedges in a gradual fashion, taking a series of small positions over time as the water situation evolved, without taking a price view. The utility's hedging activities during the 2021/22 fiscal year ultimately resulted in a $19.8M loss to the utility. The Board received evidence on the details of Manitoba Hydro's hedging activities, and the utility's rationale, in a confidential *in camera* session.

Executive Management and Involvement of the Public Utilities Board

Manitoba Hydro staff provide updates on water supply conditions to the Manitoba Hydro executive in monthly Energy Resources Review and Outlook reports. The utility's hydraulic operations team was aware by May 2021 that hydraulic energy from inflows was below normal, and informed members of its executive team on May 12 and June 15, 2021 through its monthly reporting of water conditions.

The early part of the 2021 drought coincided with the Board's review of an application by the Consumers Coalition for a status update process for Manitoba Hydro. The purpose of the status update was to determine whether there had been a substantial change in

Manitoba Hydro's financial circumstances since Orders 59/18 and 69/19, which would call into the question the approved rates in effect at that time. As a result of that process, the Board issued Order 53/21 on May 10, 2021, directing Manitoba Hydro to file updated financial forecasts and provide an explanation of the probabilities of a drought in each of 2021/22 and 2022/23.

Despite the utility being internally aware of lower-than-normal inflow conditions in May 2021, Manitoba Hydro advised the Board on June 9, 2021 that there was no substantial change in its circumstances, and that the utility expected hydraulic generation to be 5% below budget, well within the typical year-to-year variability. The utility based this view on the May 2021 hydrological report and stated that it expected a net income of $177 million during the 2021/22 fiscal year. In a further letter to the Board on July 6, 2021, the utility indicated that its financial circumstances remained substantially the same. Later in the summer, Manitoba Hydro struck an executive committee to oversee drought management activities, which first met on August 4, 2021.

Under section 11 of *The Crown Corporations Governance and Accountability Act*, Manitoba Hydro must prepare interim quarterly financial statements within 45 days of the end of each quarter. Manitoba Hydro's board of directors received the utility's interim financial report for the quarter that ended on June 30, 2021 for approval in August of that year. At the time, Manitoba Hydro expected the provincial government to legislate a rate increase for the utility in 2021. The legislated rate increase did not materialize. Instead, on September 17, 2021, the provincial government directed Manitoba Hydro to apply to the Board for a rate increase. Manitoba Hydro's first-quarter interim financial statements were publicly released on September 21, 2021, with a press release announcing the directive to file an interim rate application issued on September 22, 2021. On November 15, 2021, Manitoba Hydro applied for a 5% interim rate increase effective January 1, 2022. Manitoba Hydro explained that the delay between the provincial government's direction in September 2021 and the filing of its 2021/22 interim application on November 15, 2021 was related to the time needed for its staff to prepare those materials. The Board subsequently heard and deliberated the application in late 2021 and

approved a 3.6% interim rate increase effective January 1, 2022. Additional details on the interim rate increase are set out in section 3.

5.1.2 Hydrology

In the past, Manitoba Hydro used water flow records dating back more than 100 years to model the short and long-term net export revenue forecasts for each flow year. Beginning in 2020, the utility switched to using the most recent 40-year flow record for its short-term modeling, with the 40-year record providing more detailed data than that available over the full long-term flow record. The full 100-plus year water flow record continues to be used for long-term forecasting of net export revenues.

In Order 9/22, issued after the conclusion of Manitoba Hydro's 2021/22 interim rate application review, the Board noted that projected net export revenue was $19 million less using the average results from the 40-year flow record compared to the average results from the 108-year flow record used as an alternative. The Board indicated, in the same order, that it would explore the issue at Manitoba Hydro's next general rate application to establish whether one method was more reliable and accurate than the other. The issue formed part of Daymark's scope of work as an independent expert consultant.

Manitoba Hydro evaluated its net export revenue forecasting methodology and concluded that a hydrological record length between 30 and 50 years sampled from the most recent records sufficiently captures hydrologic variability and recent trends. However, the utility continues to use the long-term records as a dataset to consider rare events critical to future resource planning, such as the maximum drought conditions that have been recorded. Manitoba Hydro notes that the 40-year record is at a higher resolution than the historical long-term record. The utility evaluated the variability in the 40-year record and concluded that there is a 95% likelihood that the true range of hydrologic variability will be covered by the 40-year record. In the utility's view, another benefit of the shortened record length is that it captures recent hydrologic trends and that the use of shorter, more

recent records appears to be emerging as a standard practice among utilities for energy operations and resource planning.

In its application, Manitoba Hydro included a third-party peer review of its inflow forecasting methods prepared by Dr. René Roy, a consultant on climate change and hydrology, who concluded that Manitoba Hydro's forecasting methodology is appropriate.

Manitoba Hydro provided evidence that it reviewed its operations during the 2021 drought to further improve its processes. As a result, the utility continued to expand the number of inflow locations where physical-based inflow forecasts are used, reviewed and updated its drought management planning document, and undertook a study to determine the required minimum base flow on the Nelson River to maintain reliable operations. The utility also improved the visualization capability of its operations planning modelling results and began a multi-year corporate flow record improvement project. In terms of its organizational structure, Manitoba Hydro created an Energy Operations Planning department with a mandate focused on energy and reservoir operations planning, including drought management. For planning purposes, the utility also updated its risk statement for droughts and reviewed the process and timing requirements for issuing forward-looking export and import volume reports to use in hedging.

In Order 9/22, the Board noted that despite drought being the single largest risk factor when it comes to earnings, Manitoba Hydro does not have a reliable long-term precipitation forecasting capability. The Board found that additional evidence was warranted to assess whether there exist drought forecasting options that could help mitigate Manitoba Hydro's drought risk.

In response to the Board's request for additional evidence, Manitoba Hydro described its hydrological forecasting methodology, including a description of its efforts to modernize and enhance its water inflow forecasting processes. Beginning in 2019, Manitoba Hydro began to develop a physically-based inflow forecasting model to replace its long-standing statistical approach to forecasting inflows. The statistical approach, also known as antecedent forecasting, correlated recent inflows with hydraulic generation through

regression models. Physically-based inflow forecasting uses temperature, precipitation, and streamflow measurements to forecast the inflows at discrete points in the Nelson River – Churchill River drainage basin. Manitoba Hydro continues to enhance its physically-based inflow forecasting by adding more nodes, or locations, where it can model the inflows. Physically-based inflow forecasting requires more detailed data than the statistical method, which is one of the reasons why Manitoba Hydro uses the more detailed 40-year water flow record for these short-term forecasts.

Manitoba Hydro stated that it does not use precipitation forecasts beyond 16 days into the future for its physically-based inflow forecasting. Manitoba Hydro explained that even though precipitation forecasts are commercially available for periods between one and 24 months into the future, it does not consider these forecasts to have sufficient skill to predict the amount and timing of precipitation.

5.2 Evidence of the Independent Expert Consultant

Daymark, the independent expert consultant appointed for this hearing, reviewed Manitoba Hydro's drought operations during the 2021/22 drought and concluded that overall, the utility managed its hydrology, energy forecasting, operations, and hedging effectively to adjust priorities as the drought unfolded. In Daymark's opinion, Manitoba Hydro complied with its written policies and procedures and took extraordinary care to continuously balance the often competing priorities that are part of operating a large hydrological system. Daymark further found that Manitoba Hydro does not operate its system in a fundamentally different manner during drought conditions, although the specific decisions on reservoir releases are different. However, after the end of the 2021/22 drought conditions, Manitoba Hydro implemented multiple internal process changes to improve the utility's ability to respond to future drought conditions.

Daymark's primary criticism of Manitoba Hydro's drought management is that much of the knowledge required to manage drought risk resides in the minds of the utility's internal experts. In Daymark's view, the utility would benefit from formalizing more of this knowledge and expertise into additional policies or procedures.

As part of its scope of work in this proceeding, Daymark also examined Manitoba Hydro's change from using the 100-plus year water flow record to using the 40-year hydrology record for inflow forecasting and energy modelling. Daymark found that Manitoba Hydro made advances in its inflow forecasting methodologies to improve the near-term forecasting using the physically-based inflow forecasting methodology. Daymark notes that there are significant benefits to the spatial and temporal data granularity in the 40-year records for use in short-term forecasting, and that Manitoba Hydro recognizes the trade-off between using a 40-year record and the 100-plus year record. In Daymark's view, the change to using the 40-year flow record for short-term hydrological modeling is appropriate. Overall, Daymark commends Manitoba Hydro on having made significant upgrades to its methodologies, resulting in a better, more robust, and nuanced forecasting system.

Daymark notes that Manitoba Hydro introduced biweekly oversight meetings with the executive group in August 2021, several months into the drought. Daymark found that this committee had sufficient engagement and oversight from senior management to ensure the drought was being managed effectively. In Daymark's view, it would be beneficial for this committee to be engaged all the time, and not just in times of drought, a change Manitoba Hydro has since implemented.

With respect to Manitoba Hydro's hedging activities during the 2021/22 drought, Daymark is of the opinion that Manitoba Hydro's rationale and process for contracting the hedges is sound, even if the hedging ultimately resulted in a $19.8M loss. In Daymark's view, given the potential for significant increases in the cost of procuring power over the winter, it was reasonable to hedge a portion of the projected purchases in the fall of 2021. However, Daymark suggests that it could be beneficial to Manitoba Hydro, and to its customers, to differentiate its hedging strategies between conditions when Manitoba Hydro would purchase hedges and conditions when Manitoba Hydro would sell hedges, as these do not necessarily produce the same revenue risk.

5.3 Manitoba Hydro's Position

Manitoba Hydro submits that its inflow forecasting procedures are state of the art. It relies on the peer review by Dr. Roy as well as the evidence of Daymark and emphasizes its participation in the Centre for Energy Advancement through Technological Innovation (CEATI) Hydropower Operations Planning Interest Group, which consists of members of three dozen hydroelectric utilities and water management-related agencies. With respect to precipitation forecasting, Manitoba Hydro states that existing weather forecast products are not sufficiently reliable for forecasting future water conditions. Accordingly, beyond 16-day precipitation forecasts, Manitoba Hydro does not use precipitation forecasts in its hydrological forecasts or its financial forecasting.

Manitoba Hydro states that both Dr. Roy and Daymark conclude that the utility's switch to 40-year flow record for short-term forecasting purposes is appropriate. In Manitoba Hydro's view, the revised methodology contributed to Manitoba Hydro's effective management of drought operations. The utility further submits that rules covering the multitude of possible operating situations cannot fully be codified in a model or document, and that the utility must rely on routine and regular collaboration between experts. Manitoba Hydro emphasizes that during the drought, its experts collaborated across multiple departments and the utility effectively managed operations. However, Manitoba Hydro maintains that it will be augmenting its documentation on key processes and is embarking on a succession planning initiative in the coming year to increase cross-training in key functions.

Manitoba Hydro argues that its hedging activities throughout the drought were reasonable and that Daymark confirmed this in their expert evidence. Additionally, the utility submits that it followed a systemic and gradual approach to hedging. Relying on evidence provided to the Board in confidence, Manitoba Hydro also argues that it did not over-hedge during the drought and that the utility's hedges were appropriate. However, Manitoba Hydro agrees that there is an asymmetry of risk inherent in both purchase and sale transactions and will therefore consider Daymark's recommendation on that issue.

Interveners did not take a position on Manitoba Hydro's drought response.

5.4 Board Findings

The Board finds that operationally, Manitoba Hydro managed the 2021 drought with a high degree of competence and professionalism. The Board was reassured by Manitoba Hydro's evidence on its approach of continuously reassessing operational risk and taking a gradual response. While in retrospect it would have been possible for the utility to achieve a better result through different choices — such as lower outflows in the spring of 2021, the use of option contracts to hedge price variances, or reduced hedging in the fall of that year — the appropriateness of Manitoba Hydro's response cannot be assessed through hindsight. The Board accepts the evidence of both Manitoba Hydro and Daymark that the choices made were appropriate in light of the available information at the time.

The Board notes that in the 2003 drought, Manitoba Hydro suffered a financial loss of $436 million, compared to the financial loss of $249 million in the 2021/22 drought. The Board understands that after the 2003 drought, Manitoba Hydro made changes to its hydrological modeling processes and export sales policies and processes, in part facilitated by the evolution of the U.S. market. These changes, along with the new Manitoba-Minnesota Transmission Project which facilitated additional imports from the U.S. market, all played a part in reducing the negative financial impact to Manitoba Hydro and its ratepayers.

That said, the Board is concerned with Manitoba Hydro's management response to deteriorating export revenues and the resulting impact on net income during the summer of 2021. With reservoir levels significantly below average by May 2021, Manitoba Hydro's representations to the Board in both June and July of that year that there were no substantial changes are questionable. The Board accepts that there is an inherent delay in assessing the financial impact of monthly hydrological reports and that there always exists the possibility of a turnaround following favourable water flow conditions. However, Manitoba Hydro advised the Board on June 9, 2021 that it was forecasting $177 million in net income and then further advised the Board on July 6, 2021 that there had not been

a substantial change in its financial circumstances. It is worrisome that the utility made these statements to the Board while the interim financial report the utility was legally required to finalize by mid-August, which was based on the hydrological information as of July 18, 2021, showed that this income had eroded to zero.

The Board accepts Manitoba Hydro's evidence that the utility expected legislated rate relief and notes that once the provincial government issued a directive to Manitoba Hydro to file an interim rate application on September 21, 2021, the utility filed that application within eight weeks.

With earlier knowledge of the impact of drought conditions on Manitoba Hydro's finances, the Board could have approved interim rate relief shortly after the completion of Manitoba Hydro's first quarter of 2021 rather than at the beginning of the fourth quarter. Such a rate increase implemented earlier in the year could have increased Manitoba Hydro's cash flows by approximately another $20 million and reduced the amount of debt it incurred during the drought year. While the utility's $249 million loss was more than fully reversed by the record water flows and net export revenue experienced in 2022/23, this was due to fortuitous water conditions rather than planning. The Board recommends that in future droughts, the utility's operational team involve the executive earlier in the process. This should allow the executive to recognize the financial implications of the drought sooner and enable the Board to provide rate relief on a timelier basis.

With respect to Manitoba Hydro's hydrological modelling, the Board accepts the evidence of Manitoba Hydro and Daymark that using more detailed 40-year data for the purposes of short-term inflow forecasting and energy modelling is an appropriate refinement of the utility's methodology.

The Board finds that there is merit to Daymark's recommendation to formalize more of Manitoba Hydro's institutional knowledge and expertise on drought risk into additional policies and procedures. While Manitoba Hydro has indicated that it is already doing so as part of its succession planning initiative, the Board requires an update on this issue at the next general rate application and intends to retain an independent expert consultant

to evaluate the progress made. The Board accordingly directs Manitoba Hydro to provide an update on its key process documentation and succession planning initiative with its next general rate application, including a description of all progress made.

With respect to the Board's request in Order 9/22 for more information on whether there are additional drought forecasting tools available, the Board accepts Manitoba Hydro's position that the inclusion of commercially-available precipitation forecasting products would not improve Manitoba Hydro's hydrological modeling or lead to improved drought forecasting at this time. The Board encourages Manitoba Hydro to continue monitoring the state of medium to long-term precipitation forecasting, including commercially available precipitation forecasting products, as it has the potential to give early warning of drought, allowing Manitoba Hydro to make more informed decisions about its reservoir operations.

6.0 RISK MANAGEMENT AND UNCERTAINTY ANALYSIS

6.1 Background

As a large vertically integrated utility, Manitoba Hydro faces many enterprise risks. The primary risks identified by the utility are drought, interest rates, aging assets, export prices, disruptive technology, regulatory and policy changes, cybersecurity threats, technology innovation, succession planning, self-generation, and future stranded assets, as well as talent acquisition and retention. With its filing, Manitoba Hydro included a sensitivity analysis that assesses the financial impacts of a five- or seven-year drought, above- and below-average water conditions, high and low export prices, high and low interest rates, reductions in business operations capital spending, and the impact of different rate increase scenarios. In terms of the impact on Manitoba Hydro's retained earnings, the biggest risk identified in the sensitivity analysis is a seven-year drought, which reduces retained earnings by $2.4 billion compared to Manitoba Hydro's amended financial forecast scenario, absent rate increases to offset the reduction.

Historically, Manitoba Hydro conducted an uncertainty analysis to evaluate not only the impact of certain events, but the probabilities of those events materializing. In the first iteration of the utility's uncertainty analysis, used in the 2014 Needs-For-and-Alternatives-To (NFAT) review of Manitoba Hydro's preferred development plan, the utility assigned various probabilities to the top three risks for each of its development plan alternatives. The financial results of these probability-weighted risks were compared with a reference case to evaluate the outcomes of various combinations of the top three risks. In the second iteration, used in the 2017/18 & 2018/19 General Rate Application, Manitoba Hydro used a "box and whiskers" chart to show the various scenarios. In the current hearing, the utility did not provide an uncertainty analysis, noting uncertainties surrounding the provincial energy policy and Manitoba Hydro's integrated resource plan.

Manitoba Hydro is currently establishing an Enterprise Risk Management (ERM) program to provide an enterprise-wide assessment of risks faced by the utility. This Enterprise Risk Management Program ties into the utility's long-term strategy, called Strategy 2040.

Strategy 2040 is Manitoba Hydro's plan to navigate the evolving energy landscape, focused on what the utility calls the "three D's" — decentralization, digitalization, and decarbonization. Decentralization is focused on the increased availability of power options beyond Manitoba Hydro, such as solar, wind, or other alternatives which are installed by customers "behind the meter", leading to a less centralized grid. Digitalization is focused on technology growth, such as smart devices and an increase in automation. Decarbonization is focused on the reduction of carbon emissions through the electrification of space heating, transportation, and industry. Decarbonization includes the potential widespread adoption of electric vehicles.

Strategy 2040 includes a business model realignment away from functional segments, such as generation, transmission, and distribution, and towards what Manitoba Hydro describes as a more integrated approach. As part of this realignment, Manitoba Hydro revised its organization structure into the Office of the President & Chief Executive Officer as well as the following seven business units:

- Customer Solutions & Experience
- Asset Planning & Delivery
- Operations
- Digital and Technology
- Human Resources & Safety, Health and Environment
- Chief Financial Officer
- External & Indigenous Relations and Communication

6.2 Position of the Parties

6.2.1 Manitoba Hydro

Manitoba Hydro argues that the absence of an uncertainty analysis in the current proceeding reflects a prudent pause as the utility evaluates the inputs, assumptions, and methodologies to underpin such an analysis. The utility highlights its transition towards an Enterprise Risk Management framework under which each group within the company not only knows and manages their own risks, but considers risk holistically across the enterprise. The company notes that previously, there was a more siloed approach to risk management.

In Manitoba Hydro's view, the company is facing increasing levels of enterprise risk and uncertainty that includes both upside risk and downside risk. The utility cites the Consumers Coalition's expert Pelino Colaiacovo, who concluded that the global energy transition presents a period of increasing uncertainty.

While Manitoba Hydro plans to eventually provide an uncertainty analysis again, it notes that there are a number of risk factors the utility must evaluate first, including matters to be evaluated for the upcoming integrated resource plan. The utility is committed to filing a new uncertainty analysis with its next general rate application, but notes that the format may be different from analyses filed in past proceedings.

6.2.2 Interveners

Consumers Coalition

The Consumers Coalition submits that Manitoba Hydro's financial situation has materially improved since the last general rate application and its interest rate risk is substantially less than it was a decade ago. In the view of the Consumers Coalition, Manitoba Hydro is now also significantly more resilient to drought risk, as a result of the completion of the Manitoba-Minnesota Transmission Project and the increased generating capacity offered by Keeyask.

The Consumers Coalition's expert witness on revenue requirement matters, Darren Rainkie, is critical of Manitoba Hydro's decision not to have provided an updated uncertainty analysis. In his view, the proposed 2% rate path is intended as a means to deal with future uncertainty, based on an incomplete risk assessment. Mr. Rainkie argues that the uncertainty analysis is a more powerful tool that can be used to assess the appropriate financial reserves to manage such risks.

Manitoba Industrial Power Users Group

MIPUG recommends that Manitoba Hydro resume updating its uncertainty analysis to allow future rate increases to be supported by probabilistic assessments. It relies on the evidence of MIPUG's expert witness Patrick Bowman, who states that even with a legislated debt-to-equity target and rate cap, a probabilistic analysis would prove useful to assess assumptions in Manitoba Hydro's forecast, such as the ratio of fixed-rate debt to floating-rate debt.

6.3 Board Findings

The Board finds that in the short term, Manitoba Hydro's financial risk is reduced, as the utility's major capital projects have been completed and Manitoba Hydro was able to lock in long-term debt at favourable rates (see section 11). However, in the medium to long term, Manitoba Hydro faces significant uncertainty surrounding electrification, decentralization of the grid, and other matters. This uncertainty is not unique to Manitoba, but exists in Manitoba's export markets as well. At present, these uncertainties are exacerbated by policy uncertainty. Carbon taxes and decarbonization initiatives at the federal level that result in increased electrification of energy uses that were previously fueled by fossil energy have the potential to affect Manitoba Hydro and its customers. At the provincial level, an energy policy had not been released as of the conclusion of the hearing. Manitoba Hydro's integrated resource plan, which considers a range of potential futures, had also not yet been publicly released. The combination of short-term predictability and long-term uncertainty influenced the Board in its rate decision, in which the Board placed more emphasis on Manitoba Hydro's short-term financial needs and

progress towards existing financial targets rather than the utility's proposed long-term rate path.

The Board finds that there would have been a benefit to an uncertainty analysis in the current proceeding, as such an analysis could have quantified Manitoba Hydro's risks in a better manner than a sensitivity analysis that considers only the individual impacts of each risk. Consistent with the utility's commitment to do so, the Board directs Manitoba Hydro to file an uncertainty analysis with its next general rate application.

The Board commends Manitoba Hydro's transition towards an Enterprise Risk Management framework which, in the Board's view, has the potential to break down siloes that have traditionally hindered the company in taking a big-picture view of emerging issues. However, the Board recommends that the utility consult with stakeholders on the scoping and development of its ERM framework. In the Board's view, early consultation on these issues has the potential to reduce disputes at the next general rate application on the approach taken in the ERM framework.

7.0 LOAD FORECAST

7.1 Background

Approximately 60-80% of Manitoba Hydro's revenue comes from domestic electricity sales in Manitoba. While the Board approves the price for that electricity, it does not influence the amount sold, as that is based on customer demand.

Electric Load Scenario

Manitoba Hydro estimates the projected future demand of each customer class through a load forecast. In this application, Manitoba Hydro filed a document the utility refers to as a "2021 Electric Load Scenario", stating that the document reflects a single potential future and that the utility is still evaluating how the changing energy landscape could affect the demand for energy in Manitoba. The Load Scenario was developed in 2021 when Manitoba Hydro was still forecasting 3.5% annual rate increases until 2032/33 and 0.5% thereafter, compared to the 2% rate increases now forecasted for the next 20 years.

The Load Scenario is similar to previous load forecasts in that Manitoba Hydro develops forecasts for Residential, General Service Mass Market, and Top Consumers demand for electricity. The Load Scenario incorporates energy efficiency savings resulting from Efficiency Manitoba's activities. Manitoba Hydro developed new forecasts for electric vehicles and behind-the-meter generation from customer-owned solar photovoltaics.

Gross firm energy, which includes domestic electricity sales, Manitoba Hydro's own use, and losses, is expected to increase at a rate of 0.4% per year for the first ten years of the forecast, and then increase at a rate of 2.4% per year for the second ten years of the forecast to 2041/42, as shown in Figure 7.1.

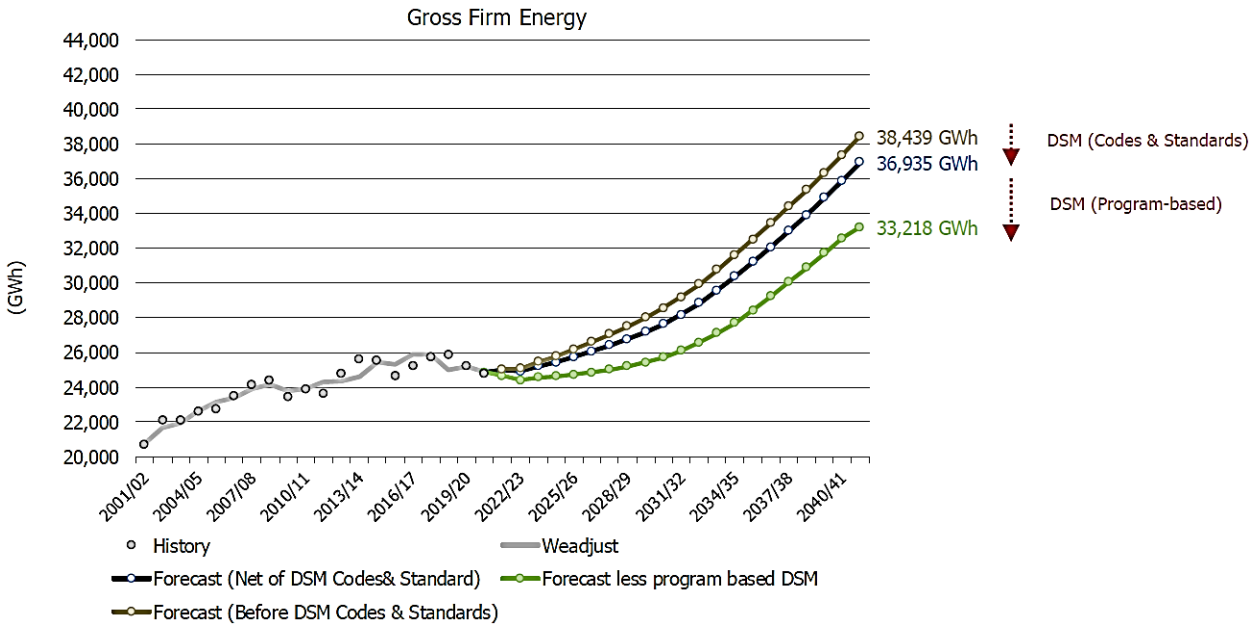

Figure 7.1 Gross Firm Energy with Demand-Side Management Reductions

Manitoba Hydro attributes the increased growth rate in the second ten years to an increase in the number of electric vehicles, fewer energy efficiency improvements from codes and standards, and lower rate increases than the first ten years. Manitoba Hydro assumes that Manitoba will meet the federal zero-emission passenger vehicle mandate of 100% of sales by 2035, and partially meet the federal targets that have been set for zero-emission vehicles for light trucks reaching 100% by 2040. Plug-in electric vehicles are anticipated to have a significant impact on the Manitoba load of 3,345 GWh per year by 2041/42, representing approximately 10% of domestic electricity sales.

Behind-the-meter solar photovoltaic generation is not forecasted to have a significant impact on demand, reducing Gross Firm Energy by only 0.5% by 2041/42.

The General Service Mass Market and Top Consumer segments were the segments hardest hit by the COVID-19 pandemic with demand reductions of 456 GWh in 2021/22 and 330 GWh in 2022/23. The pandemic is expected to have a lasting impact of -341 GWh through 2040/41.

Changes to the Load Forecast Methodology

In the 2017/18 & 2018/19 General Rate Application, two independent experts made recommendations on Manitoba Hydro's load forecasting methodology. As a result of those recommendations, the Board issued Directive 11 of Order 59/18, which required the utility to consider the recommendations and provide details on their implementation at the next general rate application. Manitoba Hydro advised that it implemented the recommendation to use the full Top Consumer Load in forecasting a Potential Large Industrial Load (PLIL). This resulted in a new increase in the PLIL forecast in the current application. The utility also plans to incorporate scenario analysis as part of its integrated resource plan. Manitoba Hydro plans to monitor the short-term impacts of rate increases on Top Consumers, residential fuel switching, and the benefit of probabilistic assessments.

Manitoba Hydro rejected several other recommendations made by the independent expert consultants in the 2017/18 & 2018/19 General Rate Application:

- Evaluate the price elasticity values utilized within Manitoba Hydro's econometric modeling: Manitoba Hydro has concluded that its price elasticities are within the acceptable industry range in all sectors.

- Re-evaluate the weather adjustment model to utilize additional years within the model: Manitoba Hydro states that it continues the existing regression model first used in 2009, as it helps track how the coefficients change over time.

- Re-evaluate the period of time used to calculate a normal weather year: Manitoba Hydro continues to use a 25-year period to calculate normal weather, as it would like to reduce year-to-year variability in its revenue forecasts, which are based on normal weather, and found that the majority of industry uses 30 years.

A recent amendment to *The Manitoba Hydro Act* requires Manitoba Hydro to prepare an integrated resource plan (IRP) with a 10-year planning period. The Board recommended the adoption of integrated resource planning in its 2014 Needs-for-and-Alternatives-To (NFAT) report into Manitoba Hydro's preferred development plan. Integrated resource

plans are also in use in other jurisdictions. For example, BC Hydro prepares and uses an integrated resource plan for planning purposes. The purpose of an IRP is to analytically determine what resource is in the best interest of consumers by examining a full spectrum of possible supply-side and demand-side options and measuring them against a collective set of objectives and criteria. Integrated resource planning is an improvement over traditional utility resource planning which focuses only on the supply-side resources, not demand-side resources such as energy efficiency measures.

Manitoba Hydro started the process of developing an IRP approximately two years ago and released its first plan on August 2, 2023, after the conclusion of the hearing. The legislation requires Manitoba Hydro to provide the plan to the minister responsible for the utility, and for the provincial Cabinet to approve the plan. Cabinet may refer the plan to the Board for review and recommendations before the plan is approved, but is not legally required to do so. To date, the plan has not been referred to the Board.

In the Board's first procedural order (Order 130/22), the Board ruled the IRP out of scope of this proceeding, but ruled that to the extent assumptions made in the IRP underpin the Application, those assumptions could be tested in the hearing. While Manitoba Hydro shared a draft IRP publicly and with the Board outside the record of this proceeding, the utility advised that none of the scenarios included in the draft plan underpinned Manitoba Hydro's load forecast or assumptions.

7.2 Submissions from the Parties

7.2.1 Manitoba Hydro

Manitoba Hydro submits that the changing energy landscape has brought unprecedented uncertainty to the future electrical needs of Manitobans. It cites energy policy at the federal, provincial, and municipal levels, as well as emerging technologies leading to the decarbonization of transportation, space heating, and industrial processes. As a result, the IRP includes a broader range of scenarios than Manitoba Hydro's traditional probabilistic load forecast uncertainty analysis. This is illustrated in Figure 7.2 below. The unprecedented uncertainty also led Manitoba Hydro to change the name of the supporting

document from “Load Forecast” to “Load Scenario”. Manitoba Hydro submits that the 2021 electric load scenario represents the utility’s best estimate for the future electricity demand and it is reliable for use in this proceeding.

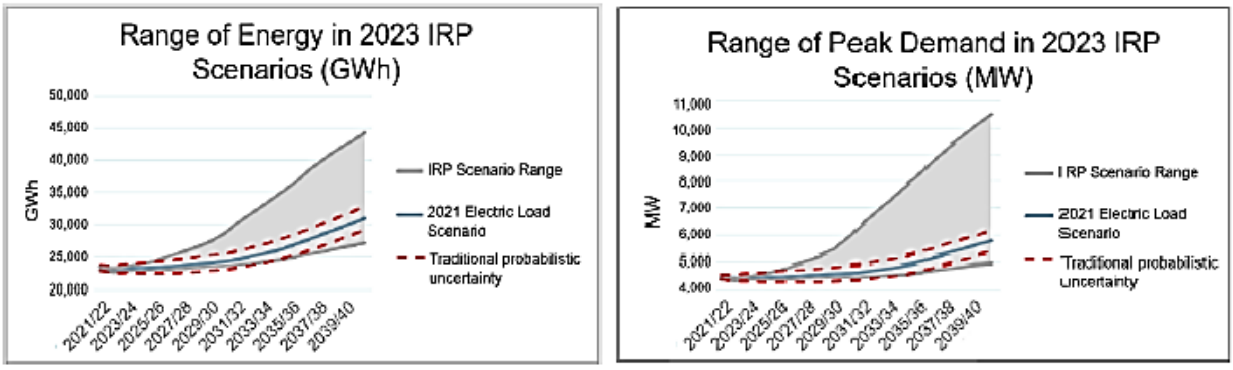

Figure 7.2 — Energy and Capacity Range in Manitoba Hydro’s Integrated Resource Plan

7.2.2 Interveners

Consumers Coalition

The Consumers Coalition is the only intervener taking a position on Manitoba Hydro’s load forecast. It emphasizes Manitoba Hydro’s assessment that there is a period of unprecedented uncertainty, and that some of the key pieces will not emerge until the 2030s. It submits that the utility’s 20-year forecast is unreliable compared to previous long-term forecasts, and that the key drivers of uncertainty lie at the far extreme of the forecast. The Consumers Coalition cites the evidence of its expert witness Pelino Colaiacovo that Manitoba Hydro includes a placeholder assumption of new gas-fired generation in the late 2020s, while the federal government is pushing forward a policy to ban new gas-fired generation facilities. In the view of the Consumers Coalition, it is unclear whether the uncertainty will be positive or negative for Manitoba Hydro and its ratepayers. It states that as of the conclusion of the hearing, there is no provincial energy policy and that Efficiency Manitoba’s new efficiency plan has not yet been reviewed by the Board. Nonetheless, the Consumers Coalition states that the load forecast is

reasonable for the test years, and that this intervener has more confidence in the immediate forecast than the utility's long-term projections.

7.3 Board Findings

The Board finds Manitoba Hydro's load scenario to be reasonably accurate in the short term. However, the Board agrees with the utility's assessment that there is uncertainty concerning the long-term future of electricity in Manitoba. While a Provincial Energy Roadmap and an Integrated Resource Plan have been released since the conclusion of the hearing, these have not yet been considered by the Board or tested in any proceeding before the Board.

The Board agrees with the Consumers Coalition's assessment that at this time, it is not clear whether the uncertainty referenced above will be positive or negative for Manitoba Hydro. The combination of short-term forecast reliability and long-term uncertainty influenced the Board in placing increased emphasis on Manitoba Hydro's financial needs during the test years rather than focusing on a long-term rate path.

The Board accepts Manitoba Hydro's report on the implementation of recommendations from independent expert consultants during the 2017/18 & 2018/19 General Rate Application, and accordingly confirms that Directive 11 of Order 59/18 has been satisfied.

The Board sees a potential benefit to revisiting the load forecasting methodology and Manitoba Hydro's approach to econometric modelling as the utility grapples with several potential energy futures and attempts to predict load growth beyond the test years. The Board may conduct such a review as part of the next general rate application.

8.0 EXPORT REVENUE

8.1 Background

During all but the most severe drought conditions, Manitoba Hydro generates sufficient electricity to sell surplus energy into export markets. Manitoba Hydro sells some of its surplus energy at fixed prices under contracts with utilities in other jurisdictions, even during drought conditions. The utility's existing export contracts are summarized in Figure 8.1. The remaining energy is sold on the spot market at prevailing market prices.

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

Figure 8.1 — Manitoba Hydro's Export Contracts

Manitoba Hydro only commits to export contracts for dependable energy, meaning electricity that the utility expects to be able to generate even during the worst drought on record. Dependable energy is the same energy used to serve Manitoba consumers. Manitoba Hydro sells dependable energy that is not under contract, as well as surplus energy generated in excess of dependable energy, on the spot market. These are known as opportunity sales. Manitoba Hydro's total exports (dependable sales under contract and opportunity sales at market prices) depend on water conditions and the demand in Manitoba, as only energy not needed to meet Manitoba's demand can be exported. Exports may also be limited by the capacity of the available transmission interconnections.

Manitoba Hydro expects a marked drop in export revenue at the end of the 2024/25 test year, as this coincides with the expiry of the utility's three export contracts with Northern States Power. The utility expects another drop in 2027, as a 100 MW contract with the Wisconsin Public Service expires that year.

Aside from Manitoba Hydro's contracts with SaskPower (a Saskatchewan Crown corporation), all of Manitoba Hydro's export contracts are with United States utilities located within the territory of the Mid-Continent Independent System Operator (MISO). With recent changes in the MISO market, Manitoba Hydro does not expect to be able to renew any of the expiring export contracts, nor to be able to find a counterparty to enter into new contracts for year-round exports. As such, while currently more than half of Manitoba Hydro's export sales are made under contract, the utility expects this percentage to decline to 25% by 2027. To estimate revenue under such opportunity sales, Manitoba Hydro prepares a near-term energy price forecast and a long-term energy price forecast. For this purpose, Manitoba Hydro relies on third-party forecasters who provide forecasts of on-peak energy, off-peak energy, and capacity prices in the MISO market.

Manitoba Hydro's current portfolio of export contracts includes diversity exchanges, under which Manitoba Hydro sells excess capacity in the summer and in exchange receives

capacity in the winter. The expiry of one such diversity exchange agreement in 2025 is expected to reduce Manitoba Hydro's winter surplus capacity after 2025, as illustrated in Figure 8.2. While Manitoba Hydro indicates that it intends to continue to seek opportunities to sell the remaining excess capacity, it currently does not anticipate any such sales in its export revenue projections. However, Manitoba Hydro's summer capacity surplus is approximately 500 MW and is expected to increase in 2025 with the end of Northern States Power contracts. MISO introduced a seasonal capacity market in 2022 to permit seasonal capacity sales, such as summer-only sales. Manitoba Hydro accordingly is attempting to sell this excess summer capacity and indicates that it will continue to monitor the MISO market for sale opportunities. However, Manitoba Hydro has not included any potential revenues from these sales in its financial forecasts.

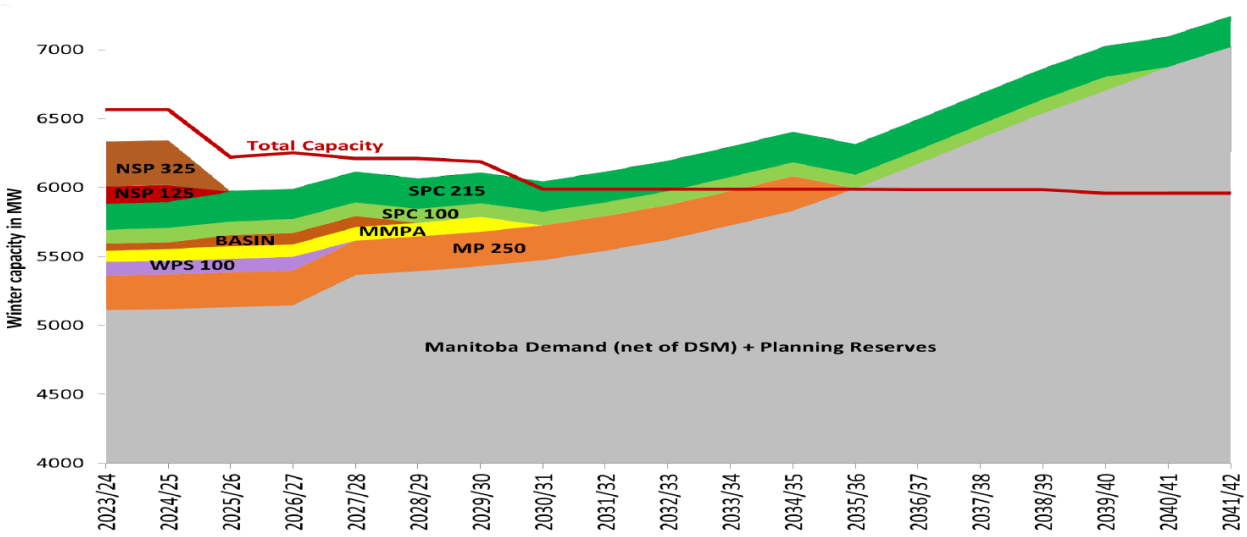

Figure 8.2 — Available Winter Capacity vs. Export Commitments

With respect to opportunity sales of energy, Manitoba Hydro indicates that there has been a move in the MISO market towards increased renewable generation such as wind and solar power. Unlike thermal generation, which has a high variable cost due to the need to purchase the fuel burned to generate power, renewable energy facilities have limited

variable costs. Manitoba Hydro anticipates that this will result in a downward price trend in the MISO market, leading to lower export revenues for the utility. Manitoba Hydro expects the renewable energy commitments set out in the recently passed U.S. *Inflation Reduction Act* to accelerate this process. Manitoba Hydro also notes that because of a move towards decarbonization and electric heating in the MISO market, some of the utilities with whom Manitoba Hydro contracts may switch from being summer-peaking utilities to being winter-peaking. This would limit the opportunity for Manitoba Hydro to enter into future diversity agreements.

An additional factor that affects the sales of surplus summer capacity is that U.S. utilities may require year-round capacity more than summer capacity in the near term. The winter planning reserve margins in MISO are now much higher than the summer planning reserve margins. This means that even though utilities in the northern MISO region are summer peaking, the additional winter reserves that utilities must carry mean the summer and winter peaks including reserves are nearly equal.

While Manitoba Hydro expects to earn $1.2 billion of export revenue during the 2023/24 test year, the utility expects this to decrease to $964 million in 2024/25 and $780 million the following year.

8.2 Evidence of the Independent Expert Consultant

Daymark, the independent expert consultant appointed for this hearing, reviewed Manitoba Hydro's export revenue projections and concluded that the utility's forecast is reasonable and reflects a sound analysis of future system inflows, energy generation, export prices, and contract revenues. However, Daymark concludes that the forecast is conservative and recommends that Manitoba Hydro should actively monitor export markets for opportunities to achieve premiums for its energy and capacity sales. According to Daymark, the low and high price scenarios in the forecasts reflect a reasonable range of future market conditions, even though the low and high price scenarios were not developed from market fundamentals by modifying key pricing drivers that would plausibly lead to a lower or higher price forecast.

In Daymark's view, given the current uncertainty in the MISO market with respect to the value of capacity sales, it is reasonable for Manitoba Hydro to assume no new contracted sales of surplus export capacity. However, Daymark notes that there is a significant need for clean firm energy in the future, which may result in an eventual increase in the market value of Manitoba Hydro's products.

8.3 Position of the Parties

8.3.1 Manitoba Hydro

Manitoba Hydro submits that Daymark examined Manitoba Hydro's export forecasts as part of its mandate as an independent expert consultant and found that the utility's forecasts are reasonable, appropriate, and conservative. Manitoba Hydro notes that the trajectory of the long-term price forecast is now declining and that the MISO market is in rapid transition. It cites the buildout of solar generation in the MISO market, the anticipated electrification of heating, as well as increased winter planning reserve margins in MISO, all of which reduce the potential for Manitoba Hydro to find counterparties willing to enter into seasonal diversity agreements or summer capacity sales. With respect to dependable energy sale contracts, Manitoba Hydro submits that the decline in the number of those contracts is driven primarily by increased energy needs in Manitoba, particularly the winter peak demand which may require new capacity resources as soon as 2031. The utility emphasizes that in the past, large hydroelectric developments resulted in prolonged periods of surplus energy, but that future demand and supply will remain in close balance, without long periods of material surpluses.

Manitoba Hydro disagrees with Daymark's suggestion that there may be a prospect for an increased market value for clean firm energy. The utility argues that it would have to compete with heavily subsidized MISO-based renewable resources and that any premium for Manitoba Hydro's product would be speculative.

With respect to the potential for future summer capacity sales, Manitoba Hydro states that the most recent clearing price at the MISO capacity auction was very low at $900/MW for

a 90-day summer season, and that at this price a 100MW sale of surplus summer capacity would yield only $90,000 in revenue.

Lastly, Manitoba Hydro submits that if investments in business operations capital are reduced and assets are allowed to degrade further, it will have a negative effect on export revenues as generation and transmission assets will frequently be out of service.

8.3.2 Interveners

Assembly of Manitoba Chiefs

The Assembly of Manitoba Chiefs submits that Manitoba Hydro's export revenue forecast has independently been assessed as conservative, and that there is an element of double-counting if residual risk is also incorporated in rate increases. In the view of this intervener, if export capabilities are undervalued or not fully considered in the application, the result is a higher rate burden for domestic customers, especially First Nations customers who heat with electricity.

The Assembly of Manitoba Chiefs notes that summer capacity sales are still possible and that Manitoba Hydro is not anticipating any revenue from new capacity sales contracts or capacity auctions in either the MISO market or Ontario, both of which have projected a need for summer capacity. The Assembly of Manitoba Chiefs acknowledges that the value of energy in the export markets is likely to be less in the future, but that Manitoba Hydro has provided no evidence on the value of capacity. The Assembly of Manitoba Chiefs submits that Manitoba Hydro's effective load-carrying capacity will improve relative to the MISO market, which will result in higher capacity revenues. It also argues that Manitoba Hydro can target sales in the hours when thermal units are setting the price and market signals are highest for opportunity sales. In the view of this intervener, the export potential is not nearly as dire as Manitoba Hydro claims.

Consumers Coalition

The Consumers Coalition submits that Manitoba Hydro's export market scenario is reasonable but conservative for the test years. However, the Consumers Coalition cautions that Daymark's findings should be restricted to the test years, and that significant caution should be exercised in examining scenarios beyond the test years.

8.4 Board Findings

The Board finds that Manitoba Hydro has appropriately projected export revenues during the test years. However, the Board has difficulty reconciling the global trend toward decarbonization and electrification and the increasing demand for non-intermittent, firm, carbon-free generation resources with Manitoba Hydro's forecasts of reduced energy prices and the assumption of no new capacity sales from Manitoba Hydro's summer capacity surpluses. The Board accepts Daymark's evidence that Manitoba Hydro's conservative approach to forecasting is appropriate in light of the uncertainty in the MISO market. The Board therefore accepts Manitoba Hydro's forecast of export revenues for the test years. However, the Board finds that the forecast of export revenues over the whole 20-year forecast period is likely understated, which factored into the Board's decision to approve rate increases lower than those applied for by Manitoba Hydro.

Manitoba Hydro states that it does not intend to enter into any long-term contracts that would accelerate the need for new resources in Manitoba. The Board agrees with this approach. However, the Board encourages Manitoba Hydro to pursue summer capacity sales which will have the benefit of attracting additional revenues, reducing the burden on domestic ratepayers.

9.0 ASSET MANAGEMENT AND CAPITAL EXPENDITURES

9.1 Background

Manitoba Hydro maintains a large number and wide range of assets to generate, transmit, and distribute electricity to its customers. Manitoba Hydro's assets total $29 billion, with some operating assets being over 100 years old. To continue to serve both new and existing customers, Manitoba Hydro must continually make capital investments into its system. The utility distinguishes between major capital projects, also referred to as major new generation & transmission, and business operations capital. The utility aligns its definition of major capital with the definition of "major new facility" now found in *The Manitoba Hydro Act*, meaning a new generating station with a peak capacity of 200 MW or more or a new transmission line transmitting electricity at more than 230 kV, as long as the facility requires an investment of $200 million or more. All capital expenditures that are not major capital are considered business operations capital. The utility further divides business operations capital into three components: (1) sustainment, (2) capacity and growth, and (3) business operations support. Sustainment spending is intended to maintain or replace existing assets. Capacity and growth spending are intended to accommodate new customers or increase capacity to accommodate higher load requirements. Business operations support spending relates to investments made to support Manitoba Hydro's operations, such as maintaining the utility's fleet of motor vehicles.

Completion of the Major Capital Projects

All of Manitoba Hydro's major new generation and transmission capital projects that were subject to extensive review at the 2017/18 & 2018/19 General Rate Application are now in-service and contributing to Manitoba Hydro's annual revenue requirement. There were five such projects: (1) the Keeyask generating station; (2) the Bipole III high voltage direct current transmission line; (3) the Manitoba-Minnesota Transmission Project, which is a 500 kV alternating current line, (4) the 500 kV Great Northern Transmission Line; which connects with the Manitoba-Minnesota Transmission Project at the U.S. border; and (5)

the Birtle Transmission Project, which is a 230 kV alternating current line to the Manitoba-Saskatchewan border. Figure 9.1 shows the in-service dates and Manitoba Hydro's most recent budget status for these projects, as well as the revenue requirement impacts of each project during the 2023/24 and 2024/25 test years. Budgets for the Bipole III and GNTL projects are finalized. The remaining budgets are estimates, as some residual costs remain.

A more complete discussion of these projects is included in Order 59/18.

Project Name ($ in millions)	Final In-Service Date	2017/18 Control Budget	Project Cost at Completion	Budget Variance	2023/24 Revenue Requirement Impact	2024/25 Revenue Requirement Impact
Keeyask (695 MW)	Mar. 9, 2022	$8,728	$8,160	–$568	$471	$484
Bipole III (HVDC)	Jul. 4, 2018	$5,042	$4,597	–$445	$276	$298
MMTP (500 kV)	Jun. 1, 2020	$453	$471	$18	$27	$28
GNTL (500 kV)*	Jun. 1, 2020	$860	$659	–$201	$62	$61
Birtle TP (230 kV)	Mar. 29, 2021	$57	$41	–$16	$3	$3

*Budget costs for GNTL in U.S. dollars, revenue requirement impact in CAD

Figure 9.1 — Status of Manitoba Hydro's Major Capital Projects

Manitoba Hydro's Capital Expenditure Plan

In this Application, Manitoba Hydro's capital expenditure plan forecasts $18.2 billion in projected capital spending over 20 years. The residual spending on Keeyask and the Manitoba-Minnesota Transmission Project is projected to be limited to approximately $267 million. However, Manitoba Hydro includes a placeholder budget of $1.4 billion for projected new capacity resources during the 20-year forecast period, none of which are currently under development. Based on its existing supply and demand scenario, the utility assumed that the new capacity resources would have to start entering service by 2038/39 and based its placeholder amounts on the estimated cost of a simple cycle natural gas-fired turbine, which is currently the lowest cost option for additional capacity resource.

Most of Manitoba Hydro's planned capital expenditures over the next 20 years are for business operations capital, as illustrated in Figure 9.2.

Project Category ($ in millions)	2022/23 Forecast	2023/24 Preliminary Budget	2024/25 Preliminary Budget	2022/23 to 2031/32 10-Year Total	2022/23 to 2041/42 20-Year Total
Major Capital					
Capacity & Growth	$132	$69	$41	$267	$1,634
Business Operations Capital					
Sustainment	$286	$313	$354	$4,305	$10,476
Capacity & Growth	$122	$140	$117	$1,551	$3,939
Business Operations Support	$87	$85	$88	$952	$2,115
Total Business Operations Capital	**$495**	**$538**	**$559**	**$6,808**	**$16,530**
Total Capital	**$627**	**$607**	**$601**	**$7,076**	**$18,164**

Figure 9.2 — Manitoba Hydro's Planned Electric Capital Expenditures

Manitoba Hydro's significant planned business operations capital expenditures include the following:

- the Pointe du Bois Renewable Energy Project, which involves the replacement and uprate of eight new hydroelectric generation units at the Pointe du Bois generating station, at a projected cost of $308 million, net of an applied-for federal grant;
- the Portage Area Capacity Enhancement project, which involves the construction of new transmission and distribution assets in southwest Manitoba to increase reliability and load growth in the area. The projected cost of this project is $85 million, net of an applied-for federal grant;
- two new 230 kV transmission line projects in southern Manitoba;
- refurbishments of the Bipole I and Bipole II high voltage direct current assets;
- the overhaul and up-rating of generating units at the Long Spruce and Kettle generating stations;
- the installation of advanced metering infrastructure, also known as smart meters; and

- grid modernization investments.

As set out in Figure 9.2, the majority of Manitoba Hydro's projected business operations capital expenditures are for the sustainment of existing assets. The utility justifies this based on a gradual decline in the performance metrics of its system. Specifically, Manitoba Hydro submits that its electrical infrastructure assets are aging and that their condition is degrading with increased failures and outages. According to Manitoba Hydro, this is leading to increasing trends in its system average interruption frequency index (SAIFI) and system average interruption duration index (SAIDI) at both the transmission and distribution levels.

Manitoba Hydro states that the recent decline in performance comes as a result of component failures and increases in repair duration. For example, the performance of Manitoba Hydro's alternating current transmission system is declining because of increased failures due to faulty equipment, some of them age-related. With respect to the utility's high voltage direct current system, which transports power from the northern generating stations to southern load centres, the utility notes that the Bipole II thyristor valves are past their expected lifespan, are in poor condition, and should be replaced.

Manitoba Hydro's goal is to maintain its historical level of system performance, as this is the level of performance that its customers have come to expect. Accordingly, Manitoba Hydro established the following performance targets to guide its capital spending over the 20-year forecast period:

- Hydroelectric generator availability of 91.9% to 93.9%;
- System average interruption duration index (SAIDI) of less than 148 minutes per year; and
- System average interruption frequency index (SAIFI) of less than 1.59 interruptions per customer annually.

In 2019, the utility conducted a customer perception value survey that concluded that customer preference is in favour of spending what is necessary to reduce the number

and length of outages. A 2022 reputation study further concluded that respondents considered Manitoba Hydro's reliability of products and services to be the most important attribute.

In light of the system performance decline identified by Manitoba Hydro, the utility sees the need to gradually increase business operations capital funding to provide an additional $200 million per year in annual spending by 2032 on top of the current $500 million to $600 million annually. This increase has been incorporated into Manitoba Hydro's capital expenditure plan shown in Figure 9.2 above. To determine the required level of increased spending, Manitoba Hydro relied primarily on asset age demographics, taking actual system conditions into account where such information is available.

Since 2016, Manitoba Hydro uses a corporate value framework (CVF) to plan and optimize investments using the Copperleaf asset investment planning software. Under the CVF approach, potential capital projects are scored by value of the risk that is being mitigated for each $1,000 spent, which in turn helps Manitoba Hydro compare various project opportunities. Capital projects with higher CVF scores result in greater risk mitigation for every dollar spent. Manitoba Hydro's CVF framework consists of five categories (financial, environmental, reliability, corporate citizenship, and safety & security), as well as 26 more granular value measures, which can have positive or negative values. The utility's overall capital budget is approved annually on a spending envelope basis and the utility aims to optimize the capital spending approved within that envelope.

Asset Management Methodology

During Manitoba Hydro's 2017/18 & 2018/19 General Rate Application, the Board reviewed Manitoba Hydro's approach to asset management, including a third-party report the utility commissioned from UMS Group that provided recommendations for improvement. In Order 59/18, the Board found that Manitoba Hydro had taken initial steps towards developing asset management processes and commended the utility for having done so, but directed Manitoba Hydro to retain an independent consultant to assess its

progress in implementing the UMS recommendations and the development of Manitoba Hydro's corporate value framework. Manitoba Hydro applied to review and vary the directive, but the Board upheld it in Order 90/18 and required the utility to file terms of reference for the consultant by August 31, 2019.

Manitoba Hydro subsequently filed with the Board its terms of reference for the external asset management consultant on August 28, 2018 and ultimately retained Asset Management Company Ltd. (AMCL) to conduct this asset management maturity assessment in 2022.

Manitoba Hydro filed AMCL's assessment report and rebuttal evidence in this proceeding. Overall, AMCL concludes that Manitoba Hydro has made improvements since the 2016 UMS review. On an asset management maturity scale of zero to five developed by the Institute of Asset Management, AMCL concludes that Manitoba Hydro has improved from a maturity score of 1.5 at the 2016 UMS review to a score of 1.81. The lowest-scoring or least mature aspects of Manitoba Hydro's asset management process are asset information, risk & review, and asset management decision-making. Further, AMCL found that while Manitoba Hydro's corporate value framework is in place and used for capital decision-making throughout the organization, there is an inconsistency between projects and programs in how the framework is applied in both transmission and distribution.

With the current application, Manitoba Hydro filed its 2019 Strategic Asset Management Plan. This plan describes Manitoba Hydro's path to maturing its asset management processes and its approach to asset management, as well as defines the asset management objectives. Manitoba Hydro is in the process of updating this Plan. The Strategic Asset Management Plan will contribute to the creation of the Asset Management Plan which is expected to be completed in late 2023. The Asset Management Plan specifies the activities, interventions, resources, and timescales required to ensure the short-term operability and long-term sustainability of the energy delivery and support systems.

In reviewing Manitoba Hydro's 2019 Strategic Assessment Management Plan, AMCL found that the utility's asset management objectives generally encompass the UMS recommendations and that, together with the recent corporate restructuring, they embed a culture of continuous improvement. AMCL also submits that Manitoba Hydro's overall maturity score is expected to improve from 1.81 to 2.45 if the utility completes its currently planned Strategic Asset Management Plan objectives. AMCL further points out that most organizations begin at level 1 and take many years to achieve level 3, with only a handful of organizations around the world scoring significantly above 3 and 70% of electricity sector organizations scoring below 2.75. In AMCL's experience, it takes a typical enterprise two to three years to move from level 1.5 to level 2, and between four and five years to move from level 1.5 to level 3. For larger organizations such as Manitoba Hydro, AMCL submits that this progression may take longer.

In regards to the 28 areas of improvement previously identified by UMS, AMCL concludes that Manitoba Hydro has made good progress toward implementing changes, with eight of those recommendations being completed and the others remaining in progress. However, AMCL finds that there are some opportunities for improvement in areas such as defining information requirements to support long-term decision-making and resilience management. Additionally, AMCL states that improvements in Manitoba Hydro's processes regarding asset information, risk & review, and asset management decision-making are interdependent and must evolve in parallel to achieve the expected asset management system maturity score.

9.2 Position of the Parties

9.2.1 Manitoba Hydro

In Manitoba Hydro's submission, the gradual increase in business operations capital spending to an additional $200 million per year is justified based on the need to invest in aging assets that are declining in performance. It relies on evidence that the availability of its generation and high voltage direct current assets is declining, the performance of its alternating current transmission assets is declining, and the frequency and duration of customer outages are increasing. In particular, the utility points to an increase in its system average interruption duration index (SAIDI) and system average interruption frequency index (SAIFI). Manitoba Hydro notes that while it is committed to maturing its asset management system and increasing the accuracy of its long-term planning, the decreased system performance supports an increase in the level of capital investments. This is because Manitoba Hydro's projections show that many of its asset populations will require significant increases in their rates of intervention, and that 16 of its asset types will require increases in the intervention rate of more than 25%. Manitoba Hydro emphasizes that it can currently only complete approximately 75% of planned maintenance tasks, which is forcing the utility to become more reactive in its response to equipment failures and outages.

Manitoba Hydro argues that while deferring work may result in short-term savings, doing so would risk the sustainability of Manitoba's electrical infrastructure. The utility points to its corporate value framework and recommends against deferring asset investments beyond the most economical point for completing the work. Moreover, Manitoba Hydro maintains that deferring asset intervention on an already degrading system will result in poor performance and lack of resiliency under extreme weather events for many years after the time of investment. Manitoba Hydro states that it has demonstrated a strong commitment to advancing its asset management maturity and is currently implementing the recommendations of the 2022 AMCL maturity assessment. It further points to the utility's formal asset management policy and its first strategic asset management plan. Additionally, the utility acknowledges that the recent reorganization of the previous asset

management functions into one business unit initially slowed progress towards maturity but states that this change has laid the foundation for significant future progress as confirmed by AMCL. In Manitoba Hydro's view, its existing plan to increase the level of capital investment is economic, responsible, and necessary.

Manitoba Hydro considers the evidence of Midgard Consulting Incorporated (described in section 9.3.2) to be flawed and disagrees with Midgard's recommendation to reduce business operations capital spending by 10%. In particular, Manitoba Hydro argues that the level of asset management maturity, and an inability to precisely quantify and map the impact of its investments, should not be used as a reason to question those investments. The utility states that it performs significant analysis and gives consideration to the allocation of financial targets between the generation, transmission, and distribution portfolios, and that within those portfolios, investments are optimized and valued using the same corporate value framework. Manitoba Hydro also states that it uses a whole-life cost model to determine when asset replacement is the most economical since it allows value-based decisions for investment and asset renewal strategies through the entire lifecycle of the asset.

In Manitoba Hydro's view, Midgard focuses on the wrong performance metrics. In particular, Manitoba Hydro submits that Midgard relied on distribution metrics to conclude that generation assets should be allowed to degrade further. Manitoba Hydro states that generation outages have revenue impacts, and the fact that the outage of a single generating unit does not normally result in the utility becoming unable to serve Manitoba load does not mean there would be no financial loss, such as reduced export revenue. Manitoba Hydro argues that it must maintain an adequate capacity reserve, and that a sustained increase in the forced outage rate would result in an increase in the required capacity margin, which would come at a significant cost to Manitoba customers. The utility also emphasizes that its Nelson River generating stations rely on the Bipole network of high voltage direct current transmission lines, and that a failure of two of the three lines at the same time would likely result in a complete loss of export revenue. Manitoba Hydro

further states that its system is not overbuilt as there is little surplus winter capacity available in Manitoba until 2030/31.

Manitoba Hydro also strongly disagrees with the Consumers Coalition that no weight should be given to AMCL's rebuttal evidence. In Manitoba Hydro's view, AMCL is an independent, impartial, and unbiased expert witness on Asset Management matters. Specifically, AMCL was critical of aspects of Manitoba Hydro's asset management and offered informed and limited observations on a flawed report authored by Midgard.

9.3 Intervener Positions

9.3.1 Assembly of Manitoba Chiefs

The Assembly of Manitoba Chiefs submits that wherever possible, Manitoba Hydro should be actively looking to improve its systems to reduce costs. While the Assembly of Manitoba Chiefs does not take a position on an appropriate amount of business operations capital spending, it cites the evidence of Midgard that spending should be reduced by at least 10%. It also expresses concerns about the potential for cost overruns with respect to capital projects.

9.3.2 Consumers Coalition

The Consumers Coalition states that Manitoba Hydro has not demonstrated that its increased spending on business operations capital is strategically focused on the areas that would yield the greatest improvements in performance. Further, Manitoba Hydro has failed to demonstrate a commitment to optimize its asset management decision-making processes on a timely or prudent basis. The Consumers Coalition further relies on the evidence of its expert witness Darren Rainkie that there has been an increase of $800 million in projected capital spending over the next 20 years compared to the last general rate application and that $480 million of this increase relates to placeholders, meaning estimates for investments that have not yet been defined. In Mr. Rainkie's view, sustainment spending is not the driver of this increase, as during the first decade of the forecast, sustainment spending is less than it was in Manitoba Hydro's 2016 capital expenditure forecast used in the 2017/18 & 2018/19 General Rate Application.

In the view of the Consumers Coalition, while Manitoba Hydro has a strong record of delivering reliable service compared to other Canadian utilities, its business operations capital expenditures are not prudently and reasonably optimized, prioritized, or paced. Further, this intervener submits that Manitoba Hydro has not demonstrated that its increased business operations capital spending is focused on areas that would yield the greatest performance improvements. Rather, the Consumers Coalition, citing agreement with the views of AMCL, maintains that Manitoba Hydro continues to prioritize individual asset performance over system performance. Because not all assets are equal in their criticality to the system, Manitoba Hydro should be linking asset failure to service failure thereby taking a more systems-oriented approach.

The Consumers Coalition places significant emphasis on the evidence of Midgard, its expert consultant on asset management. Midgard found that Manitoba Hydro's reliability is significantly better than that of its peers, and that the system is tightly integrated at a level that allows a provincial system to perform like a well-interconnected urban system. Midgard pointed out that large rural or province-wide utilities often suffer from lower performance metrics compared to urban-only distribution utilities. According to Midgard, well-interconnected systems are inherently more reliable than systems with extensive radial lines because of the redundancy provided by the interconnections.

Midgard also expressed concern about Manitoba Hydro expanding its system in southwestern Manitoba based on the needs of industrial consumers for whom a targeted solution could suffice. In Midgard's view, Manitoba Hydro is employing a strategy of over-investing in capital assets to serve export markets. Midgard suggests that Manitoba Hydro's generation system has sufficient surplus resources to allow some of the system to degrade further before intervention is warranted.

In Midgard's view, Manitoba Hydro demonstrates a lack of appreciation for the time value of money from a customer's perspective. Midgard testified that Manitoba Hydro does not consider there to be any benefit to deferring capital projects as the projects will eventually

need to be undertaken. Midgard sees a cumulative benefit from deferring multiple low-urgency projects, which means that ratepayers can benefit from lower rates today.

Midgard opined that Manitoba Hydro does not have a mature enough asset management process to determine the level of investment needed to achieve certain reliability outcomes or to prioritize across its functional groups. Instead, Manitoba Hydro initially identifies a number of desired projects. The utility then decides on a lower budget spending envelope than the sum of the desired projects and balances and reduces the projected spending accordingly.

The Consumers Coalition is concerned about gaps in Manitoba Hydro's asset condition data and points out that the utility's resource management maturity rating and information management rating remain low. This intervener is critical of there being no threshold in Manitoba Hydro's corporate value framework used to assess capital spending, as the capital expenditure plan does not exclude any projects based on the corporate value framework score. The Consumers Coalition is also critical of the utility's failure to quantify the benefit of current cost savings to consumers by delaying investments and evaluating alternate spending scenarios.

The Consumers Coalition argues that Manitoba Hydro has undoubtedly invested significant efforts in attempting to showcase a strong commitment to advancing its asset management maturity. However, this position is contradicted by the relatively slow progress it has made in actually advancing its asset management maturity scores.

The Consumers Coalition highlights the results of customer surveys undertaken by Manitoba Hydro, which show that customers are very satisfied with the reliability of their electric service. However, these customer surveys found lower satisfaction with the rates paid for electric service.

The Consumers Coalition notes that Manitoba Hydro argues that its business operations capital spending is necessarily higher than was projected at the 2017/18 & 2018/19 General Rate Application due to the need for more spending on sustainment and capacity

and growth. However, Mr. Rainkie found that sustainment spending in the current capital expenditure plan is lower than at that prior general rate application.

The Consumers Coalition adopts Midgard's recommendation that a 10% reduction in business operations capital spending is justified. It states that Manitoba Hydro's reliability performance is currently superior compared to other Canadian utilities and that ratepayers value rates over other aspects such as reliability. It also adopts Midgard's view that the utility is not adequately optimizing its spending between capital investments and operational expenditures, nor adequately focusing on the system as a whole and considering which investments may be deferred. The Consumers Coalition also asks the Board to require Manitoba Hydro to file business cases for its advanced metering infrastructure project and its grid modernization projects before the rate impacts of such investments are approved.

In regards to Manitoba Hydro filing AMCL's rebuttal evidence in this proceeding, the Consumers Coalition submits that AMCL's rebuttal is an explicit defense of Manitoba Hydro against the independent evidence of Midgard. As such, the AMCL rebuttal is indicative of an expert overstepping their proper bounds. The Consumers Coalition argues that the Board should give no weight to the rebuttal, consistent with the findings of Order 109/22.

9.3.3 Manitoba Industrial Power Users Group

While MIPUG does not take a position on Manitoba Hydro's level of business operations capital spending, it notes that Manitoba Hydro's application clearly illustrates a trend of declining performance for transmission and sub-transmission that, if left unchecked, will negatively affect industrial customers who receive service from the transmission or sub-transmission grid. MIPUG refers the Board to the public presentations of TC Energy and Chemtrade, who indicated that the system average interruption duration index (SAIDI) and system average interruption frequency index (SAIFI) metrics are inadequate in capturing the full impact of poor reliability as they do not include the frequency or impact of momentary outages which have a direct impact on industrial customers. MIPUG

submits that Midgard's assertion that the system is overbuilt does not recognize the degrading reliability of the system. MIPUG recommends that Manitoba Hydro improve its engagement tools to examine the impact of reliability events on customer operations and use this information to establish a metric for the cost of unserved energy, which could assist with prioritizing capital and operating investments.

9.4 Board Findings

The Board finds that Manitoba Hydro is making progress in maturing its approach to capital asset management. However, the progress toward asset management maturity has been slow to date. This is concerning, given the projected magnitude of Manitoba Hydro's capital expenditures over the next 20 years. With the utility currently spending over $500 million per year on business operations capital and planning to eventually increase this by an additional $200 million annually, it must have mature asset management processes in place to determine appropriate spending levels and prioritize individual projects in a manner that maximizes the value to ratepayers.

The Board directs Manitoba Hydro to file, with its next general rate application, an independent assessment of its progress towards maturing its asset management approach. The assessment is to be prepared by AMCL or another external asset management consultant retained by the utility.

The Board notes that Manitoba Hydro is in the process of updating its Strategic Asset Management Plan and is developing its Asset Management Plan. The Board directs Manitoba Hydro to file the updated Strategic Asset Management Plan and the new Asset Management Plan with its next general rate application.

The Board has long recognized that there is a need for Manitoba Hydro to respond to aging infrastructure and that a need to increase sustainment spending may be appropriate. However, as the Board indicated in Order 73/15, top-down caps or placeholders are insufficient to justify increased spending in the future. While Manitoba Hydro's corporate value framework enables the utility to prioritize expenditures within the

pre-approved spending envelopes, a mature asset management program is required to establish the appropriate size of those envelopes.

The Board understands that currently, Manitoba Hydro uses a combination of top-down and bottom-up approaches to establishing the annual business operations capital budget. As explained by Midgard, Manitoba Hydro identifies a list of projects that it wants to implement (i.e., a bottom-up approach) but then applies a target adjustment amount to reduce the bottom-up budget, which is effectively a top-down approach. The Board understands that the target adjustment is established by senior management while considering the utility's long-standing objective of using cash from operations to fund business operations capital. Under this approach, total spending is determined less by reliability criteria and more by what the utility can afford.

A downside of combining the bottom-up and top-down approach in the Board's view is that it has resulted in a consistent overestimating of business operations capital spending. This is illustrated in Figure 9.3 below, which compares Manitoba Hydro's estimates to actual spending in each test year going back to 2014/15. The chart shows that, on a five-year rolling average basis, Manitoba Hydro has been overestimating its business operations capital spending by $33 million annually as of 2021/22.

($ millions)	2015	2016	2017	2018	2019	2020	2021	2022
Forecast Used at GRA	$571[1]	$577[1]	$610[2]	$575[3]	$563[3]	$511[4]	$488[5]	$523[6]
Actual	$524	$533	$530	$498	$466	$545	$482	$504
Variance	– $47	– $44	– $80	– $77	– $97	+ $35	– $6	– $19
5-Year Rolling Average:					– $69	– $53	– $45	– $33

Sources: 1 – CEF14; 2 – CEF 15, 3 – CEF16; 4 – CEF18; 5 – 2020/21 Budget; 6 – 2021/22 Budget

Figure 9.3 — Comparison of Forecast Business Operations Capital Spending to Actual Spending, Including 5-Year Rolling Average

Applied to the 2023/24 and 2024/25 business operations capital budgets presented by Manitoba Hydro ($538 million and $559 million, respectively), the five-year rolling average of $33 million suggests that Manitoba Hydro's estimates may be overstated by

approximately six percent. While this does not reduce Manitoba Hydro's revenue requirement on a proportionate basis as a result of the capital expenditures being amortized over an extended time period, it improves the utility's cash flow and its capital coverage ratio. Thus, while the Board does not consider any of the planned projects to be unreasonable on their own — and disagrees with the recommendation to apply a blanket reduction of 10% or any other amount based on current system reliability — the Board finds that the estimates for the test years are likely overstated and has considered this in finding that rate increases of less than 2.0% are appropriate in each of the test years.

The Board directs Manitoba Hydro to file, as part of its future general rate applications, a chart that compares the annual business operations capital forecasts filed by Manitoba Hydro at prior general rate applications against the actual amounts spent in the forecast years. The comparison is to include a five-year rolling average of that variance.

If another drought should arise during the test years, the Board expects Manitoba Hydro to take steps to control business operations capital expenditures. During the 2014 Needs-For-and-Alternatives-To (NFAT) review of Manitoba Hydro's preferred development plan, and as explained in Order 9/22, Manitoba Hydro committed to using cash conservation as one of several measures to manage a drought. With respect to business operations capital spending, the Board finds that Manitoba Hydro has significant discretion as to how such spending should be paced and prioritized. As such, it should be one of the key areas in which to exercise cost control during a drought.

While the issue of AMCL's rebuttal evidence was not argued by the Consumers Coalition in its final submissions, the Board has given no weight to the rebuttal. The Board's hearing timetable did not include any provision for expert witnesses to file rebuttal evidence, and the Board finds that AMCL's rebuttal statements could have been advanced by Manitoba Hydro on its own in the rebuttal as opposed to relying on the expert's rebuttal evidence.

The Board also notes that one of the rules for future general rate applications recently added to subsection 39(5) of *The Manitoba Hydro Act* states that:

3. The regulator may not reduce for rate-setting purposes the amount required to support the capital expenditure program approved by Treasury Board for the rate period.

This rule does not affect the 2023/24 and 2024/25 test years, and the directives described above apply to both of those test years. None of the parties made submissions on the Board's jurisdiction under this provision in future general rate applications, and the Board expects this issue to be raised at the next general rate application.

10.0 OPERATING & ADMINISTRATIVE EXPENSES

10.1 Background

Operating and administrative ("O&A") expenses are Manitoba Hydro's second-highest expense category during the test years. These expenses primarily consist of labour and benefits, materials, contracted services, and overhead costs associated with operating and maintaining Manitoba Hydro's facilities and providing customer services. Approximately 70% of O&A expenses consist of labour costs, meaning salaries and related benefits. Another significant component of O&A expenses is consulting costs.

Generally, for accounting purposes, O&A expenses are considered period costs that must be expensed in the year in which those costs are incurred. However, a portion of Manitoba Hydro's labour costs is capitalized and accrues to the overall capital cost of projects, to be recovered through depreciation once a project is operational.

On a year-over-year basis, Manitoba Hydro expects O&A expenses to grow by 11.5% from 2022/23 to 2023/24, from $589 million to $657 million. The utility expects further growth of 4.6% from 2023/34 to 2024/25. The primary contributors to increased O&A expenses are an increase in Manitoba Hydro's staffing level, salary increases, and expenses related to Manitoba Hydro's planned transition to a cloud computing arrangement. A breakdown of the utility proposed O&A expense increases is set out in Figure 10.1 below.

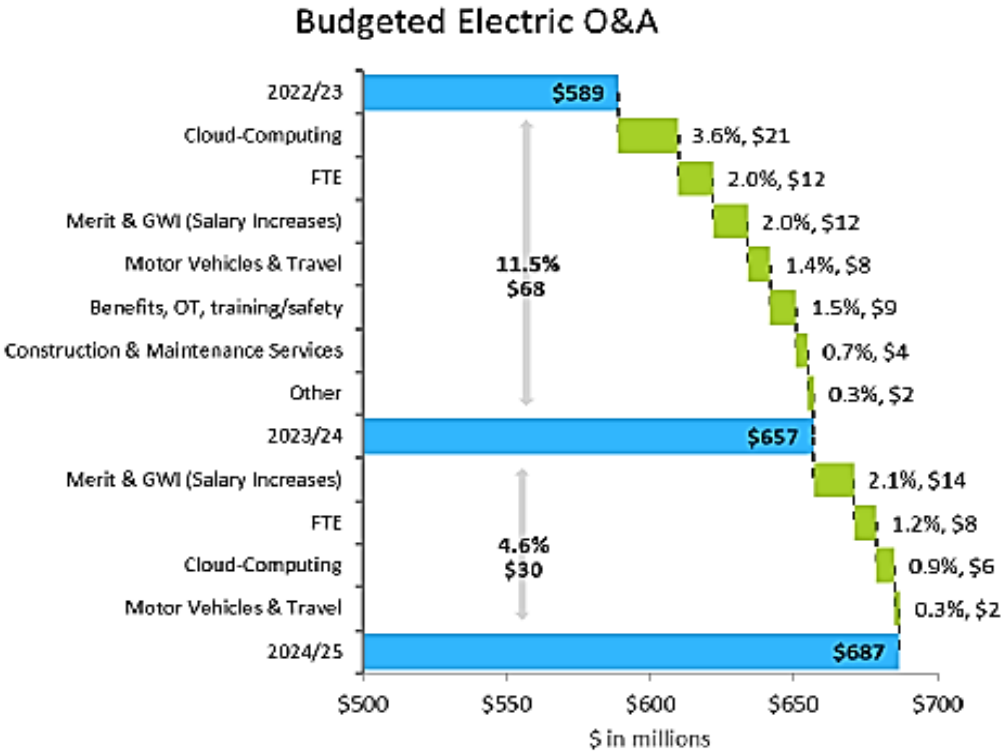

Figure 10.1 — Manitoba Hydro's Planned O&A Expense Increases

10.1.1 Employee Levels & Associated Costs

Manitoba Hydro hires permanent term and seasonal staff. For planning purposes, it uses the concept of full-time equivalents or FTEs. An FTE represents a full-time employee. Because not all employees work full-time, the number of FTEs is not equal to the number of positions, as it includes regular, seasonal, hourly, and part-time staff.

During the 2017/18 fiscal year, Manitoba Hydro initiated a voluntary departure program to reduce its workforce by 15%. During the COVID-19 pandemic, the government asked Manitoba Hydro to provide cost savings, as a result of which the utility froze all hiring. At the end of the voluntary departure program during the 2018/19 fiscal year, Manitoba Hydro's FTE count was 5,475. By the end of the 2024/25 fiscal year, Manitoba Hydro plans to have an FTE count of 5,408, which is slightly below the 2018/19 level, as shown in Figure 10.2. In terms of year-to-year increases in FTE, Manitoba Hydro projects to

increase FTEs by 2.4% in 2023/24 and 2.1% in 2024/25. These numbers include employees working for Manitoba Hydro's gas subsidiary, Centra Gas Manitoba Inc.

With the completion of Manitoba Hydro's major new generation and transmission projects, there has been a reduction in the number of FTEs that are capitalized. During the 2017/18 fiscal year, the utility capitalized 2,168 FTEs, representing approximately one third of its staff complement at the time. In 2023/24, the utility expects to capitalize only 1,487 FTEs. This drop is almost entirely the result of the completion of Manitoba Hydro's major new generation and transmission projects, as the number of FTEs assigned to business operations capital during that timeframe actually increased by 144, from 1,262 to 1,406.

General wage increases, such as those resulting from recent collective agreement negotiations or mediation, have exceeded the 1% escalation expectations from prior general rate applications. For example, wage increases for 2023/23 are projected to be 2%, while for 2023/24, they are projected at 2.1%.

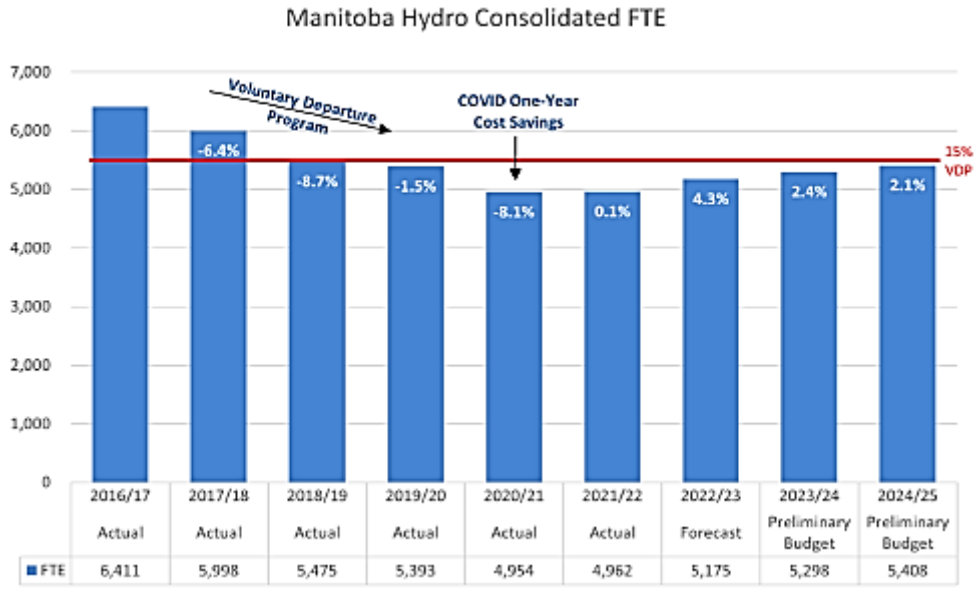

Figure 10.2 — Manitoba Hydro's FTEs Over Time

10.1.2 Consulting Fees

As part of its O&A expenditures during the test years, Manitoba Hydro expects to more than double its annual consulting and professional fee expenditures. The projected increase is illustrated in Figure 10.3.

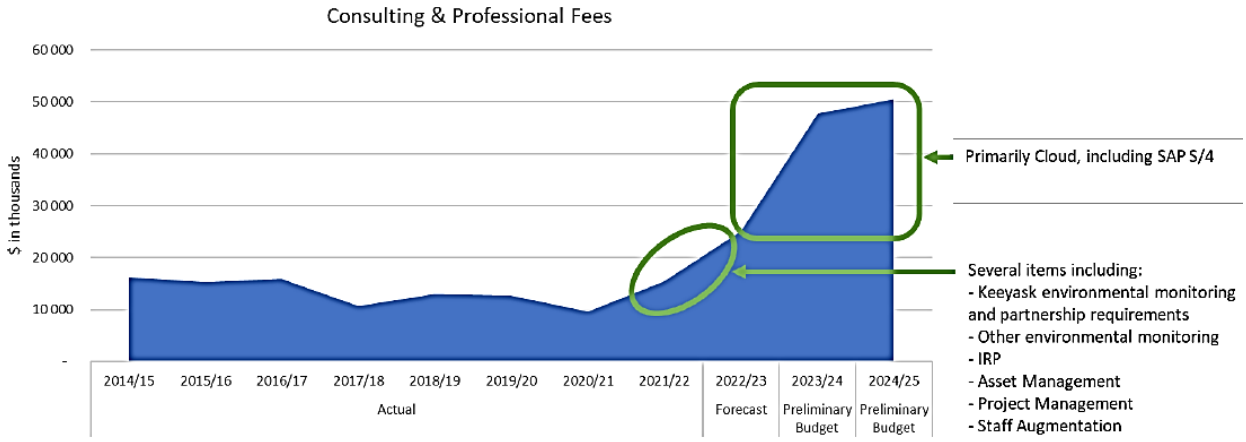

Figure 10.3 — Manitoba Hydro's Projected Consulting and Professional Fees

The increases from 2021/22 to 2022/23 are primarily the result of residual project management costs related to the Keeyask Generating Station project, the development of Manitoba Hydro's first integrated resource plan, and external services related to the development of an asset management plan. In contrast, increases during the 2023/24 and 2024/25 test years are related primarily to Manitoba Hydro's planned shift to cloud computing arrangements, including a replacement of the utility's legacy enterprise resource planning system with the SAP S/4HANA cloud computing solution. The utility indicates that as of 2027, its legacy software will no longer be supported by SAP. The utility is currently in Phase 0 of the replacement project and has retained EY, an international consulting firm, to evaluate the business case for the software replacement. At this time, Manitoba Hydro has not determined that the replacement will proceed, and one of the potential alternatives is to retain third-party support to continue to maintain the existing system.

Historically, Manitoba Hydro's expenditures on computer systems were capitalized. This means the costs did not form part of the utility's revenue requirement immediately. Rather, once the systems came into operation, the costs were recovered through depreciation and amortization. Following International Financial Reporting Standards compliance guidelines prepared through consultation with Deloitte, an accounting firm, Manitoba Hydro began accounting for costs related to cloud computing arrangements as an O&A expense starting in the 2021/22 fiscal year. This change further contributes to the projected increases in O&A expenditures.

To prepare a reasonable financial forecast, including the budgets provided for the test years, Manitoba Hydro has included O&A expenses that it reasonably anticipates spending in the future, including potential costs for the replacement of legacy software systems. For the SAP S/4HANA project, Manitoba Hydro projects spending $156 million over seven years, beginning in 2023/24 and ending in 2029/30. This includes projected expenditures of $12.5 million and $23 million in the 2023/24 and 2024/25 test years, respectively. Manitoba Hydro seeks the Board's approval to establish a regulatory deferral account for the SAP S/4HANA-related costs to defer the projected $156 million in costs and begin amortizing the balance over 10 years beginning in 2030/31. The impact of doing so is illustrated in Figure 10.4. Manitoba Hydro projects to defer $36 million in SAP S/4HANA costs in 2023/24 and 2024/25.

Impact to Net Income **Establishment and Amortization of SAP S/4HANA CCA** *(in Millions)*	**2022/23**	**2023/24**	**2024/25**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**2031/32**
Net Income before SAP S/4HANA CCA deferral	$ 751	$ 456	$ 272	$ 125	$ 142	$ 72	$ 67	$ 88	$ 121	$ 185
Deferral of SAP S/4HANA CCA	-	13	23	24	24	25	25	23	-	-
Amortization of SAP S/4HANA CCA									(16)	(16)
Net Income including deferral and amortization of SAP S/4HANA CCA	**$ 751**	**$ 469**	**$ 295**	**$ 149**	**$ 166**	**$ 97**	**$ 92**	**$ 111**	**$ 105**	**$ 169**

Figure 10.4 — Manitoba Hydro's Planned SAP S/4HANA Deferrals

In addition, Manitoba Hydro is also projecting spending $13 million in 2023/24 and $8.5 million annually beginning in 2024/25 for cloud computing arrangements related to the implementation of small software systems. These costs will be expensed as they are incurred and Manitoba Hydro is not seeking to defer them.

10.1.3 Benchmarking

In Order 150/08, the Board required Manitoba Hydro to file an independent benchmarking study on key performance metrics, including the primary drivers of O&A expense in each operational division, comparative data from other utilities, key comparison indicators, a discussion of best practices, and identification of potential improvement areas.

In this proceeding, Manitoba Hydro indicates that it has been unsuccessful in obtaining comparable data. The utility states that while it has reviewed financial reports from other Canadian electrical utilities, O&A drivers are not disclosed in those reports. Further, while O&A expenses are generally included, they may differ in terms of accounting standards and policies. Manitoba Hydro also canvassed chief financial officers at other Canadian utilities regarding benchmarking and determined that there are notable differences in business models and operating profiles that make benchmarking a challenge. Manitoba Hydro accordingly requests the directive to be set aside.

10.2 Position of the Parties

10.2.1 Manitoba Hydro

Manitoba Hydro states that the planned increase in O&A expense is required to ensure the utility can maintain its electric system, continue to provide reliable service, and meet the current and future needs of customers. The utility considers it unrealistic to be held to a 2% increase as proposed by the Consumer Coalition's experts, stating that 80% of Manitoba Hydro's workforce is unionized and projected general wage increases alone account for a 2% increase in O&A expense.

Manitoba Hydro submits that it has significantly reduced costs over the last several years to levels which are no longer sustainable over time. Specifically, the impacts of the COVID-19 pandemic, recent labour disruptions, and the continued supply chain challenges all contribute to increasing costs.

Manitoba Hydro further submits that it remains committed to effective management of its costs and has made concerted efforts to reduce O&A expenses. However, given the

current environment, there has been a shift from cost savings to continuous evaluation and process improvement to encourage the containment of costs. As a result, Manitoba Hydro maintains that the O&A budgeting process followed in the test years was derived using a combination of top-down and bottom-up approaches.

Full-Time Equivalent (FTE) Count

With respect to its FTE staff count, Manitoba Hydro submits that from 2016/17 to 2021/22 it experienced an almost 25% reduction in FTEs caused by both the voluntary departure program and cost savings initiatives during the COVID-19 pandemic. The utility points out that it intends to maintain the 15% workforce reduction caused by the voluntary departure program through the test years but needs to rebuild its workforce from the reduction experienced through the pandemic. It argues that the utility is completing only 75% of planned maintenance tasks, is falling behind on vegetation management, and is experiencing an increase in service connection times.

In Manitoba Hydro's view, the planned increases in FTE staffing levels in the test years are required to ensure that the utility can meet customers' evolving energy needs while continuing to meet its core mandate of providing safe and reliable power. Manitoba Hydro's current focus is on rebuilding the core workforce to sustainable levels, as well as adding necessary positions that have emerged through the business model review and from Strategy 2040 in areas such as Asset Management, Integrated Resource Planning, Work Management, Enterprise Risk, Enterprise Planning, and Change Management.

Manitoba Hydro also submits that as a result of recent cost control efforts (e.g. staff attrition, hiring freeze, or vacancy management), the utility is falling behind on preventative maintenance work and has a reduced ability to meet customer in-service dates. Moreover, Manitoba Hydro's customer satisfaction research shows indications of declining service and an inability to meet customers' expectations.

Manitoba Hydro disagrees with the proposal of the GSS/GSM Representative's expert Dustin Madsen to limit the increase in FTEs to 1% rather than the 2.4% proposed by

Manitoba Hydro. It states that the FTE increase is focused on rebuilding the utility's trades and professional trainee program and that, with a 1.0% limit, the utility would only be able to hire half of the trades trainees it was planning to hire.

Manitoba Hydro also disagrees with the assessment of the Consumers Coalition's experts that the projected growth in FTEs is primarily attributable to Strategy 2040 and an increase in governance & services FTEs. In the utility's view, it is inappropriate to compare FTEs by business unit between 2019/20 and today. The voluntary departure program was not a targeted program, which means that the utility's units were not left in an ideal state at the end of the program. In Manitoba Hydro's view, a better comparison is to 2016/17, before the voluntary departure program started. According to the utility, there has been a significant restructuring of its business units, and the planned FTE increase is predominantly focused on rebuilding the pool of trades trainees.

Manitoba Hydro further states that almost all of its O&A costs are subject to inflationary pressures. It cites a 60% fuel cost increase from 2019/20, increased motor vehicle costs, and costs in safety equipment and training as well as meals, mileage, and accommodation.

Consulting Costs

Manitoba Hydro submits that the increase in consulting costs is caused by several significant projects requiring consulting and professional services. It cites the development of the utility's integrated resource plan, the asset maturity assessment, the development of centres of expertise in project management and asset management, and staff augmentation for short-term or specialized needs which Manitoba Hydro could not meet through in-house labour.

The utility disagrees with the proposal of the GSS/GSM Representative's expert to limit the increase in consulting costs to 4% from 2021/22, after subtracting the costs related to Manitoba Hydro's cloud computing arrangement. This is because of significant cost increases that have occurred since 2021/22, such as the operational expenses

associated with environmental monitoring and partnership requirements associated with the Keeyask Generation Station. In its view, staff augmentation through contracts increases consulting expenses, and it is not feasible to reduce both labour costs and consulting costs simultaneously when there is a business need for the resources.

With respect to Manitoba Hydro's cloud computing integration expenses, the utility submits that the shift to cloud computing arrangements is in line with industry best practices. The utility states that its consulting fees for 2023/24 and 2024/25 include small cloud-based services as well as an estimate for the SAP S/4HANA project. Manitoba Hydro acknowledges that there is no business case for the SAP S4/HANA project, but states that it takes time to develop a business case and that there are stage gates built into the process. According to Manitoba Hydro, the utility made a reasonable assumption several years into the future, as it was directed by the Board to develop a 20-year forecast.

Budgeting

Manitoba Hydro argues that it has a rigorous top-down and bottom-up approach to O&A budgeting and reporting, with 400 resource cost centres considered. The utility does not see value in the suggestion of the GSS/GSM representative's expert to implement a formal zero-based budgeting process, stating that it already has a sophisticated budgeting process that includes a bottom-up detailed budgeting process based on the utility's reorganized structure.

10.2.2 Interveners

Assembly of Manitoba Chiefs

The Assembly of Manitoba Chiefs submits that Manitoba Hydro should be actively looking to improve its systems to reduce costs and cites the evidence of the Consumers Coalition's expert on O&A cost containment options that the utility could implement.

Consumers Coalition

The Consumers Coalition submits that Manitoba Hydro's O&A costs have grown imprudently in a manner that is inconsistent with prior Board recommendations. The Consumers Coalition states that external benchmarking conducted by Boston Consulting Group found the utility was not a top-quartile or second-quartile performer and that strong regulatory signaling from the Board is required for Manitoba Hydro to control its O&A spending. It relies on the evidence of its expert that from 2019/20 to 2024/25, overall O&A expense is increasing 34.2% and that this does not demonstrate a commitment to cost control.

The Consumers Coalition disagrees with Manitoba Hydro's assessment that the utility is honouring the intention of the voluntary departure program, stating that if FTEs related to major capital projects are removed from the calculation, the utility's 2022/23 FTE count is only 8.7% less than it was before the voluntary departure program started. It points to an increase of 97 FTEs in Manitoba Hydro's Governance & Services business unit and states that this increase is primarily due to Strategy 2040, which added additional layers of management. In the view of the Consumers Coalition, Manitoba Hydro is backsliding.

The Consumers Coalition is equally concerned about non-labour O&A costs. It relies on evidence by the GSS/GSM Representative's expert to show that digital and technology costs per FTE are increasing and that spending on computer services has increased by an average of 23.13% per year from 2012/13 to 2020/21. The Consumers Coalition notes that the SAP S/4HANA expenditures are very much a placeholder and that for rate-setting purposes, Manitoba Hydro is asking the utility to take into account half a billion dollars for SAP S/4HANA and advanced metering infrastructure, neither of which has a business case. In the view of the Consumers Coalition, the SAP transition is a major and potentially disruptive business transition and there is a concern that Manitoba Hydro has not considered a more pragmatic and incremental approach to information technology costs. The Consumers Coalition is not confident that Manitoba Hydro has reasonably and prudently considered alternatives and states that Manitoba Hydro cannot, at this time, have confidence that the benefits outweigh the costs related to this project.

GSS/GSM Representative

The GSS/GSM Representative submits that Manitoba Hydro's proposed O&A expense increases are not prudent. It relies on the evidence of its expert that several cost areas increased by more than inflation from 2022/23 to 2023/24, including employee-related expenses (7%), consulting and professional fees (91%), construction and maintenance services (12%), building and property costs (10%), equipment maintenance and rentals (13%), and computer services (49%). In the GSS/GSM Representative's submission, these increases are unsupported by adequate objective justification.

The GSS/GSM Representative adopts the recommendation of its expert Dustin Madsen that Manitoba Hydro should adopt zero-based budgeting, at least on a trial basis for one or more departments. It states that although the budgeting method employed by Manitoba Hydro is a management decision, the Board would be within its jurisdiction to direct the level of supporting evidence required beyond a threshold, e.g., requiring detailed business cases for FTE increases of $1 million or more or a variance of 10% or more.

The GSS/GSM Representative recommends limiting Manitoba Hydro's FTE increases to 1% in each test year. It is also concerned about the utility projecting FTE increases but offsetting them through an unreasonably high vacancy rate. In the view of this intervener, a high vacancy rate suggests inaccuracy or imprecision in the forecast. The GSS/GSM Representative adopts the position of its expert that wages and salaries during the test years should be reduced by $4.8 million in 2023/24 and $7.9 million in 2024/25, reflecting increases of 3.5% and 4.0%, respectively.

The GSS/GSM Representative considers Manitoba Hydro's proposed consulting costs to be excessive and recommends that the Board disallow at least $9.1 million in 2023/24 and $9.0 million in 2024/25. These amounts are based on the 2021/22 actual costs, escalated by 4% per year (excluding SAP and cloud-computing costs). In particular, this intervener suggests that costs related to the SAP S/4HANA project be disallowed because Manitoba Hydro has not adequately evaluated the project against other alternatives, including maintaining the existing legacy software. However, the GSS/GSM

Representative agrees that Phase 0 costs related to the evaluation of alternatives and development of a business plan are appropriate. It recommends that those costs be placed in a deferral account. The GSS/GSM Representative also expresses concern about the prospect of significant cost overruns for Manitoba Hydro's information technology transition.

10.3 Board Findings

The Board sees a continued need for Manitoba Hydro to prudently manage its O&A expenses. However, with respect to Manitoba Hydro's proposed staffing levels, the Board finds that the 2018/19 fiscal year, which followed the conclusion of the utility's voluntary departure program, is an appropriate baseline comparator. In the Board's view, assessing the proposed staffing level against the inflection point reached during the COVID-19 pandemic is not helpful. The Board accepts Manitoba Hydro's argument that there is a need for the utility to rebuild its trades trainee program.

The Board accepts that Manitoba Hydro's labour-related O&A expenditure increases are in large part caused by the combination of staffing level increases and projected general wage and merit increases over which the utility has limited control in light of its workforce being 80% unionized. Nonetheless, the Board finds that Manitoba Hydro's planned staffing level increase is ambitious and unlikely to be achieved in its entirety during the test years, both as a result of a tight labour market and as a result of likely operational challenges related to the rapid on-boarding of new staff members. The Board also shares the concern raised by the GSS/GSM Representative about a high vacancy allowance in Manitoba Hydro's forecast. The Board accordingly concludes that Manitoba Hydro's labour cost estimate for the test years is likely overstated. This has influenced the Board to conclude that rate increases of less than 2.0% are warranted in each of those years.

With respect to Manitoba Hydro's consulting cost estimate, the Board accepts that cloud computing arrangements must be recognized as O&A expenditures absent an approved regulatory deferral mechanism. The Board also accepts the utility's projected expenses

for small software systems as reasonable. However, in the Board's view, Manitoba Hydro's planned SAP S/4HANA expenses are speculative and not well supported.

The Board accepts Manitoba Hydro's evidence that the utility's existing SAP software will no longer be supported beyond 2027 and that the utility must investigate whether to replace the software or whether to continue to maintain it through third-party support or internal resources. The Board accordingly accepts the costs related to Phase 0 of the SAP S/4HANA project as reasonable but notes that those costs constitute only a portion of the projected $36 million projected to be incurred in 2022/23 and 2023/24.

The Board finds that it is appropriate for Manitoba Hydro to recognize the Phase 0 costs as an O&A expense and accordingly denies Manitoba Hydro's application to defer those costs. As set out in more detail in section 13.1.4, the Board also denies Manitoba Hydro's application to establish a deferral account for the remainder of the SAP S/4HANA costs at this time, but without prejudice to the utility to bring an application for approval of such an account once the business case for the project has been completed. If necessary, Manitoba Hydro may apply for approval of such an account by way of a separate proceeding before the next general rate application. The Board notes that large-scale software system replacements carry significant risk and that the proposed budget is, at this time, a mere placeholder. While the Board has considered the projected expenditures in concluding that a rate increase is warranted in each of the test years, the Board finds that those projected expenditures cannot be construed as a reliable estimate during the test years or thereafter.

With respect to Manitoba Hydro's overall increase in O&A expense, the Board accepts the submission of the Consumers Coalition that the planned increases are not in alignment with the Board's direction in Order 59/18. However, the Board notes that Order 59/18 preceded the current inflationary environment and does not account for the need to recognize cloud computing arrangements as O&A expense. As such, the Board is not prepared to expressly disallow a portion of the projected O&A expense for rate-setting purposes.

The Board is not persuaded that there is a need for Manitoba Hydro to adopt a formal zero-based budgeting approach, as suggested by the GSS/GSM's expert witness Dustin Madsen.

Regarding Benchmarking and the outstanding Directive 6 of Order 150/08, the Board finds that, while there are likely to be challenges encountered in conducting a benchmarking study, there is a benefit to benchmarking Manitoba Hydro's enterprise performance management and the development and refinement of its key performance indicators. In light of the experience of the Board, Manitoba Hydro, and stakeholders on the collaborative process used to resolve issues surrounding Manitoba Hydro's depreciation methodology, the Board believes there to be merit to a collaborative process on benchmarking. The Board accordingly directs Manitoba Hydro to organize and participate in a workshop on enterprise performance management and key performance indicators by October 31, 2024 and will appoint a facilitator for that purpose. For certainty, as set out in section 17.6.24, this directive supersedes Directive 6 of Order 150/08, and the earlier directive is set aside.

11.0 FINANCE EXPENSE & DEBT MANAGEMENT

11.1 Background

Finance expense is currently Manitoba Hydro's biggest expense category. Over the past decade, Manitoba Hydro's debt more than doubled as a result of the utility's investment in Major New Generation & Transmission (MG&T) projects, mainly the Keeyask Generating Station, the Bipole III transmission line, and the Manitoba-Minnesota Transmission Project. While on March 31, 2013, Manitoba Hydro's debt was approximately $10 billion, its debt as of March 21, 2023, following the completion of the major projects, is approximately $24.4 billion. Manitoba Hydro emphasized its debt level in this application. However, as visualized in Figure 11.1, the increase in debt corresponds to a similarly large increase in assets and, despite the increase in debt, Manitoba Hydro's retained earnings have been increasing rather than decreasing.

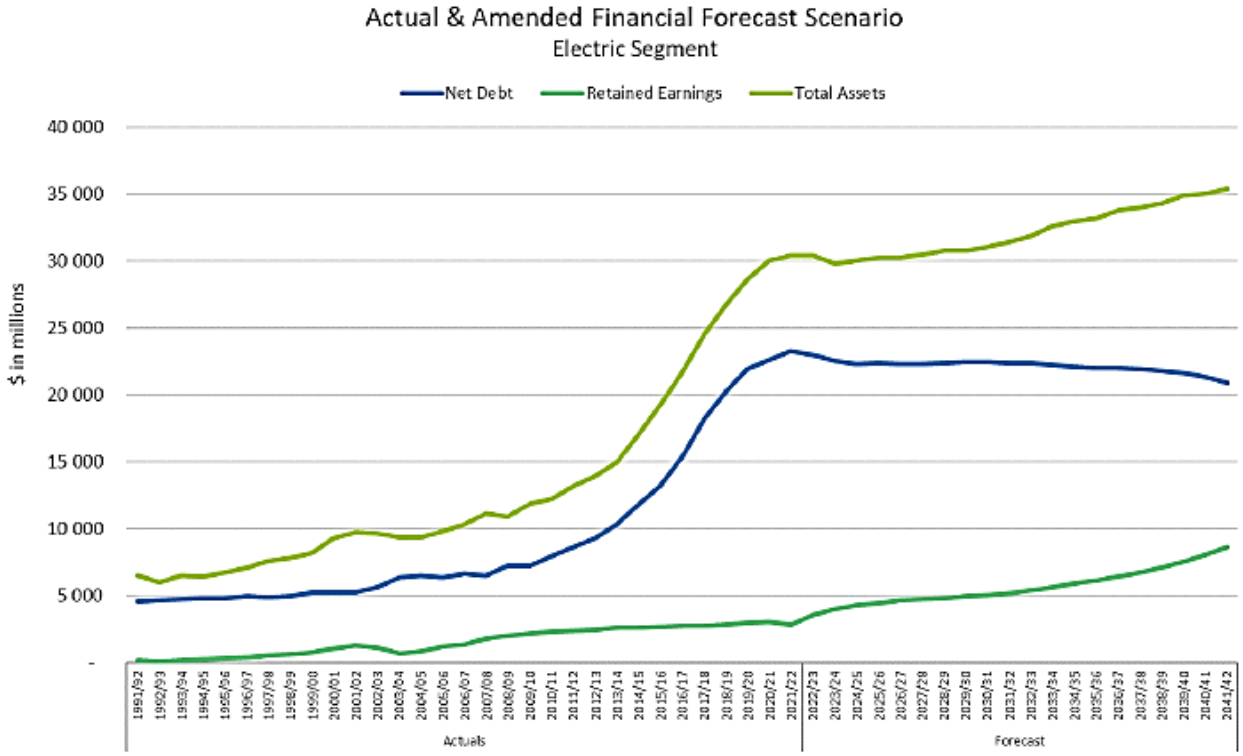

Figure 11.1 — Assets, Debt & Retained Earnings of Manitoba Hydro (Forecast Years Based on Manitoba Hydro's Application)

Fortuitously, Manitoba Hydro's "decade of investment" coincided with an unprecedented decrease in interest rates in the wake of the financial crisis of 2007/2008. As a result, Manitoba Hydro managed to lock in long-term debt at favourable interest rates. The weighted average term to maturity of Manitoba Hydro's debt is currently 19.5 years, with a historically low weighted average interest rate of 3.4%, excluding the provincial debt guarantee fee.

At this time, with the major new generation and transmission projects placed in service, Manitoba Hydro plans to begin to reduce the utility's overall debt, as illustrated in Figure 11.2.

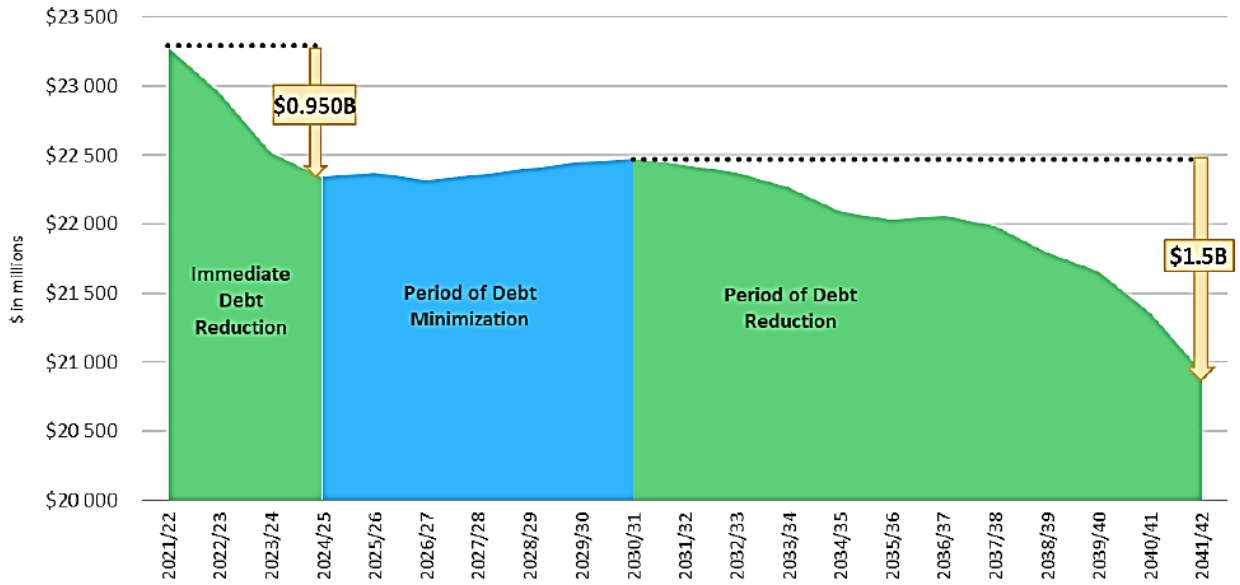

Figure 11.2 — Manitoba Hydro's Planned Debt Reduction

With Manitoba Hydro's assumption of a 2.0% rate path in all years (including the test years), the utility expects the reduced provincial debt guarantee and water rental fees effective April 1, 2022 to contribute towards a $950 million reduction in the net debt balance over the first three years of the forecast. Cash flow deficits over the planning horizon total approximately $190 million, which minimizes the amount of new incremental

borrowings and the growth of the net debt balance. Following the period of cash deficits (2027/28 to 2030/31), surplus cash flow is projected to begin again in 2031/32 and continue through 2041/42, with the exception of 2036/37. This surplus cash flow results in a further $1.5 billion reduction to the net debt balance by the end of the planning horizon.

Compared to the last general rate application, Manitoba Hydro no longer faces the financing risk associated with a need to materially increase overall borrowings to pay for major capital projects. Instead, the utility is transitioning from financing risk to refinancing risk. Over the next decade, Manitoba Hydro will have to refinance approximately $1.1 billion annually as existing debt instruments mature. The utility expects to select terms that match periods during which Manitoba Hydro currently has minimal or no debt maturing to even out the debt maturities over time. This is illustrated in Figure 11.3, in which the dark blue bars represent maturing debt and the green arrows represent planned maturity dates for refinanced debt.

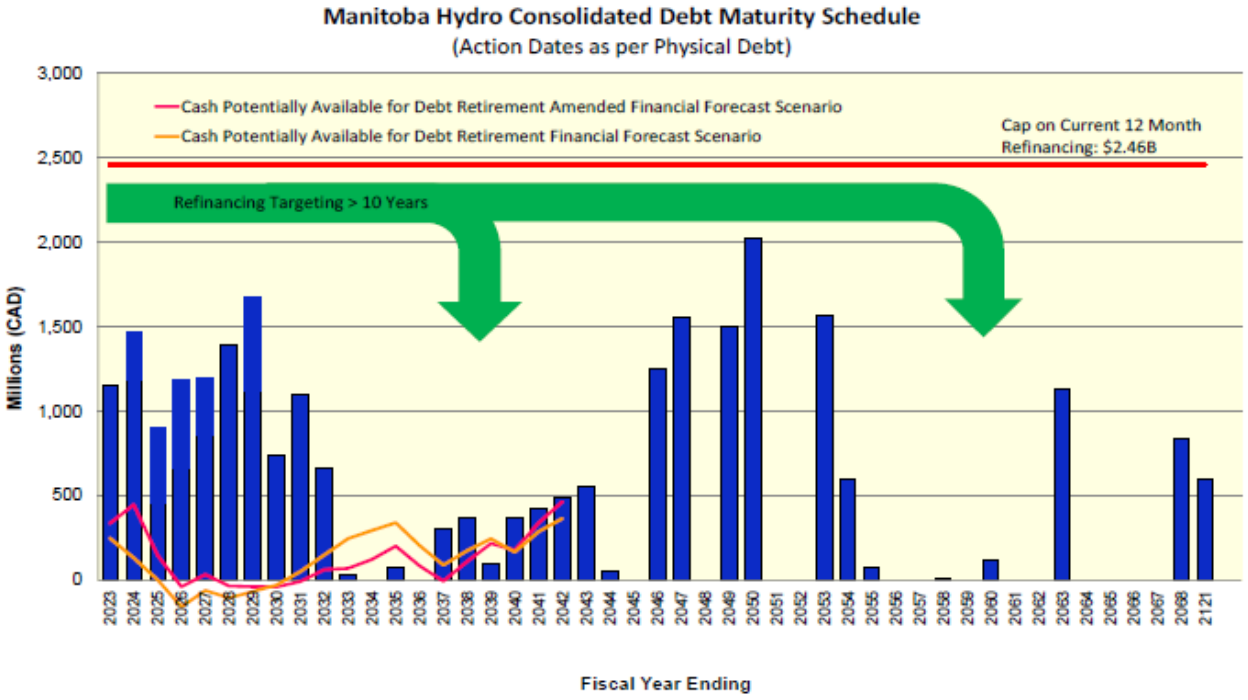

Figure 11.3 — Manitoba Hydro's Planned Debt Refinancing

The most recent consensus interest rate forecast relied on by Manitoba Hydro predicts an interest rate for long-term debt of 4.75% and short-term debt of 2.85%. Manitoba Hydro forecasts a refinancing rate approximately 100 basis points (1%) higher than the existing weighted interest rate on debt maturities, as illustrated in Figure 11.4. As a result, the utility expects an overall increase in finance expense in the near term, despite a reduction in Manitoba Hydro's overall debt load. This is illustrated in Figure 11.5.

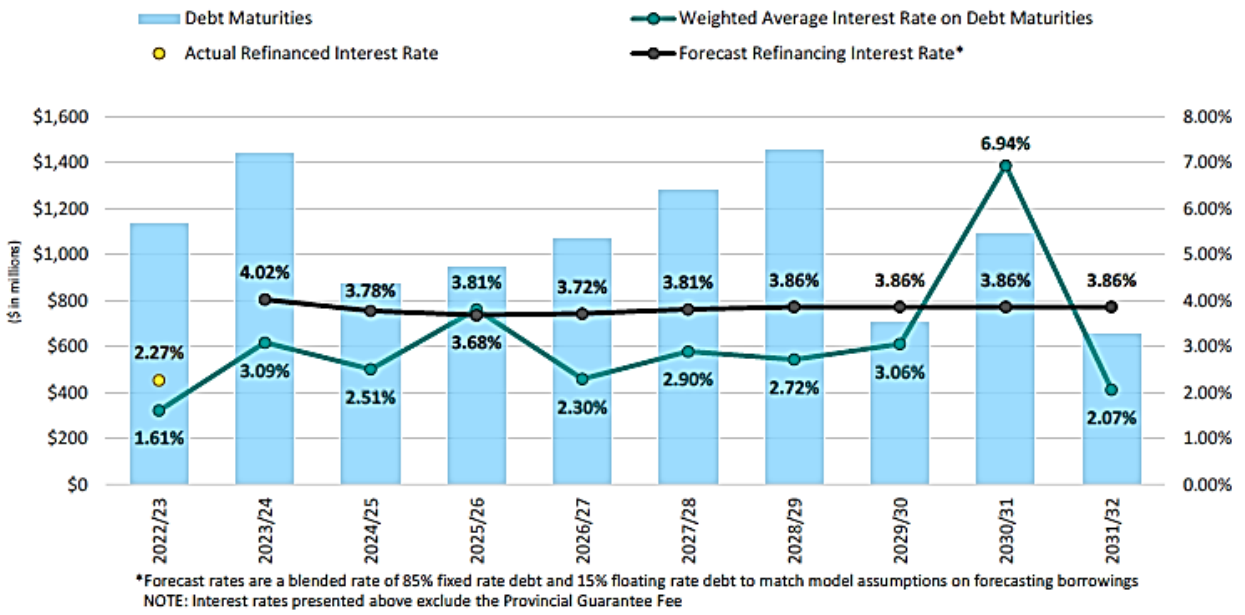

Figure 11.4 — Manitoba Hydro's Expected Refinancing Rate

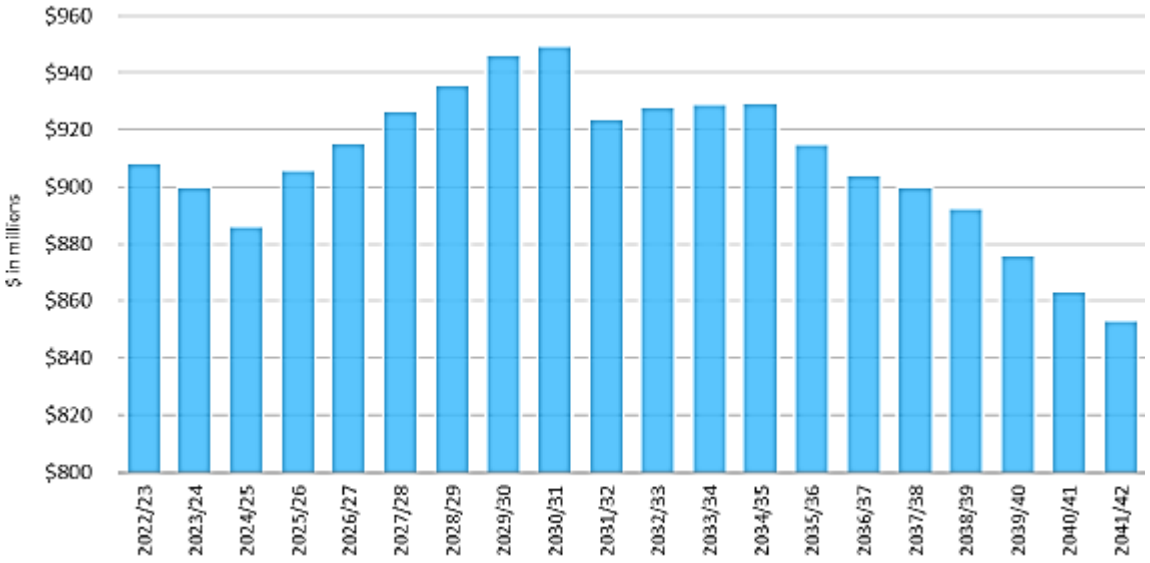

Figure 11.5 — Manitoba Hydro's Expected Annual Finance Expense

For planning purposes, Manitoba Hydro assumes refinancing at a blended rate of 85% fixed-rate debt and 15% floating-rate debt. This is not reflective of Manitoba Hydro's current debt mix, almost all of which is locked in at fixed rates. Manitoba Hydro's policy is to limit its interest rate risk profile — consisting of short-term debt, floating-rate long-term debt, and any fixed-rate debt maturing within 12 months — to less than 10%.

A point of contention in the application was the optimal range of fixed-rate to floating-rate debt. In 2009, Manitoba Hydro commissioned a modelling study by National Bank which concluded that the optimal range is 14 to 27 percent. As Manitoba Hydro's debt balance has grown, the model indicates an optimal range of 8 to 15 percent. As set out below, Manitoba Hydro applies a measure it refers to as its "interest rate risk profile", consisting of the combination of short-term debt, floating-rate long-term debt, and debt maturing in the next 12 months. The utility aims to keep its interest rate risk profile at less than 10%. However, its current level of floating-rate debt is only approximately 1%. As set out below, the Consumers Coalition disagrees with this approach. However, Manitoba Hydro submits that increasing short-term debt at the moment would mean an increase in finance expense in 2023/24 as short-term debt currently has a higher yield than long-term debt.

11.2 Positions of the Parties

11.2.1 Manitoba Hydro

Manitoba Hydro submits that as it grew the utility's debt to $25 billion at the peak, it favoured longer debt maturities to reduce financing risk, extending the weighted average term to maturity to 19.1 years. The utility also took advantage of the low-interest rate environment at the time to decrease the weighted average interest rate to a historically low 3.4%.

Manitoba Hydro states that it has reduced its interest rate risk. With a current floating-rate debt level of 1%, and approximately 6% of Manitoba Hydro's debt portfolio maturing in the next 12 months, Manitoba Hydro's current interest rate risk profile is 7%, which is below the 10% target interest rate risk profile and at the lower boundary of the 8-15% range suggested by the National Bank model. Manitoba Hydro also states that it cannot rely on increased short-term borrowing unless Manitoba Hydro receives increased short-term borrowing authority from the provincial government. This is as a result of the recent amendment to *The Manitoba Hydro Act* to remove a reference to an increased limit of $1.5 billion for temporary borrowing, leaving Manitoba Hydro's current short-term borrowing limit at $500 million, which is the lowest among Manitoba Hydro's industry peers.

According to Manitoba Hydro, there is an expectation that with the utility's new major assets now generating revenue, the utility should be able to improve its financial metrics. The utility is operating in an uncertain interest rate environment and refers to the Bank of Canada having raised the target overnight rate to 4.75% on June 7, 2023. Manitoba Hydro also takes the position that it has high exposure to interest rate risk as a result of both its debt level and a currently weak cash flow-to-debt ratio. The utility submits that Manitoba Hydro's peer utilities have a cash flow-to-debt ratio averaging 9%, while Manitoba Hydro's ratio has deteriorated from 9% to 2% over the last 10 to 15 years.

Manitoba Hydro acknowledges that *The Manitoba Hydro Act* no longer contains a legislated sinking fund requirement, but that the utility is in discussion with the provincial

government to redefine the sinking fund. The utility stresses the need for sufficient cash to pay debt maturity obligations every year, and that for Manitoba Hydro to remain self-supporting, its cash from operations should be sufficient to fund business operations capital investments, other investing activities, and a sinking fund contribution.

The utility submits that its credit ratings are a flow-through from the Province of Manitoba, and that Manitoba Hydro's financial health is an important factor in the assessment of the provincial credit risk.

11.2.2 Interveners

Consumers Coalition

The Consumers Coalition is the only intervener specifically taking a position on Manitoba Hydro's debt management strategy. It submits that Manitoba Hydro's interest rate risk is materially reduced compared to previous general rate applications. Specifically, the Consumers Coalition states that ten years ago, Manitoba Hydro entered a decade in which it was going to borrow $3.5 billion per year. Similarly, Manitoba Hydro's projected 10-year reduction in retained earnings based on a high interest rate scenario is now $462 million, while it was projected to be $1.057 billion in the 2015/16 General Rate Application. The Consumers Coalition also states that Manitoba Hydro has conceded that annual debt maturities of approximately 5% of total debt are a reasonable level of risk and that the utility does not anticipate high levels of concentration risk.

The Consumers Coalition expresses concern that Manitoba Hydro is not following the National Bank model, which recommends that the utility should hold 8-15% of its debt as floating-rate debt. It submits that, contrary to Manitoba Hydro's assertions, the National Bank model takes the term to maturity into consideration. It also points out that the provincial government holds 11% of its debt at floating rates, and that both BC Hydro and Hydro-Québec have materially higher ranges of floating debt than Manitoba Hydro. The Consumers Coalition adopts the evidence of its expert witness Darren Rainkie that, in limiting the combination of short-term debt, floating-rate long-term debt, and fixed-rate debt to less than 10% of total debt, the utility is establishing an artificially low constraint.

It also adopts its expert's recommendation to increase the percentage of floating-rate debt from an average of 4.3% to 5.4% during the first ten years of the forecast, and from an average of 7.1% to 9.5% in the second ten years of the forecast.

Manitoba Industrial Power Users Group

MIPUG rejects Manitoba Hydro's position about its debt levels and about the challenges it currently faces. In MIPUG's view, there is a need to recognize Manitoba Hydro's current location in the investment cycle, i.e., shortly after the completion of major projects. MIPUG points out that Manitoba Hydro has achieved a spectacular performance compared to its projections made at the 2014 NFAT review. For example, Manitoba Hydro projected five to six years of losses, totalling close to a billion dollars at the NFAT. According to MIPUG, to now be in a position to avoid those losses while absorbing the major capital projects into the revenue requirement speaks to Manitoba Hydro's spectacular financial performance.

11.3 Board Findings

The Board accepts that Manitoba Hydro's plan to gradually pay down and reduce its debt is reasonable, but finds that the utility's plan is more cautious than it needs to be. The utility's debts are offset by an expanded asset base and, with a current debt-to-capitalization ratio of 85%, the utility is in a better position than it anticipated in its 2012 Integrated Financial Forecast that underpinned the NFAT a decade ago. In that forecast, the utility anticipated a debt-to-capitalization ratio of 90% at the end of the 2022/23 test year rather than the 85% it achieved.

Manitoba Hydro was both far-sighted and fortunate in being able to lock in most of the debt used to finance its recent major capital projects. As those projects have achieved completion, the utility's risk profile is transitioning from financing risk to refinancing risk. This coincides with an increase in interest rates compared to those available over the last decade. However, the Board notes that while interest rates are higher than those over the past decade, a historical perspective demonstrates that current and projected rates are not unusually high. Further, the utility has now placed its major capital projects into

service, which reduces the uncertainty related to the level of borrowings that still needs to be incurred for those projects. As such, the Board agrees with the Consumers Coalition's assessment that Manitoba Hydro's financial risk profile is decreasing. However, this also provides the utility with an opportunity to prudently manage and reduce debt.

The Board continues to support a 75% debt-to-capitalization target as an appropriate long-term goal for the utility. With the recent reduction in government fees (see section 4.1.3), there is an additional opportunity for Manitoba Hydro to progress towards this goal. In approving a general rate increase of 1% in each of the test years rather than the 2% sought by Manitoba Hydro, the Board has taken into consideration that Manitoba Hydro's sensitivity analysis shows that even without any rate increases in the test years, the utility would achieve a debt-to-capitalization ratio of 75% by 2042, and that rate increases in the test years allow the utility to achieve this target more quickly.

The Board also directs Manitoba Hydro to review the National Bank Model for the appropriate proportions of fixed and floating rate debt and file a report describing the findings of that review with the next general rate application. The Board notes that the model was created in 2009, shortly after the Great Financial Crisis, before 15 years of low to negative real interest rates and the effects of quantitative easing during the COVID-19 pandemic. The model also precedes Manitoba Hydro's "decade of investment" and doubling of the utility's assets and debt load during that period. With Manitoba Hydro having to refinance approximately a billion dollars annually for the foreseeable future, Manitoba Hydro's current approach to minimizing variable-rate financing may no longer be appropriate. This is an opportune time to reassess the model and Manitoba Hydro's optimal approach to fixed-rate and variable-rate financing.

12.0 DEPRECIATION AND RELATED DEFERRAL ACCOUNTS

12.1 Background

12.1.1 Depreciation and Amortization

Depreciation and amortization is Manitoba Hydro's third-highest expense category, with a projected depreciation and amortization expense of $632 million in 2023/24 and $643 million in 2024/25.

Depreciation involves systematically allocating the cost of tangible assets, such as power generation facilities and infrastructure, over their estimated useful lives. The useful lives are determined and periodically reassessed through depreciation studies. Depreciation reflects the wear and tear and obsolescence of these physical resources over time.

Amortization relates to intangible assets, such as licenses and software, allocating their cost over the estimated useful life of the asset. Depreciation and amortization rates in Manitoba Hydro's application are based on a 2019 Depreciation study by Concentric Energy Advisors (formerly Gannett Fleming). The utility expects to begin work on a new depreciation study in September 2023.

Under utility accounting principles, capital investments by Manitoba Hydro do not form part of the utility's revenue requirement. Instead, Manitoba Hydro recovers the capital cost of its physical and intangible asset investments through depreciation and amortization over the expected lifetime of the assets. As such, depreciation and amortization is a non-cash expense that generates cash flow for Manitoba Hydro.

Depreciation expense is determined by grouping assets into a series of asset groups and depreciating those assets together based on survivor curves known as "Iowa Curves". There are two common methodologies for grouping assets for depreciation purposes: the Average Service Life (ASL) method, also known as the Average Life Group (ALG) method, and the Equal Life Group (ELG) method. The ASL method groups assets by

asset type, even if there is a range of expected lifespans within the group. The ELG method groups assets by lifespan, even if the assets in the group are of different types.

12.1.2 History of Manitoba Hydro's Proposed Change of the Depreciation Methodology

The choice of an appropriate depreciation methodology for Manitoba Hydro has been under debate for more than a decade. Historically, Manitoba Hydro has used the ASL methodology for rate-setting. However, in conjunction with the utility's transition to International Financial Reporting Standards, during Manitoba Hydro's 2013/14 General Rate Application, Gannett Fleming, Manitoba Hydro's depreciation consultant at the time, recommended a switch to the ELG methodology. The Board did not accept that recommendation and made the following finding in Order 43/13:

> *The Board also is concerned that not enough information has been provided to date to assess the true impact on ratepayers of a switch to Equal Life Group. As such, the Board will require Manitoba Hydro to file additional information, including a determination of depreciation rates and schedules based on the Average Service Life methodology, to provide a meaningful comparison between the two approaches.*
>
> *The Board will require Manitoba Hydro to provide a comparison, for the next General Rate Application, of the impact on the Integrated Financial Forecast of an Average Service Life methodology (without net salvage) and an Equal Life Group methodology (without net salvage), where each of the accounting methodologies are applied to planned major capital additions in the Integrated Financial Forecast. Given the forecast to increase net plant by over $21 billion over a 20 year period, it will be important to understand the implications on ratepayers of using each approach at the next General Rate Application.*
>
> *The Board further expects Manitoba Hydro to file, as part of its next General Rate Application, additional information to support Manitoba Hydro's view that an Average Service Life methodology compliant with International Financial Reporting Standards requires increased componentization. As part of this information, the Board expects to see evidence as to what level*

> *of componentization would be required, and how such level of componentization would increase Manitoba Hydro's costs, if at all.*
>
> *[…]*
>
> *IT IS THEREFORE ORDERED THAT:*
>
> *8. That Manitoba Hydro file updated depreciation rates and schedules based on an International Financial Reporting Standards-compliant Average Service Life methodology with the next General Rate Application.*
>
> *9. That Manitoba Hydro file with the Board, with the next General Rate Application, a chart showing a comparison of the impact on its Integrated Financial Forecast (i.e. 'Budget') of asset depreciation pursuant to the Average Service Life methodology (without net salvage) and the Equal Life Group methodology (without net salvage), applying both methodologies to all planned major capital additions.*

Instead of a full comparison study, Manitoba Hydro produced an extrapolation study prepared by Gannet Fleming during its 2014/15 & 2015/16 General Rate Application. In Order 73/15, the Board denied Manitoba Hydro's request to switch to the ELG methodology and required Manitoba Hydro to continue to use the existing ASL methodology for rate-setting until a full comparison study would be filed for the Board's consideration. In that order, the Board also required the study to be based on the minimum amount of additional componentization required:

> *Accepting Gannett Fleming's testimony that additional componentization tends to reduce the difference between ASL and ELG, the Board requests that the IFRS compliant ASL depreciation study, if and when filed by Manitoba Hydro, be based on the minimum level of additional componentization required by IFRS, but avoid optional additional componentization. The study should also demonstrate whether and when there would be a cross-over point at which time Depreciation Expense as calculated using ELG becomes lower than that calculated using ASL.*

Manitoba Hydro adopted International Financial Reporting Standards (IFRS) for financial reporting purposes on April 1, 2015. In doing so, it made a policy decision to adopt the ELG methodology for financial reporting purposes while continuing to use the ASL methodology for rate-setting purposes, as required by the Board. To reconcile the difference between the two methodologies, Manitoba Hydro established a deferral account it refers to as the Change in Depreciation Method Deferral Account. At the 2017/18 & 2018/19 General Rate Application Manitoba Hydro advised the Board that it had set up the account but did not seek the Board's approval at that time to establish an amortization period. In Order 59/18, the Board subsequently stated that:

> *The Board finds that Manitoba Hydro has not fully complied with the Board's prior directives on depreciation methodology. In Order 73/15, the Board ordered that the Average Service Life methodology be maintained until the directives from Order 43/13 are complied with and the Board is provided with an IFRS-compliant Average Service Life depreciation study. This study has not been performed. In the absence of full compliance with the Board's past directives, the Board will not make a final disposition with respect to the appropriate long-term depreciation methodology for rate-setting purposes. As was the case at the time of Order 73/15, the Board does not currently have sufficient information upon which to make a decision, especially given that a change in methodology leads to significant long-term consumer rate consequences.*
>
> *By extension, the Board is not in a position to endorse any amortization of the deferral account. As noted by the Consumers Coalition witness, William Harper, the appropriate time to assess the amortization of the regulatory account balance is once Manitoba Hydro has provided the study directed by the Board, when the implications of the change in depreciation methodology will be better understood.*

The account still has not been approved, and Manitoba Hydro seeks a ruling from the Board on the disposition of the account in this application. As of March 31, 2023, Manitoba Hydro expects the Change in Depreciation Method Deferral Account to have a balance of $343 million.

12.1.3 Interim Gains and Losses

Accounting conventions under Canadian Generally Accepted Accounting Principles (CGAAP) allowed Manitoba Hydro to defer interim gains and losses that arise when an asset is taken out of service. IFRS, in contrast, requires the immediate recognition of all gains and losses when an asset is no longer providing service.

When Manitoba Hydro adopted IFRS for financial reporting purposes in 2015, it established a deferral account the utility refers to as the Loss on Retirement or Disposal of Assets Deferral Account to be able to continue the earlier practice of deferring interim losses. Like the Change in Depreciation Methodology Deferral Account, the Loss on Retirement or Disposal of Assets Deferral Account has not yet been approved by the Board and Manitoba Hydro seeks a ruling on the disposition of the account in this application.

While Manitoba Hydro set up the Loss on Retirement or Disposal of Assets Deferral Account to continue the deferral of interim losses, it has also recently deferred some terminal losses related to discontinued operations that the utility acknowledged could not have been deferred under CGAAP accounting rules without Board approval. As of March 31, 2022, the balance in the Loss on Retirement or Disposal of Assets Deferral Account was $67 million, of which $24 million relates to interim losses and $43 million relates to terminal losses from discontinued operations. Most of the $43 million relates to the retirement of the Selkirk Generating Station. By March 31, 2023, the balance in this account is expected to be $70 million.

12.1.4 Approvals Sought in this Application

In its application, Manitoba Hydro sought the following rulings with respect to depreciation and amortization expense:

1. Approval of the ELG depreciation methodology for rate-setting purposes.
2. Approval of an ELG phase-in deferral account involving
    a) a deferral of $65 million in 2024/25,
    b) a deferral of five million less each year after 2024/25, and
    c) amortization over 30 years beginning on September 1, 2023.
3. Approval to cease the deferral of interim losses (meaning no further additions to the Loss on Retirement or Disposal of Assets Deferral Account);
4. Approval to cease additions to the Change in Depreciation Method Deferral Account and begin to amortize the balance in the account on a straight-line basis over 30 years (42 years for WPLP and 62 years for KHLP);
5. Approval to cease additions to the Change in Depreciation Methodology Deferral Account and begin to amortize the balance in the account on a straight-line basis over 26 years (27 years for WPLP and 58 years for KHLP).

The proposed amortization periods are based on the weighted average probable remaining life of the asset components contributing to the deferral balance.

In support of its Application, and to comply with Directives 8 and 9 of Order 43/13, Manitoba Hydro provided an IFRS-compliant ASL depreciation study prepared by Alliance Consulting Group (“Alliance”), as well as a comparison of depreciation expense under the ELG methodology with depreciation expense under an IFRS-compliant ASL methodology.

Manitoba Hydro’s previous depreciation study, prepared in 2019 by Concentric Energy Advisors (“Concentric”), included both ELG and ASL depreciation rates and is still used by Manitoba Hydro to establish depreciation expense under the ELG methodology.

12.1.5 Componentization

The 2022 ASL depreciation study prepared by Alliance more than doubles the number of component groups used to calculate depreciation. The 2019 study prepared by Concentric used 371 components for both ELG and ASL depreciation. The 2022 Alliance study increased this by 410 components, to a total of 781. Largely as a result of this increase in components, depreciation expense utilizing the ASL methodology under the 2022 Alliance study is approximately $40 million higher than depreciation expense based on the same methodology but calculated under the 2019 Concentric study.

The required level of componentization is not prescribed under IFRS. Rather, paragraph 43 of *International Accounting Standard 16 – Property Plant and Equipment* requires each part of an item of property, plant, and equipment with a cost that is significant in relation to the total cost of the item to be depreciated separately. Componentization relies on the judgment and analysis of the depreciation consultant. Alliance acknowledged that its goal in creating additional componentization was to create a similar recognition of the timing of recovery of assets with different lives as found in the ELG approach, in a sense to “mimic” ELG.

12.1.6 Crossover Point Between the Methodologies

Manitoba Hydro filed a comparison of depreciation expense based on its preferred ELG methodology with depreciation expense determined under an IFRS-compliant ASL methodology. However, in that comparison, the utility noted that it would not be feasible to provide a full comparison analysis of the “crossover point” at which depreciation expense under the ELG methodology would become lower than depreciation expense under the ASL methodology.

Manitoba Hydro indicated that its highest-cost assets, such as hydraulic generation dams, dykes, and powerhouses, will not reach their first cross-over point within the 20-year financial forecast due to their long lifespans. The utility indicates that to include the first cross-over point for the Keeyask generating station dams, dykes, and powerhouse, the asset base study must extend beyond 70 years. According to Manitoba Hydro, its capital

plans are not detailed enough at the depreciable asset component level for a cross-over analysis beyond 20 years, and any cross-over analysis beyond 20 years would require extensive assumptions, reducing its predictive value.

As an alternative, Manitoba Hydro provided a theoretical cross-over analysis for a limited number of depreciation curves, also known as Iowa curves. The utility concluded that the outcome is different for different types of curves, with high-modal curves recovering only marginally more depreciation under the ELG method before the first cross-over point, medium-modal curves recovering more, and low-modal curves recovering significantly more. Excluding gains and losses, the initial cross-over point at which ELG depreciation is less than ASL depreciation occurs after 72% of the average service life for Manitoba's high-modal example, 60% for the medium-modal example, and 54% for the low-modal example. The utility's example for a medium-modal Iowa curve is reproduced in Figure 12.1.

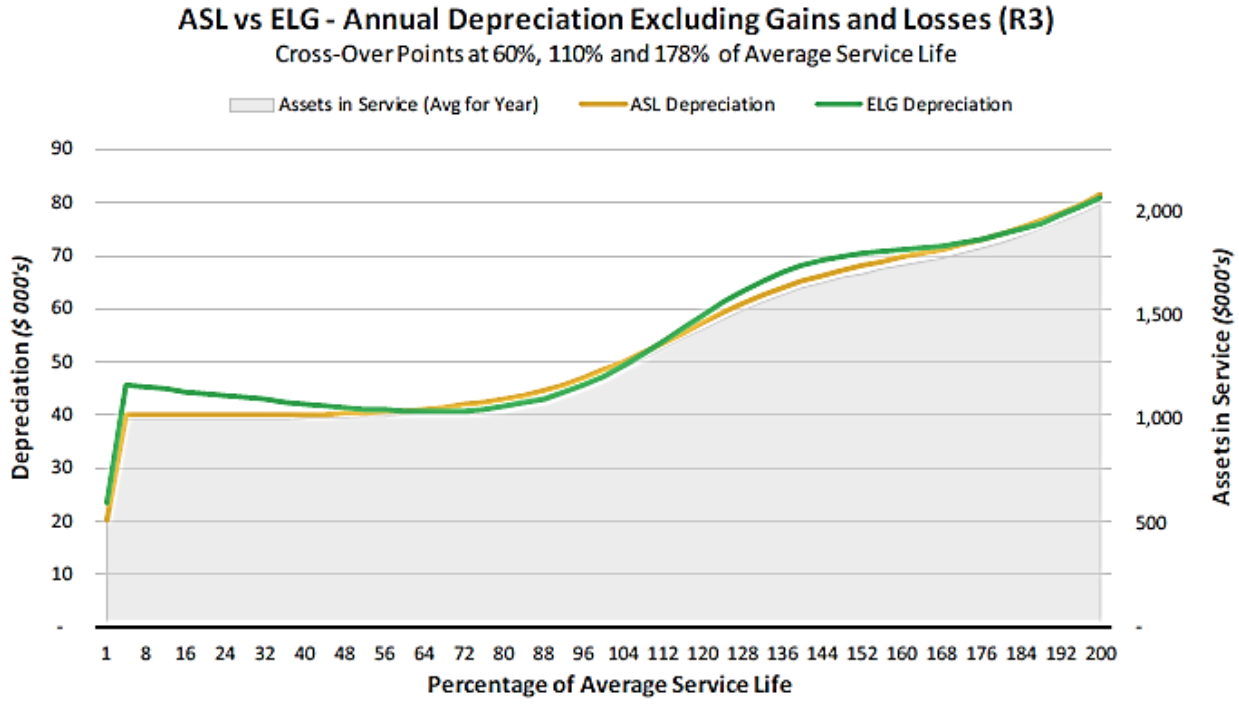

Figure 12.1 — Cross-Over Point Example (Medium-Modal Iowa Curve)

12.2 The Depreciation Issues Document

The Board, in its fourth procedural order (Order 42/23), ruled that depreciation-related evidence was to be delivered by way of concurrent evidence and that the parties were requested to arrange for a discussion between their respective depreciation experts ahead of the hearing in an attempt to find common ground and narrow the areas of disagreement. The Board made available a facilitator for those discussions and ruled that the following six policy issues would be in scope for oral evidence:

1. The use of an IFRS-compliant depreciation methodology for rate-setting purposes;
2. The use of the Average Service Life (ASL) procedure as opposed to the Equal Life Group (ELG) procedure;
3. The use of the remaining life technique as opposed to the whole life technique;
4. The required level of componentization;
5. The treatment of interim gains and losses; and
6. The establishment and disposition of deferral accounts.

Representatives of Manitoba Hydro, the Consumers Coalition, the GSS/GSM Representative, and MIPUG participated in the collaborative process, which resulted in four alternatives being presented to the Board. None of the parties to the hearing ultimately recommended Alternatives 3 and 4, so only Alternatives 1 and 2 are set out in this order. These alternatives are described in Figure 12.2.

	Alternative 1 Equal Life Group	Alternative 2 Average Service Life
Implementation date	September 2023	April 2026
IFRS-compliant	Yes	Yes
Depreciation technique	Whole Life	Whole Life
Amortization of deferral accounts	Amortize over the remaining useful life of the assets contributing to the accounts	Amortize over the remaining useful life of the assets contributing to the accounts
Componentization	No immediate identified need for additional componentization	Further analysis required to determine extent of additional componentization required
Depreciation methodology	Equal life group	IFRS-compliant average life group
Treatment of gains and losses	Cease deferral and amortize	Continue to defer, but amortize
Change in depreciation method deferral account	Cease deferral and commence amortization on September 1, 2023	Continue to defer until an April 1, 2026 transition date Commence amortization on September 1, 2023
Phase-in	15-year phase-in, amortized over 30 years	no

Figure 12.2 — Depreciation Alternatives Set Out in Issues Document

Alternative 1 is Manitoba Hydro's preferred option and reflects the approvals the utility seeks in its application. It involves amortizing the Change in Depreciation Method Deferral Account and the Loss on Retirement or Disposal of Assets Deferral Account while ceasing additions to the latter. It also involves a 15-year phase-in of the new depreciation methodology, with the phase-in accomplished through a deferral account amortized over 30 years.

Alternative 2 is an option developed by the participating intervener experts. It involves a transition to an IFRS-compliant ASL methodology, but with a continued deferral of gains and losses. Based on Manitoba Hydro's representation that the utility would not be in a position to implement Option 2 immediately, it assumes an April 2026 implementation, with continued additions to the Change in Depreciation Method Deferral Account until then.

12.3 Position of the Parties

12.3.1 Manitoba Hydro

Manitoba Hydro submits that the Board has adequate information on depreciation to resolve the long-standing issue of the appropriate depreciation methodology. The utility continues to prefer the ELG methodology. In its view, the difference between Alternative 1 and Alternative 2 is not material enough to impact its rate path or rate design proposal. It also states that the utility's IT systems already reflect the use of ELG for financial reporting purposes, so there would be a limited administrative impact to implement this methodology for rate setting purposes. In Manitoba Hydro's submission, the use of ELG is becoming more prevalent in Canada, and using ELG for rate-setting will not make the utility an outlier.

Although the utility prefers phasing in ELG over 15 years and to cease the deferral of gains and losses, it is open to different approaches on these issues.

Despite Manitoba Hydro's preference for Alternative 1, the utility considers Alternative 2 a viable option. However, the utility submits that it would require several years to fully implement Alternative 2 and that this would require additional administrative efforts and costs.

Manitoba Hydro disagrees with the other parties on the required level of componentization to implement the ASL methodology. The utility acknowledges that the 2022 Alliance study includes some immaterial components, but states that it is the responsibility of management to determine the appropriate level of componentization for IFRS compliance. In Manitoba Hydro's view, refining the study to eliminate immaterial components will not significantly change the outcome of implementing the ASL methodology.

Manitoba Hydro states that if the Board directs the utility to implement ASL for rate-setting purposes based on componentization that the utility does not consider to be IFRS-compliant, Manitoba Hydro would be unable to implement the method for financial

reporting purposes and would need to capture the difference in a deferral account. The utility further advises the Board that if the level of componentization differs for rate-setting and financial reporting purposes, it would no longer be possible to calculate the difference in an Excel spreadsheet, as the utility currently does. As such, Manitoba Hydro would have to create two full sets of accounting records, resulting in significantly higher implementation costs.

The utility states that the 2019 depreciation study prepared by Concentric Advisors explicitly notes that the ASL accrual rates are not in accordance with IFRS and should not be used for financial reporting purposes. It also argues that Alliance was specifically retained to prepare an IFRS-compliant depreciation study and that the increased componentization resulted in a material increase in depreciation expense of approximately $35 million per year compared to the 2019 study. In Manitoba Hydro's submission, the opinion of the GSS/GSM Representative's expert Dustin Madsen that the 2019 level of componentization is IFRS-compliant is an outlier that fails to consider the interpretive provisions of IFRS Standard 16. The utility submits that the Board should give less weight to Mr. Madsen's opinion than to Manitoba Hydro and its expert consultants.

Should the Board approve Alternative 2, Manitoba Hydro argues for the continued deferral of interim gains and losses. For terminal losses, the utility acknowledges that these losses do not provide any enduring benefit to customers, but states that they have a significant impact and that deferring them can smooth net income. In Manitoba Hydro's view, a decision to write off terminal losses would create a precedent, and future terminal losses would be subject to the same treatment for rate-setting purposes.

With respect to the Change in Depreciation Method Deferral Account, Manitoba Hydro proposes to cease additions to the account on the date the Board-ordered depreciation methodology comes into effect — September 1, 2023 for ELG or April 1, 2026 for ASL. Under either methodology, the utility recommends amortizing the accounts over the remaining probable life of the assets. For the Loss on Retirement or Disposal of Assets Deferral Account, the utility recommends a similar amortization.

Manitoba Hydro does not support writing off or shortening the amortization of amounts in the Loss on Retirement or Disposal of Assets Deferral Account that relate to terminal losses or removal costs for interim retirements where the replacement is physically distant from the original asset. The utility points outs that its gas subsidiary Centra Gas Manitoba Inc. would likely have to follow the accounting rules of its parent company and that accelerating the amortization of removal balances would have a material impact on the financial statements of Centra.

12.3.2 Interveners

Consumers Coalition

The Consumers Coalition supports Alternative 2, meaning the use of an ASL methodology with the continued deferral of gains and losses. The Consumers Coalition adopts the evidence of the GSS/GSM Representative's expert witness, Dustin Madsen, that no additional componentization is required.

GSS/GSM Representative

In the GSS/GSM Representative's view, ASL is the preferrable alternative for rate-setting, since no ongoing deferral is required, rates can be calculated using the 2019 study, and incremental costs would likely be immaterial.

The GSS/GSM Representative endorses the opinion of its expert witness, Dustin Madsen concerning the required level of componentization. In its view, Mr. Madsen was the only independent IFRS expert who testified in the proceeding. The GSS/GSM Representative emphasizes Mr. Madsen's testimony that depreciation is an estimate and that additional componentization is "significant" within the meaning of the IFRS standards if it would materially affect the financial statements. It also submits that Alliance, the consultant who prepared the 2022 study, acknowledged that it attempted to goal-seek the same outcome ELG would deliver. In the submission of the GSS/GSM Representative, the point of the ASL procedure is not to reverse-engineer the same outcome ELG would deliver.

The GSS/GSM Representative argues that transitioning to ASL would not be onerous, and that the Board should not give weight to Manitoba Hydro's submissions on this issue.

For the Change in Depreciation Method Deferral Account, the GSS/GSM Representative endorses Mr. Madsen's evidence that the account would naturally unwind over time.

For the treatment of interim gains and losses, the GSS/GSM representative recommends a detailed assessment at the next general rate application as to how gains and losses are calculated.

The GSS/GSM Representative also endorses Mr. Madsen's evidence that account 3200M – Substations – HVDC Synchronous Condenser be changed from a 65-R4 to a 65-R3 survivor curve.

Manitoba Industrial Power Users Group

MIPUG supports the ASL methodology of calculating depreciation. It adopts the evidence of its expert witness Patrick Bowman, who is of the view that the ASL procedure is sound and well-accepted across North America, and most consistent with just and reasonable rates. MIPUG notes that the only independent expert witness with 20 years of auditing and accounting experience was Dustin Madsen, who also is a certified depreciation professional. MIPUG adopts Mr. Madsen's evidence that no additional componentization is required and argues that the Board should draw an adverse inference from Manitoba Hydro's failure to call its accountants or auditors to challenge Mr. Madsen's accounting opinions. In MIPUG's view, any of Manitoba Hydro's management discretion and decisions on the issue should be based on appropriate accounting advice, which Mr. Madsen has provided.

MIPUG submits that the ASL methodology is used by the vast majority of utilities in the U.S., as well as by Canadian Crown utilities. It notes that among Canadian Crown utilities, only New Brunswick Power uses ELG. It also submits that the ASL methodology is universally agreed to lead to lower depreciation expense and that Manitoba Hydro's proposal to establish a new deferral account to phase in the ELG methodology highlights

the intergenerational inequity caused by front-loading depreciation costs through the use of the ELG methodology.

12.4 Board Findings

Overview

The Board directs Manitoba Hydro's depreciation expense to be determined through the ASL methodology on a whole-life basis, with continued deferral of interim gains and losses. The Board denies Manitoba Hydro's request to use the ELG methodology for rate-setting purposes.

For rate-setting purposes during the test years, Manitoba Hydro is to determine depreciation following the ASL depreciation methodology set out in the 2019 depreciation study prepared by Concentric. To the extent that Manitoba Hydro's management determines, through professional accounting advice, that the level of componentization in the 2019 study is not IFRS-compliant, Manitoba Hydro is to write off any resulting additional depreciation expense in the test year against net income and must not defer it for regulatory purposes.

The Board denies the amortization of the Change in Depreciation Method Deferral Account and does not approve such an account for rate-setting purposes.

The Board approves the amortization of that portion of the Loss on Retirement or Disposal of Assets account that relates to interim gains and losses over the remaining probable life of the assets. However, the Board denies similar treatment to that portion of the account that relates to terminal losses and requires those amounts to be written off against net income. If Manitoba Hydro in the future determines that a terminal loss is material enough to justify the establishment of a deferral account to amortize the loss over a period of time, the Board will assess the merits of such a deferral at that time.

The Use of the ASL Methodology

As stated above, the Board directs Manitoba Hydro to continue to use the ASL methodology for rate-setting purposes.

Depreciation is not an exact science. It involves a significant amount of professional judgment and discretion. While all parties to the hearing acknowledged that both ELG and ASL are permissible under IFRS, the Board finds that most Crown utilities use the ASL methodology and that it would be appropriate for Manitoba Hydro to use that methodology as well. Manitoba Hydro is correct that more utilities are starting to use ELG, but it is not a common method for hydroelectric utilities. In the 2014/15 & 2015/16 general rate application, the Board was advised of the ELG methodology's origin in the telecommunications industry whose assets have comparatively shorter life spans. Private-sector utilities may benefit from the use of ELG because it provides faster depreciation. However, the Board notes that BC Hydro and Hydro-Québec, two primarily hydroelectric Crown-owned utilities, both use the ASL methodology.

While Manitoba Hydro was unable to provide a full cross-over analysis, under each of the cross-over hypotheticals presented by the utility, depreciation under the ELG methodology is higher in the early life of the asset. In a utility operating at a steady state, this may be appropriate. However, Manitoba Hydro just completed a doubling of its asset base, which exacerbates the early-recovery effect of ELG. The Board finds that transitioning to such a methodology is not just or reasonable.

Componentization

The Board finds that Manitoba Hydro's 2022 ASL depreciation study includes an excessive level of componentization intended to mimic the effect of an ELG methodology. The Board appreciates the candour of Manitoba Hydro's depreciation consultant, Alliance Consulting Group, on this issue in response to an information request of the Board.

The Board finds that the appropriate degree of componentization is the responsibility of Manitoba Hydro's management. It also agrees with the opinion of MIPUG's expert Patrick

Bowman that componentization should be a continuing activity. As such, the Board will not prescribe an absolute level of componentization for Manitoba Hydro's ASL depreciation studies and leaves this up to the utility's management. However, the Board also places weight on the opinion of the GSS/GSM Representative's expert Dustin Madsen that the existing level of depreciation in the 2019 depreciation study is IFRS-compliant. While Mr. Madsen has prepared fewer depreciation studies than Mr. Watson of Alliance or Mr. Kennedy of Concentric, he is a Canadian Chartered Professional Accountant (CPA). In contrast, the Board places little weight on the statement in Manitoba Hydro's 2019 study that the ASL accrual rates are not in accordance with IFRS. The Board notes that Mr. Kennedy, who authored the study, was not called as a witness in this proceeding and did not provide the statement as part of an accounting opinion.

The Board accordingly directs that for regulatory purposes, depreciation in the test years is to be determined using the ASL rates set out in the 2019 depreciation study. However, Manitoba Hydro is to reassess that level of componentization in its next depreciation study and include a reasonable increase in componentization, if such an increase is warranted based on professional accounting advice. Because Manitoba Hydro is already calculating such amounts for rate-setting purposes, the Board finds that there is no need for a phase-in period and the directive can come into effect on September 1, 2023.

If, through internal or external accounting advice, Manitoba Hydro determines that despite the Board's ruling on the matter, it cannot utilize the 2019 ASL rates for financial reporting purposes during the test years, Manitoba Hydro is to nonetheless discontinue the use of a deferral account for rate-setting purposes. The Board notes that the utility expects to begin work on a new depreciation study in September 2023. At that time, any additional required componentization can be integrated into the study.

Change in Depreciation Method Deferral Account

The Board denies Manitoba Hydro's request to amortize the balance accrued in the Change in Depreciation Method Deferral Account. In light of the Board's directive to continue to determine depreciation expense for rate-setting purposes through the ASL methodology, the recovery of a deferral account capturing the difference between that methodology and the ELG methodology is denied. To the extent depreciation is determined by the 2019 ASL depreciation rates, the account is notional, as the appropriate amount of depreciation expense is already being recovered through rates.

The Board acknowledges that Manitoba Hydro may need to reconcile its financial reporting with the approved rate-setting regime if, through professional accounting advice, the utility concludes that additional ASL componentization is required during the test years. However, this is a matter beyond the mandate of the Board. The Board's role is to fix rates for services, not to oversee Manitoba Hydro's financial statements.

Deferral of Gains & Losses and Amortization of Loss on Retirement or Disposal of Assets Deferral Account

The Board approves the continued deferral of interim gains and losses, as well as the amortization of that portion of the balance in the Loss on Retirement or Disposal of Assets Deferral Account that relates to interim gains and losses over the estimated probable remaining life of the respective Manitoba Hydro, Keeyask Hydropower Limited Partnership, and Wuskwatim Power Limited Partnership asset components contributing to the account. The Board notes that continued deferral was recommended by all parties as part of Alternative 2. Any additions to the Loss on Retirement or Disposal of Assets Deferral Account will be reviewed for prudency and recovery at the next general rate application.

The Board denies the amortization of that portion of the Loss on Retirement or Disposal of Assets Deferral Account that relates to terminal losses. As acknowledged by Manitoba Hydro in its written closing submission, a terminal loss generally does not lead to an

enduring benefit for ratepayers. The Board finds that the default treatment of terminal losses where there is no ongoing ratepayer benefit should be a write-off in the year the loss occurs. While there may be a benefit to approving a deferral account for rate-smoothing purposes to support the ratemaking principles of stability and gradualism, and the Board is prepared to consider requests for the approval of such deferrals on a case-by-case basis in the future, there should not be an automatic deferral of terminal losses. In the present case, the Board finds that deferring and amortizing the approximately $43 million of Selkirk-related losses is not justified, as the write-off does not result in rate shock to Manitoba Hydro's customers.

In contrast, the Board finds that the utility should continue to defer and amortize removal costs for interim retirements in which there is no immediate replacement of the asset. In the Board's view, there is an enduring benefit to ratepayers from such costs, as without those costs the existing assets could not be replaced. As such, the Board approves the continued deferral of such costs and their amortization over the weighted average life of the assets by including the costs in the Loss on Retirement or Disposal of Assets Deferral Account.

In light of the utility's plan to commence work on a new depreciation study following the issuance of this order, the Board defers consideration of the appropriate depreciation curves, including the recommendation of the GSS/GSM Representative expert to change one of the existing curves.

13.0 OTHER DEFERRAL ACCOUNTS

13.1 Background

In addition to the depreciation-related deferral accounts discussed in section 12, Manitoba Hydro seeks the following rulings on its deferral accounts:

- Endorse the Keeyask In-Service Deferral Account and amortize it over 106 years;
- Amortize the Major Capital Projects Deferral Account over two years;
- Write off the existing Demand-Side Management Deferral Account; and
- Establish a new SAP S/4HANA Deferral Account.

13.1.1 Keeyask In-Service Deferral Account

Manitoba Hydro set up the Keeyask In-Service Deferral Account to reconcile the accounting treatment of Keeyask under the former Canadian Generally Accepted Accounting Principles (CGAAP) with the current International Financial Reporting Standards (IFRS). Keeyask has seven turbines, not all of which came into service at the same time. Under CGAAP, when the first of Keeyask's seven turbines came into service, only 1/7 of the cost of depreciation and interest needed to be recognized for rate-setting. Under IFRS, interest capitalization ceases and the full level of depreciation for all assets completed and available for service must be expensed when the first turbine comes into service. Manitoba Hydro set up a deferral account to continue the accounting treatment previously permissible under CGAAP. This was done in order to better match the timing of the recognition of depreciation and finance expense on the Keeyask Generation Station assets with the timing of the recognition of the revenue brought on with each turbine going into service. The current balance in the account is $104 million. Manitoba Hydro proposes to amortize this amount over the expected service life of the generating facility, which is 106 years. The utility would like to begin amortizing the account on September 1, 2023.

In Order 137/21, the Board committed to address the establishment and amortization account in the current hearing.

13.1.2 Major Capital Projects Deferral Account

In Order 69/19, the Board approved a 2.5% rate increase effective June 1, 2019, but directed that all revenues were to be placed in a Major Capital Projects Deferral Account to assist in the transition to higher rates once Manitoba Hydro's major capital projects would come into service. In Order 137/21, the Board directed Manitoba Hydro to cease funding that account on December 31, 2021 and indicated that it would decide on the appropriate amortization period at the next general rate application. Manitoba Hydro seeks to amortize the account over two years, the same period over which the account was funded. However, rather than amortizing the account immediately, the utility proposes to commence amortization on April 1, 2025. This would provide the utility with an additional $49 million of net income in each of the 2025/26 and 2026/27 fiscal years.

13.1.3 Demand-Side Management Deferral Account

The Demand-Side Management Deferral Account dates back to the 2012/13 & 2013/14 General Rate Application. In the hearing of that application, the Board disagreed with Manitoba Hydro's decision to cut energy efficiency spending compared to its previous PowerSmart demand-side management spending plan. It accordingly required the utility to establish a deferral account to which any shortfall between planned and actual spending was to accumulate. In Order 59/18, the Board directed Manitoba Hydro to cease funding that account, which currently has offsetting credit and debit balances of $48.8 million. Manitoba Hydro seeks Board approval to write off the balance in this account on September 1, 2023. Because this is an internally created account based on assumed future spending, there are no financial consequences to writing off the account, and doing so does not affect the utility's revenue requirement or net income.

13.1.4 SAP S/4HANA Deferral Account

In advance of Manitoba Hydro's spending on cloud computing arrangements to replace its legacy enterprise resource planning systems, the utility seeks the Board's approval to establish a regulatory deferral account to record the annual O&A expenditures related to the implementation of the SAP S4/HANA project (discussed in more detail in section 10) and amortize the deferred balance over ten years, beginning with the in-service date. Historically, Manitoba Hydro capitalized its software systems, but the utility determined that the cloud computing arrangement expenditures do not qualify for capitalization under IFRS. Under Manitoba Hydro's current forecast, the utility expects to defer $156 million over seven years from 2023/24 to 2029/30, $36 million of which is to be deferred during the 2023/24 and 2024/25 test years. The project is still at the pre-planning stage, but Manitoba Hydro considers it likely that any software solution chosen to replace the existing SAP system will be cloud-based. The proposed 10-year amortization period is based on the expected life of the licence agreement and the amount of effort and complexity in transitioning to a cloud-based solution.

13.1.5 Recommendation of MIPUG's Expert Witness Patrick Bowman to Shorten Amortization Periods of Existing Deferral Accounts

MIPUG's expert witness Patrick Bowman recommends utilizing the record net income Manitoba Hydro earned in 2022/23 to shorten the amortization period of Manitoba Hydro's Conawapa Deferral Account and the Loss on Retirement or Disposal of Assets deferral account to one year. The Board approved the Conawapa deferral account in Order 59/18. The Loss on Retirement or Disposal of Assets Deferral Account has not yet been approved. However, as set out in section 12, the Board is approving the deferral of some costs in the account in this order.

The Board previously requested submissions from the parties on Mr. Bowman's recommendation and ordered, in Order 57/23, that deliberation of this issue would be adjourned to the hearing of Manitoba Hydro's full application.

13.2 Position of the Parties

13.2.1 Manitoba Hydro

Keeyask In-Service Deferral Account

Manitoba Hydro justifies the proposed 106-year amortization period for the Keeyask In-Service Deferral Account by stating that this period represents the weighted average service life of the assets. The utility notes that none of the interveners disputed the recommended treatment of this account.

Major Capital Projects Deferral Account

Concerning the Major Capital Projects Deferral Account, Manitoba Hydro states that it recommends drawing down the account over two years, but that it is open to other amortization periods as directed by the Board.

Demand-Side Management Deferral Account

Concerning the proposed write-off of the Demand Side Management Deferral Account, Manitoba Hydro states that the recommended approach is consistent with what the Board approved for Centra Gas Manitoba Inc., Manitoba Hydro's gas subsidiary, in Order 161/19. The utility emphasizes that the proposed write-off has no impact to its revenue requirement, and that none of the interveners have taken issue with Manitoba Hydro's proposal.

SAP S/4HANA Deferral Account

Manitoba Hydro submits that even if the SAP S/4HANA project is still at the pre-planning stage, it anticipates that its existing software will be replaced with a cloud-based solution. Under IFRS accounting rules, those costs must be expensed and may not be capitalized. In the utility's view, establishing a deferral account means that the costs are treated consistently regardless of whether Manitoba Hydro chooses an on-premises software solution or a cloud-based solution. It points to the fact that traditionally, software

expenditures were capitalized. Manitoba Hydro does not recommend the deferral of small cloud-based software expenses, stating that those expenses are immaterial.

Manitoba Hydro argues that because the utility does not have past precedence for information technology-related deferral accounts, the account requires Board approval before it is established. However, the company acknowledges that if the Board were to defer the issue rather than rejecting it outright, the matter of how costs are to be treated in the interim may be a grey area for accounting purposes.

Manitoba Hydro notes that the Board previously approved an accounting change-related deferral account for Centra Gas Manitoba Inc.'s meter exchange costs upon a change in accounting treatment following the implementation of IFRS. The utility cites as a precedent the British Columbia Utilities Commission's (BCUC) Order G-85-23, in which that regulator approved a Cloud Costs Regulatory Account for BC Hydro.

Recommendation of MIPUG's Expert Witness Patrick Bowman to Shorten Amortization Periods of Existing Deferral Accounts

Manitoba Hydro does not support the recommendation of MIPUG's expert witness to shorten the amortization of Conawapa planning costs, terminal losses, and removal costs for assets that were not replaced.

For the Conawapa deferral account, Manitoba Hydro notes that the write-off of this account would not change the achievement of the debt ratio targets or the proposed 2% rate path. Moreover, shortening the amortization period could create a precedent for the treatment of other deferral accounts, which could make it problematic to recognize those accounts as regulatory assets. Manitoba Hydro relies on its submissions made in advance of Order 57/23 and described in that order.

Manitoba Hydro's submissions on the remaining deferral accounts included in Mr. Bowman's recommendation are discussed in section 12.

13.2.2 Interveners

GSS/GSM Representative

The GSS/GSM Representative supports the establishment of an SAP S/4HANA deferral account. However, in its submission, the Board should only approve the Phase 0 costs for addition to the account, and the Board should direct Manitoba Hydro to provide it with a detailed report once Phase 0 has been completed.

The GSS/GSM Representative adopts the opinion of its expert witness Dustin Madsen that, in addition to the SAP S/4HANA-related cloud computing costs, all other cloud computing costs related to small systems should also be deferred and added to the new deferral account.

Manitoba Industrial Power Users Group

MIPUG relies on its submissions made in advance of Order 57/23 (and described in that order) and argues that the Board should direct Manitoba Hydro to change the amortization period for the Conawapa Deferral Account to one year. In MIPUG's submission, the account was set up at a time when Manitoba Hydro was anticipating multiple years of losses. At the time, the Board recommended that the provincial government reduce the charges Manitoba Hydro pays to the province, but that recommendation had not been adopted. MIPUG points out that in the general rate application following the 2014 NFAT, Manitoba Hydro anticipated its auditors requiring a full write-off of the costs in 2017/18. In MIPUG's view, there are no enduring benefits to future generations to the Conawapa costs. MIPUG acknowledges that the need for regulatory certainty demands a high threshold before an amortization period is changed, but states that in this case, the threshold is met because the circumstances that gave rise to the account no longer exist. MIPUG also argues that the interim 3.6% rate increase approved by the Board effective January 1, 2022 remains interim and that the conditions giving rise to the interim order changed materially. In MIPUG's submission, one of those material changes was the reduction in government fees, which was linked to the Board's previous decision to defer Conawapa costs.

For similar reasons, MIPUG recommends changing the amortization of the Selkirk loss on retirement or disposal balances to one year.

13.3 Board Findings

13.3.1 Keeyask In-Service Deferral Account

The Board approves, effective September 1, 2023, the amortization of the Keeyask In-Service Deferral Account over the remaining weighted average service life of the assets, currently projected at 106 years. The Board notes that this recommendation was not disputed by any interveners and finds that the amortization period matches the period over which Keeyask will be depreciated.

13.3.2 Major Capital Projects Deferral Account

The Board approves the amortization of the Major Capital Projects Deferral Account over two years, beginning on April 1, 2025. The Board previously approved this account for rate smoothing. Under Manitoba Hydro's proposal, amortization will begin at a time when Manitoba Hydro's projected net income begins to diminish, largely as a result of a projected decrease in export revenue as a result of the expiry of the Northern States Power agreement. As such, the utility's proposed draw-down appropriately achieves the original intent of the account to provide rate smoothing.

13.3.3 Demand-Side Management Deferral Account

The Board approves the write-off of the Demand-Side Management Deferral Account credit and debit balances, effective September 1, 2023. The Board sees this as an administrative issue and notes that it does not have any financial effect on Manitoba Hydro.

13.3.4 SAP S/4HANA Deferral Account

The Board denies Manitoba Hydro's proposal to establish an SAP S/4HANA Deferral Account at this time. However, the Board invites the utility to apply for the establishment of a cloud computing deferral account once the business case for such a software solution has been completed.

The Board finds Manitoba Hydro's arguments for a deferral of cloud computing costs persuasive. However, the Board considers it premature to establish such an account before a business case has been completed. As set out in section 10, the Board is concerned about escalating costs for the project and finds it inappropriate to approve a deferral account before a business case has been completed and a software solution has been chosen.

Deferral accounts for cloud computing expenses are a matter of pragmatic rate-smoothing, as accounting rules otherwise would require cloud computing costs to be recognized as O&A expenses in the year in which they occur. Manitoba Hydro's anticipated Phase 0 pre-planning costs are not at a level that requires a deferral for rate-smoothing purposes, and the Board finds that those expenditures should appropriately be treated as O&A expenses in the year they are incurred.

The Board is mindful of Manitoba Hydro's argument that the British Columbia Utilities Commission (BCUC) recently approved the establishment of a cloud computing deferral account for BC Hydro. However, the Board considers this precedent to be of limited applicability in Manitoba, as BC Hydro requires the approval of the BCUC for specific projects to be included in the account. This is facilitated by a more extensive planning cycle in British Columbia, in which utilities file applications further in advance. For example, the Board notes that BC Hydro's Fiscal 2023 to 2025 Revenue Requirement Application was originally filed on August 31, 2021, more than 18 months before the beginning of the first test year. In contrast, Manitoba Hydro filed its current Application less than six months before the beginning of the first test year, or 9 ½ months before the date the utility would like to see the first rate increase come into effect. Part 2 of Manitoba

Hydro's application was filed less than four months before the beginning of the first test year.

Planning cycle issues have led to a situation in Manitoba in which Manitoba Hydro has previously set up deferral accounts multiple years before those accounts are approved by the Board. Two examples in the current Application are the Change in Depreciation Method Deferral Account and the Loss on Retirement or Disposal of Assets Deferral Account discussed in more detail in section 12. Depending on the balance that accrues in the account between the time Manitoba Hydro sets it up and the Board deliberates on the approval of the account, the Board's hands may be tied, as a single-year write-off could have a material effect on Manitoba Hydro's finances. This limits the usefulness of a blanket cloud computing deferral account like the account approved by the BCUC Order G-85-23.

As such, the Board denies Manitoba Hydro's application to set up an SAP S/4HANA Deferral Account or similar cloud computing deferral account at this time. However, for certainty, the Board does not rule out establishing such an account once a business case for Manitoba Hydro's software replacement has been completed. The Board is prepared to receive an application for the approval of such an account outside the general rate application process if necessary.

13.3.5 Recommendation of MIPUG's Expert Witness Patrick Bowman to Shorten Amortization Periods of Existing Deferral Accounts

The Board does not accept MIPUG's proposal to change the amortization period of the Conawapa Deferral Account. For the same reasons as set out by the Board in Order 57/23, the Board finds that once a deferral account has been approved by the Board, there is a need for regulatory certainty. The Board finds that the attempt to characterize the proposal as a change of the amortization period to one year does not change the fundamental nature of the proposal as a write-off of the account. MIPUG is correct that the account was set up in part because the provincial government did not reduce the fees Manitoba Hydro had to pay. However, the mere fact that those fees are

now being reduced is not sufficient to justify changing the amortization of a previously approved deferral account.

The Board's findings on the Loss on Retirement or Disposal of Assets Deferral Account are set out in section 12.

14.0 COST OF SERVICE

14.1 Background

14.1.1 Customer Classes

Manitoba Hydro's customers are divided into the following major customer classes based on their usage characteristics:

- Residential: Individually metered single-family housing or multi-residential dwellings
- General Service Small – Non-Demand (GSS-ND): Commercial customers, including bulk-metered apartment buildings, with a billing demand up to 50 kVA and relying on utility-owned transformers
- General Service Small – Demand (GSS-D): Commercial customers with a billing demand of more than 50 kVA and up to 200 kVA, and relying on utility-owned transformers
- General Service Medium (GSM): Commercial customers with a billing demand of more than 200 kVA, and relying on utility-owned transformers
- General Service Large 750V-30kV (GSL 750V-30 kV): Industrial customers receiving electricity at a voltage exceeding 750 V but not exceeding 30 kV, and using their own transformers
- General Service Large 30-100kV (GSL 30-100 kV): Industrial customers receiving electricity at a voltage exceeding 30 kV but not exceeding 100 kV, and using their own transformers
- General Service Large >100KV (GSL >100 kV): Industrial customers receiving electricity at a voltage exceeding 100 kV, and using their own transformers
- Area & Roadway Lighting (A&RL): Street lights and sentinels such as floodlights for parking lots

14.1.2 Cost of Service Study

Manitoba Hydro prepares prospective cost of service studies (PCOSS) to determine how the utility's costs for a future test year (which the Board approves as Manitoba Hydro's revenue requirement) should be allocated between the various customer classes. Because so many of the costs incurred by Manitoba Hydro are to provide service to more than one customer class, an organized, methodological approach to determining each class's responsibility for the shared or common costs is required.

The cost of service methodology currently followed by Manitoba Hydro was approved by the Board in Order 164/16 following an extensive public review. Order 164/16 provides additional explanations of cost of service studies and their purposes. In the current application, Manitoba Hydro based its proposed cost allocations on its most recent cost of service study, PCOSS24.

14.1.3 Cost of Service Study Results and Revenue to Cost Coverage Ratios

Manitoba Hydro's cost of service study shows the costs the utility incurs to provide service to each customer class. These costs can be compared to the revenues that are forecasted to be received from each customer class in the test year. The revenues and costs may not align, meaning some classes may be paying more than their allocated costs while other classes are paying less.

The ratio of a customer class's forecasted revenue to the total costs allocated to that class is known as the revenue to cost coverage ratio. A revenue to cost coverage ratio of 100% means that a class is at "unity", i.e., the class pays only those costs assigned to that class. A revenue to cost coverage ratio of more than 100% means that a class pays more than the costs assigned to that class, while a revenue to cost coverage ratio of less than 100% means the class pays less than the costs allocated to it.

14.1.4 Cost of Service Changes from PCOSS18

At the 2017/18 & 2018/19 General Rate Application, Manitoba Hydro provided PCOSS18, a cost of service study based on the 2017/18 test year. Following the Board's deliberation in that proceeding, the Board issued Order 59/18, which included several directives to Manitoba Hydro to make changes to the cost of service methodology used to prepare future studies. Those directives were as follows:

- Directive 24: Exclude non-tariffable transmissions costs from the allocation of export revenues;
- Directive 25: Allocate the activities of building moves and safety watches, contact centre outages, line locates, and marketing research & development costs to all customer classes other than GSL 30-100kV and GSL >100kV;
- Directive 26: Complete the study of the Service Drops Allocator and the Common Costs study; and
- Directive 27: Treat export revenue as a reduction to class costs when calculating the revenue to cost coverage ratios as opposed to treating it as an increase in class revenues.

The prospective cost of service study filed in this hearing is PCOSS24, which is based on Manitoba Hydro's preliminary budget for the 2023/24 test year. In addition to implementing the four directives set out above, PCOSS24 also includes updated costs for Manitoba Hydro's major capital projects such as the Keeyask generating station. This was a requirement of Directive 11 of Order 69/19 and Directive 5 of Order 9/22.

As a further change that has not been mandated by the Board, Manitoba Hydro proposes to directly assign 38% of the costs of the LED roadway lighting conversion program to the Area & Roadway Lighting class, since that amount relates to maintenance savings on dedicated lighting fixtures that do not benefit any other customer classes. The remaining 62% of these costs continue to be allocated to all customer classes through the existing cost of service process.

The impact of the methodology changes described above on the revenue to cost coverage ratios of the various customer classes is set out in Figure 14.1 below.

Customer Class	PCOSS24 RCC (PCOSS18 Method)	Directive 24 Non-Tariffable Trans.	Directive 25 GSL Customer Service	Directive 26 Service Drops	Directive 26 Common Costs	Directive 27 Net Export Revenue	Area & Roadway Lighting Direct Assignment	PCOSS24 RCC (Final)
Residential	96.4%	0.0%	– 0.1%	0.0%	– 0.1%	– 1.9%	0.1%	94.4%
GSS-ND	106.1%	0.0%	– 0.1%	0.1%	0.0%	3.5%	0.1%	109.7%
GSS-D	101.0%	0.0%	– 0.1%	0.0%	0.2%	0.6%	0.1%	101.8%
GSM	100.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	100.3%
GSL 750V-30kV	98.8%	0.0%	– 0.1%	0.0%	0.0%	– 0.9%	0.1%	97.9%
GSL 30-100 kV	105.9%	0.0%	0.5%	0.0%	0.1%	5.8%	0.1%	112.4%
GSL >100 kV	106.1%	0.1%	0.5%	0.0%	0.1%	6.3%	0.1%	113.2%
A&RL	119.4%	0.0%	– 0.2%	0.0%	0.0%	0.8%	– 11.8%	108.2%

Figure 14.1 — Impact of Methodology Changes on Customer Class RCC Ratios

In terms of revenue to cost coverage ratio impacts, the most significant change to Manitoba Hydro's cost of service methodology, as a result of Order 59/18, for classes other than Area & Roadway Lighting is the revised treatment of net export revenue per Directive 27 of Order 59/18.

14.1.5 Crediting of Net Export Revenue to Customer Classes

In an average year, between one-quarter and one-third of Manitoba Hydro's revenue is derived from export sales of electricity outside of Manitoba, made under export contracts or at spot market prices.

Before Order 164/16, net export revenue was credited to each customer class based on the class's total share of allocated costs, including generation, transmission, subtransmission, distribution, and customer service costs. In Order 164/16, the Board

found that net export revenue should be used to offset only the generation and transmission costs of each customer class. This is because the Generation and Transmission functions are the only functions used to effect export sales. The practical effect of this change is that the customer classes most influenced by swings in export revenue are those classes whose allocated costs consist primarily of Generation and Transmission costs.

Under PCOSS24, 49% of costs in the Generation and Transmission function are offset by net export revenue, meaning the allocated Generation and Transmission costs are reduced by that percentage. However, the overall percentage reduction of each class's total costs depends on what portion of those costs arises from the Generation and Transmission functions. Figure 14.2 illustrates the current treatment of net export revenue for three customer classes. As illustrated in the diagram, for the largest industrial customer class (GSL > 100 kV), Generation and Transmission costs make up 99% of allocated costs, because those customers do not use the distribution system and thus are not allocated any Distribution costs. For this class, net export revenue reduces overall class costs by 49%. In contrast, for the Residential customer class (which makes use of the distribution system), Generation and Transmission costs make up only 72% of total allocated costs. For this class, net export revenue reduces total class costs by 35%.

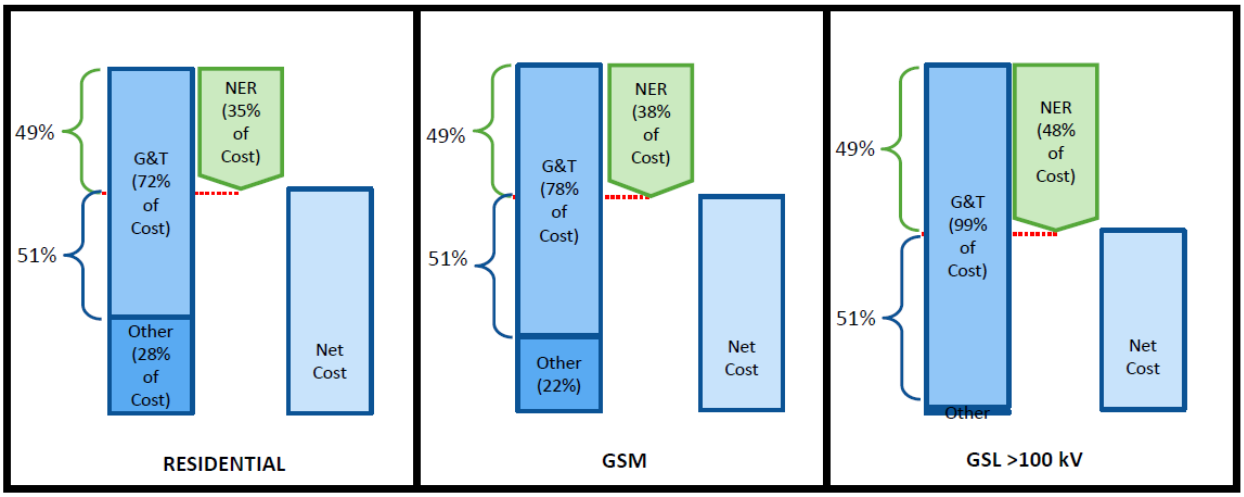

Figure 14.2 — Cost Reduction Due to Net Export Revenue (NER) by Class

Manitoba Hydro's prospective cost of service studies are based on projected costs and revenues. The projected net export revenues in PCOSS24 are calculated from the average of simulations of exports based on the projected levels of water reservoirs at the beginning of 2023/24 as well as water flows that have been experienced over the past forty years. Despite being based on the average results of the forty years of flows, the high starting reservoir levels resulting from record-high water flows during the 2022/23 fiscal year and current high export prices means there is additional projected net export revenue to offset Generation and Transmission costs in PCOSS24. PCOSS24 includes $525 million more net export revenue than Manitoba Hydro's previous cost of service study, PCOSS21, on account of the higher reservoir starting conditions, high export prices, and the additional revenues from the Keeyask generating station being fully in service. This in turn reduces overall Generation and Transmission costs from 71% of the total revenue requirement in PCOSS21 to 64% of the total revenue requirement in PCOSS24.

As set out below, one of the disagreements in this application was whether or not cost of service studies should be based on normalized export revenue to prevent swings in cost of service study results based on droughts or high-water years that may favour one customer class over another.

14.1.6 Reduction in Water Rental Fee and Debt Guarantee Fee

The reduction in the Province of Manitoba's water rental fee and debt guarantee fee effective April 1, 2022 reduces Manitoba Hydro's overall revenue requirement by 5.5%. However, each class receives a different percentage reduction to its allocated costs based on how these fees are functionalized and allocated in Manitoba Hydro's cost of service study. Water rentals are functionalized 100% as Generation, classified as Energy, and allocated according to each class's share of annual energy consumption. In contrast, the provincial debt guarantee fee is functionalized according to the average rate base, i.e., Manitoba Hydro's overall net asset base. Because the Generation and Transmission functions have more valuable assets than the Distribution function, 83.4% of the debt guarantee fee is functionalized as either Generation or Transmission.

Because Generation and Transmission costs make up a larger proportion of total costs for industrial customers than for residential customers, industrial customers receive a greater percentage reduction in their total allocated costs than residential customers. The reduction ranges from 5.5% for the Residential customer class to 7.5% for the General Service Large >100 kV customer class.

14.2 Position of the Parties

14.2.1 Manitoba Hydro

In Manitoba Hydro's view, PCOSS24 represents an appropriate methodology for rate-setting. While the utility acknowledges that the high levels of net export revenue included in PCOSS24 contribute to variability in the revenue to cost coverage ratios of the different customer classes, it states that this factor was explicitly recognized in the utility's rate proposals. Specifically, while the utility is proposing rate increases for the GSL 30-100 kV and GSL > 100 kV classes of less than 2.0%, the differential rate adjustment proposed for those classes is less than for the GSS-ND and Area & Roadway Lighting classes to take into account the impact of net export revenue on the PCOSS24 results.

Manitoba Hydro states that to fully normalize net export revenue would require an alternate run of Manitoba Hydro's HERMES flow modelling software and takes the position that there are an adequate number of scenarios provided in responses to information requests to allow the Board to make a decision.

Manitoba Hydro also states that under its current proposal, the Residential class is expected to pay 1.1% less in 2023/24 and 2.6% less cumulatively in 2024/25 than it would have paid in the absence of the government water rental and debt guarantee fee reductions.

With respect to the recommendations of MIPUG's expert witness Patrick Bowman discussed in section 14.2.2, Manitoba Hydro submits the following:

- Manitoba Hydro considers it premature to reclassify a portion of wind costs as Demand. The utility points out that Mr. Bowman acknowledged that this matter

could be addressed once Manitoba Hydro's integrated resource plan has been reviewed and the role of wind generation in serving Manitoba's load has been determined. Manitoba Hydro also points out that the change proposed by Mr. Bowman would only affect the revenue to cost coverage ratios of the GSL 30-100 kV and GSL >100 kV classes by 0.2% and 0.3%, respectively, with a lesser impact for all other classes.

- With respect to the functionalization of demand-side management, Manitoba Hydro states that nothing has changed since the Board determined, in Order 164/16, that demand-side management is a system resource and should be functionalized as Generation. Manitoba Hydro further notes that Efficiency Manitoba is responsible for demand-side management programs and currently does not have a mandate to reduce peak demand.

- With respect to the number of hours used to calculate the coincident peak demand, Manitoba Hydro states that it is currently in the process of updating its load forecasting and research methodologies and that the use of the top 50 hours is intended to avoid year-over-year variation in the cost of service study results, especially for the Area & Roadway Lighting class. Manitoba Hydro is open to re-evaluating this matter in the future.

14.2.2 Interveners

Assembly of Manitoba Chiefs

The Assembly of Manitoba Chiefs submits that cost of service is only an approximation. It highlights that there is a disproportionate impact created by export revenues and future export revenues are uncertain. The AMC also submits that First Nations in Manitoba never ceded their water rights, and are now being required to pay a disproportionately high rate for the use of their own stolen water.

Consumers Coalition

The Consumers Coalition is concerned about Manitoba Hydro's cost of service studies being vulnerable to changes in circumstances. It relies on the evidence of its expert witness Kelly Derksen that the level of accuracy in the cost of service study may have gotten worse because of the dramatic increase in Generation and Transmission costs

following the completion of Manitoba Hydro's major capital projects. The Consumers Coalition points to Ms. Derksen's evidence that PCOSS24 reflects an anomalous record level of net export revenue that has increased 168% since PCOSS18. In the view of the Consumers Coalition, the high levels of net export revenue as a result of extreme water flows and favourable export markets have revealed a vulnerability in the cost of service study methodology. The Consumers Coalition recommends that the Board undertake a review of the cost of service methodology ten years after the last review in 2016.

Regarding the methodological changes proposed by MIPUG's expert witness Patrick Bowman, the Consumers Coalition states that the value of wind generation resources toward meeting Manitoba Hydro's winter peak demand should be considered after the review of Manitoba Hydro's integrated resource plan. It submits that there is also currently no reason to depart from the treatment of demand-side management costs approved in Order 164/16. In addition, this intervener maintains that the winter coincident peak needs to be sufficiently broad to capture all contributions to the peak. As such, Manitoba Hydro should continue to use the 50 highest consumption hours to determine each class's contribution to the coincident peak demand.

Manitoba Industrial Power Users Group

MIPUG recommends that the Board should rely on the findings of PCOSS24 in setting rates. It states that while starting 2023/24 reservoir levels in the cost of service study are above average, water inflows are set at an average level and normalization does not directionally change the conclusions of the study. It also points out that in PCOSS21, a significant part of the cost of Keeyask was included, but little new revenue had been included in that study. In contrast, PCOSS24 includes Keeyask revenue and appropriately offsets net export revenue against those assets that create export revenue, namely generation and transmission assets.

MIPUG disagrees with a suggestion by the Consumer Coalition's expert witness Ms. Derksen that the reduction in water rental fees and the provincial debt guarantee fee provides a disproportionate benefit to the industrial customer classes. It states that the

change in government fees reduces Manitoba Hydro's revenue requirement by 5.5% and that the benefit will be shared by the classes in proportion to their use of the assets.

MIPUG's expert witness Patrick Bowman recommended several methodological changes to Manitoba Hydro's cost of service methodology. MIPUG adopts those recommendations, which are as follows:

- Re-classification of wind generation: In Order 164/16, the Board found that wind generation costs are to be classified as Energy, as at the time Manitoba Hydro did not attribute any benefit from wind generation toward meeting its winter peak demand. Mr. Bowman recommends that wind generation now be classified as 80% Energy and 20% Demand, on account of Manitoba Hydro attributing 20% of the installed capacity of wind towards its generation capacity capable of meeting the winter peak demand.

- Re-functionalization of demand-side management (DSM) costs: In Order 164/16, the Board found that demand-side management is a Generation resource, as it avoids Generation costs, rather than the costs of Transmission and Distribution. As this finding pre-dated the formation of Efficiency Manitoba (a Crown corporation with a mandate to undertake demand-side management programs), Mr. Bowman recommends that demand-side management costs should now be functionalized to Transmission and Distribution in addition to the current Generation functionalization. Mr. Bowman bases this opinion on the Board having found, in its review of Efficiency Manitoba's first Efficiency Plan, that demand-side management defers future transmission and distribution investments. Mr. Bowman also notes that Manitoba Hydro's marginal value, or its marginal cost, is comprised of Generation, Transmission, and Distribution elements, and the marginal value is used by Efficiency Manitoba when assessing the cost-effectiveness of its programs.

- Re-determination of the peak used to establish Demand costs: Manitoba Hydro uses the consumption from each class during the 50 highest consumption hours to determine each class's cost responsibility for many of the Demand-related costs in its cost of service study. Mr. Bowman recommends that Manitoba Hydro should be directed to bring forward load research that reduces the number of peak hours from the current 50 hours as part of the next general rate application.

MIPUG also recommends that Manitoba Hydro be directed to study the customer homogeneity of the GSL 750V-30 kV class, especially since *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act* appears to prevent the Board from ordering changes to customer classes in the future.

14.3 Board Findings

The Board finds that Manitoba Hydro has addressed Directives 24, 25, 26, and 27 from Order 59/18 and appropriately made these changes to the cost of service study. The Board considers these directives satisfied. Likewise, the Board finds Directive 11 of Order 69/19 and Directive 5 of Order 9/22, which required Manitoba Hydro to file an updated cost of service study that includes the costs of the major capital projects, to be complete.

The Board is satisfied that PCOSS24 appropriately reflects the Board's previous rulings on Manitoba Hydro's cost of service methodology. This includes the allocation of the reduced water rental fee and debt guarantee fee, for which the cost of service treatment remains identical to prior cost of service studies.

The Board finds that it is not necessary to normalize net export revenue in Manitoba Hydro's cost of service studies. While swings in net export revenue from year to year may change revenue to cost coverage ratios, these swings can be dealt with through the zone of reasonableness and the application of the rate-making principles discussed in section 2.3.

The Board approves Manitoba Hydro's proposal to directly assign 38% of the LED roadway lighting conversion program costs to the Area & Roadway Lighting customer class and finds that this direct assignment is based on cost causation principles. When the Board found in Order 164/16 that demand-side management costs are to be functionalized as Generation, it was because the benefits of demand-side management, which are avoided generation costs, accrue to all customer classes, not just the classes that participate in the demand-side management programs. In the case of the LED roadway lighting program, the justification for incurring those costs was not only for the

energy and capacity savings, which are appropriately functionalized as Generation and benefit all customer classes, but for the maintenance savings due to the longer life of the LED luminaires. The Board agrees with Manitoba Hydro that the maintenance savings are not a benefit that accrues to other classes in the same way that energy and capacity savings accrue to other customers as a generation resource. Because a portion of the costs of the LED roadway lighting program was justified by the maintenance savings, it is appropriate to directly assign that portion of costs to the Area & Roadway lighting class.

The Board finds it premature to order a review of the cost of service methodology as recommended by the Consumers Coalition. While there may be a benefit to reviewing the methodology now that there is an approved integrated resource plan for Manitoba Hydro, that plan was not in scope for this hearing. As such, the Board does not see a need to order such a review at this time.

In terms of the changes proposed by MIPUG to the classification of wind generation resources and the functionalization of demand-side management costs, the Board finds that it is premature to consider these changes without first having reviewed Manitoba Hydro's integrated resource plan. The integrated resource plan may provide additional information on the roles of wind generation and demand-side management in meeting Manitoba Hydro's winter peak capacity. Further, MIPUG's proposal to review the number of hours contributing to the coincident peak allocator is premature given the lack of updated load research data in this proceeding.

15.0 RATE DESIGN AND RATE DIFFERENTIATION

15.1 Background

15.1.1 Zone of Reasonableness and Proposal for Differential Rate Increases

In Order 164/16, the Board explained that while a cost of service study appears to be arithmetically exact, it involves many decisions that require judgment. Because of this, and the goal of gradualism in ratemaking, many utilities recognize a zone of reasonableness rather than aiming for a revenue to cost coverage ratio of 100%. This includes Manitoba Hydro.

The zone of reasonableness the Board has approved for Manitoba Hydro ranges from 95% to 105%. A revenue to cost coverage ratio outside that range is one factor to be considered in determining whether a differential rate increase is appropriate for one or more classes of customers, meaning a rate increase that is higher or lower than the average rate increase sought by the utility.

Based on the results of PCOSS24 as shown in Column 2 of Figure 15.1, the Residential customer class is currently below the zone of reasonableness, while the GSS-ND, GSL 30-100kV, GSL >100kV, and Area & Roadway Lighting classes are above it.

For an extended period up to the 2017/18 & 2018/19 General Rate Application, Manitoba Hydro sought, and the Board approved, across-the-board rate increases that were applied equally to all customer classes. However, in Order 59/18, the Board directed Manitoba Hydro to implement differentiated rate increases to gradually move those classes that were above the zone of reasonableness into the zone within a 10-year timeframe. As such, the classes with revenue to cost coverage ratios above the zone of reasonableness received below-average rate increases while the remaining customer classes received greater-than-average rate increases for Manitoba Hydro to recover the resulting overall revenue requirement shortfall.

Since Order 59/18, all rate increases awarded by the Board have been differentiated rate increases to meet the 10-year timeframe to bring all classes into the zone of reasonableness. However, during the COVID-19 pandemic, there was a one-time legislated 2.9% across-the-board rate increase effective December 1, 2020 implemented through *The Budget Implementation and Tax Statutes Amendment Act, 2020*, S.M. 2020, c. 21. In the current application, Manitoba Hydro again seeks differentiated rate increases for the 2023/24 and 2024/25 test years, as set out in Column 4 of Figure 15.1.

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Customer Class	RCC Ratio	Zone of Reasonableness	Rate Increase Proposed by Manitoba Hydro	Differentiation Proposed by Manitoba Hydro	Differentiation Indicated by PCOSS24 to Meet Order 59/18 Timeline
Residential	94.4%	Below	2.4%	+ 0.4%	+ 0.43%
General Service Small Non-Demand	109.7%	Above	1.0%	– 1.0%	– 0.87%
General Service Small Demand	101.8%	In	2.1%	+ 0.1%	+ 0.43%
General Service Medium	100.3%	In	2.1%	+ 0.1%	+ 0.43%
General Service Large 750V-30kV	97.9%	In	2.1%	+ 0.1%	+ 0.43%
General Service Large 30-100kV	112.4%	Above	1.5%	– 0.5%	– 1.35%
General Service Large >100kV	113.3%	Above	1.5%	– 0.5%	– 1.49%
Area & Roadway Lighting	108.2%	Above	1.0%	– 1.0%	– 1.49%

Figure 15.1 — Revenue to Cost Coverage (RCC) Ratios based on PCOSS24 and Manitoba Hydro's Proposed Differentiated Rate Increases

Manitoba Hydro based its rate application on average increases of 2.0% on each of September 1, 2023 and April 1, 2024. Column 3 of Figure 15.1 shows the differentiated rate increases proposed by Manitoba Hydro to achieve this average increase in revenue. Column 4 illustrates the differentiation from the average increase proposed by Manitoba Hydro for each class. Column 6 indicates the amount of differentiation that would be required under the mechanism directed by the Board in Order 59/18. That order, in

addition to establishing a 10-year timeframe, required the revenue shortfall caused by reducing rate increases for the classes above the zone of reasonableness by increasing the rates of all classes below or within the class of reasonableness equally.

The actual rate differentiation proposed by Manitoba Hydro, as shown in Column 5 of Figure 15.1, involves a lesser amount of differentiation for each class than indicated under the Order 59/18 methodology. This includes a lesser amount of differentiation for those classes within the zone of reasonableness than for the Residential class, which is currently the only class below the zone of reasonableness.

15.1.2 Additional Rate Differentiation for the Area & Roadway Lighting Class

Manitoba Hydro's Area & Roadway Lighting customer class consists of customers with street lights and sentinel lighting such as floodlights for parking lots. The two primary types of lighting are high-pressure sodium (HPS) lamps and light-emitting diode (LED) lamps. Area & Roadway Lighting fixtures are not metered, and each fixture is billed a flat monthly charge depending on the type and wattage of the luminaire. As a result, Manitoba Hydro makes use of several different rates within the Area & Roadway Lighting customer class to accommodate the different luminaires operated by its customers.

In this application, Manitoba Hydro filed a new lighting cost of service study (LCOSS) that indicates that there is a significant variance in the revenue to cost coverage ratios of individual lighting types. The variances are in addition to Manitoba Hydro's finding that the Area & Roadway Lighting Class as a whole is above the zone of reasonableness, with a revenue to cost coverage ratio of 108.2%.

Figure 15.2 sets out the revenue to cost coverage ratios determined through LCOSS24 for different types of luminaire. The study indicates revenue to cost coverage ratios ranging from a low of 40% to a high of 165%. As a result of that variance, Manitoba Hydro is proposing additional rate differentiation within the Area & Roadway Lighting class as shown in Figure 15.2. The rates are designed to collectively yield the 1.0% overall class rate increase proposed by Manitoba Hydro for the Area & Roadway Lighting class.

Lighting Type	Light-Emitting Diode (LED)		High-Pressure Sodium (HPS)	
	RCC Ratio	Proposed Rate Increase / Decrease	RCC Ratio	Proposed Rate Increase / Decrease
Sentinel – Flat Rate	148%	– 4.0%	120%	no change
Sentinel – Rental Only	165%	– 4.0%	126%	no change
Exclusive	111%	+ 1.0%	97%	+2.0%
High Mast	40%	+ 6.0%	44%	+ 6.0%
Shared	96%	+ 2.0%	109%	+ 1.0%

Figure 15.2 — Revenue to Cost Coverage Ratios and Differential Rate Proposal for Area & Roadway Lighting Based on LCOSS24

In addition, Manitoba Hydro is seeking approval to add ten additional High Mast rate classes for different HPS and LED lighting fixtures that do not represent Manitoba Hydro's typical lighting installations but are required to ensure an approved rate is available for non-standard configurations. The proposed new High Mast rates are based on the LCOSS24 results for the already approved rates with two or four luminaires of the same wattage per pole.

15.1.3 Other Rate Design Matters

Ending Harmonization of the GSS-ND, GSS-D, and GSM Classes

The rate structure of Manitoba Hydro's General Service Small Non-Demand (GSS-ND), General Service Small Demand (GSS-D), and General Service Medium (GSM) customer classes is currently harmonized, which means the rate components are the same across all three classes. Harmonization began in 2008 and prevented GSM customers who reduced their energy consumption from facing higher bills because their reduced consumption would move them from the GSM rate into the GSS rate, leading them to pay higher GSS rates. However, because the revenue to cost coverage ratio of the GSS-ND class has persistently been outside the zone of reasonableness, while the GSS-D and GSM class ratios have been close to unity, rate harmonization inhibits Manitoba Hydro's ability to adjust rates to bring all three classes into the zone of reasonableness.

Accordingly, Manitoba Hydro proposes to end the harmonization of these classes and adjust rates independently.

Adjusting the Rate Components of the GSS-ND and GSS-D Classes

As set out in Figure 15.3, Manitoba Hydro is proposing differentiated rate increases of 1.0% for the GSS-ND class and 2.1% for the GSS-D class as part of its request for overall 2.0% annual revenue increases in 2023/24 and 2024/25. However, to better align the revenues from each of the classes' rate components with the underlying costs in the cost of service study, Manitoba Hydro is proposing to implement these class revenue increases through different changes to the individual class rate components.

The GSS-ND rate design currently consists of a basic monthly charge and energy charges, similar to residential rates. The GSS-D rate design has similar rate components as the GSS-ND class but also includes a demand charge. The energy charges for both rate classes consist of declining rate components for increasing blocks of energy consumption – the first block for the first 11,000 kWh of monthly consumption, the second for the next 8,500 kWh of monthly consumption, and the third (and lowest-priced) tail block for any consumption over 19,500 kWh. Manitoba Hydro proposes to adjust each of these components on a differentiated basis, as set out in Figure 15.3.

Rate Component		Proposed Adjustment
Basic Monthly Charge		0%
Energy Charge	First Block (first 11,000 kWh/month)	+ 0.9%
	Second Block (next 8,500 kWh/month	+ 3.7%
	Tail Block (any demand of more than 19,500/month)	+ 2.3%
Demand Charge (General Service Demand Class Only)		+ 2.5%

Figure 15.3 — Proposed Adjustment of the Components of the GSS-ND and GSS-D Rates

Adjusting the Rate Components of the GSM Classes

The General Service Medium (GSM) rate currently consists of a basic monthly charge, three different blocks of declining energy charges that mirror the rate blocks of the two General Service Small (GSS) classes, and a demand charge. To better align the revenues from each rate component with the underlying costs in the cost of service study, Manitoba Hydro is proposing to consolidate the first two energy blocks into a single block and apply different rate adjustments to the rate components, as set out in Figure 15.4.

Rate Component		Proposed 2023/24 Adjustment	Proposed 2024/25 Adjustment
Basic Monthly Charge		no change	no change
Energy Charge	Current First Block (first 11,000 kWh/month)	– 9.0%	+ 1.1%
	Current Second Block (next 8,500 kWh/month	+ 18.0%	
	Tail Block (any demand of more than 19,500/month)	+ 2.2%	+ 2.2%
Demand Charge		+ 2.5%	+2.5%

Figure 15.4 — Proposed Adjustment of the Components for the GSM Rates

Cooking and Heating Rates

Manitoba Hydro is proposing to eliminate the Cooking and Heating Standard and Cooking and Heating Seasonal rates, as these rates have not been available to new customers since 1976 and there are no longer any remaining legacy customers.

Rebalancing Demand and Energy Rates for the GSL Customer Classes

Each of the General Service Large classes has rates made up of a demand charge and an energy charge. Unlike Manitoba Hydro's other customer classes, General Service Large customers do not pay a fixed monthly charge, which is often used to recover customer-related costs. In comparing the revenues collected by the General Service Large rate components with the underlying costs from the cost of service study, Manitoba Hydro is of the view that too little revenue is recovered through the General Service Large

demand charges and too much is recovered through the energy charges, as seen in Figure 15.5.

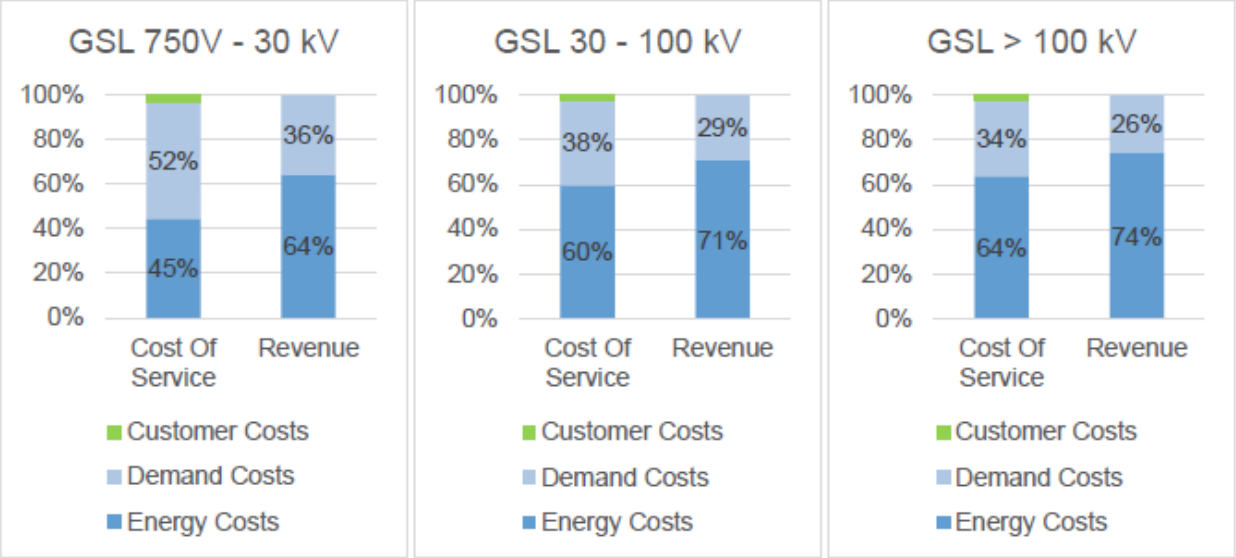

Figure 15.5 — Comparison of Demand and Energy Costs with Revenue Recovery for the General Service Large Classes

To more closely align cost drivers with revenue, and in recognition of the increased value that will be placed on capacity resources needed to meet demand, Manitoba Hydro is proposing to apply the proposed rate increases from Figure 15.1 entirely to the demand component of the General Service Large classes, as set out in Figure 15.6. This proposed change benefits customers with a high load factor (the ratio of average demand to peak demand), while it disadvantages customers with a low load factor. High load factor customers make more efficient use of Manitoba Hydro's system as their consistent usage is less expensive to supply on a per kilowatt-hour basis than low load factor customers whose peak demand is significantly higher than their average demand. Applying the rate increase solely to the demand charge results in a 2.3% bill increase to the most negatively affected customers, factoring in the impact of the overall 1.5% increase to the General Service Large 30-100kV and General Service Large >100kV classes.

	GSL 750V-30kV		GSL 30-100kV		GSL >100kV	
Test Year	2023/24	2024/25	2023/24	2024/25	2023/25	2024/25
Energy Charge	no change	no change	no change	no change	no change	no change
Demand Charge	5.8%	5.6%	5.1%	5.0%	5.8%	5.5%

Figure 15.6 — Proposed Increases to the General Service Large Class Rate Components

Billing Demand Definition for GSL 30-100 kV and GSL >100 kV Customer Classes

For customers in the General Service Large 30-100kV and General Service Large >30kV classes, Manitoba Hydro determines billing demand monthly to levy the demand charge that forms part of those customers' bills. Under the utility's current rate offering, billing demand is defined as the greatest of measured demand, 25% of contract demand, or 25% of the highest measured demand in the previous 12 months. To consider when the overall system is peaking, the utility proposes to change the first part of the definition (i.e., measured demand) to the greater of measured demand during peak hours or 90% of measured demand during non-peak hours. This would allow customers to achieve limited savings by moving consumption from peak to off-peak hours. Under the changed definition, all customers in the class would have a billing demand less than or equal to their current billing demand. The utility expects the changed definition to result in an approximate 1% reduction in the forecast aggregate billed demand and, as a result, proposes to adjust the demand charge by 1% to remain revenue neutral.

To allow sufficient time for Manitoba Hydro to make changes to its billing system following receipt of the Board's decision, and to further communicate the changes to affected customers, Manitoba Hydro proposes to implement the proposed billing demand definition on April 1, 2024.

15.2 Position of the Parties

15.2.1 Manitoba Hydro

In Manitoba Hydro's view, the utility's rate differentiation proposals are justified. Manitoba Hydro submits that while the Board did state in Order 164/16 that ratemaking objectives should not be considered in the cost of service methodology, it was not the Board's intention to exclude cost responsibility from the ratemaking stage. In the utility's view, a failure to recognize legitimate changes in cost causation through rate differentiation would undermine fairness and equity on an inter-class basis.

With respect to Manitoba Hydro's proposed change to the definition of billing demand, the utility argues that the inclusion of a provision for billing demand based on 90% of measured demand during non-peak hours reflects prudence and serves to avoid potential unintended consequences. The utility states that a cap is required to avoid unmitigated load growth during non-peak hours at which customers are not paying their capacity cost. However, the utility would consider expanding the cap to 75% or 80% if required to do so.

15.2.2 Interveners

Assembly of Manitoba Chiefs

The Assembly of Manitoba Chiefs states that if the Board awards a rate increase to Manitoba Hydro, that rate increase should be equally applied across all classes. This intervener highlights the disproportionate bill affordability and energy poverty issues faced by First Nations on-reserve residential customers and submits that regulators may consider non-cost attributes, including affordability, when designing rates.

The Assembly of Manitoba Chiefs states that Manitoba Hydro took no strong position on the issue of widening the zone of reasonableness, and argues that another option would be to order a more gradual approach to moving customer classes into the zone of reasonableness.

Consumers Coalition

The Consumers Coalition is concerned with an undue focus on cost of service results in rate design. It submits that in Order 164/16, the Board created a separation between the ratemaking step of a cost of service study, which should be driven by cost causation principles, and the rate design stage, during which other goals and policies must also be considered. In the submission of this intervener, a cost of service study is one tool among many to use to set just and reasonable rates.

The Consumers Coalition points to the evidence of its expert witness on cost of service, Kelly Derksen. According to Ms. Derksen, PCOSS21, which was considered during the 2021/22 interim rate application, demonstrated progress towards moving the different customer classes into the zone of reasonableness, but this progress was reversed in PCOSS24. Ms. Derksen also critiqued Manitoba Hydro's proposed GSL > 100 kV rate proposal as creating a rate that falls below the utility's marginal cost.

In the view of the Consumers Coalition Order 164/16, which changed Manitoba Hydro's cost of service methodology, created a clear demarcation between cost of service on the one hand and rate design principles on the other hand. This means the existing cost of service methodology, in which cost causation principles are paramount, must be complemented by a rigorous, contextual application of rate design principles. This includes taking into account affordability considerations and the potential hardship that Manitoba Hydro's rate proposals impose on customers. The Consumers Coalition argues that Manitoba Hydro's data shows that following pandemic-induced financial pressure, the burden of utility bills is becoming harder for customers to bear. As an example, this intervener illustrates that Manitoba Hydro's flagship affordability program, Neighbours Helping Neighbours, granted less than half of the funds to vulnerable consumers in 2020/21 than it granted in any of the four prior years.

The Consumers Coalition submits that Manitoba Hydro's rate proposals in this application place an inordinate focus on achieving revenue to cost coverage unity to the exclusion of nearly anything else and that the utility has failed to meaningfully grapple with the task of

ensuring fairness and equity between the different customer classes. The Consumers Coalition is of the view that it is a live question whether the current zone of reasonableness of 95% to 105% adequately captures the imprecision inherent in the cost of service study. The Consumers Coalition recommends that the Board provide direction to Manitoba Hydro on the rigour required in rate design, including taking into account the policy factors set out by the Board in Order 164/16, the failure of the existing zone of reasonableness to accommodate the imprecision inherent in a cost of service study, and the potential combined effect of rate changes on customers facing financial pressure.

The Consumers Coalition recommends that if the Board awards a rate increase to Manitoba Hydro, it should award a below-average rate increase to the General Service Small Non-Demand class but equal rate increases to all other classes. This intervener does not take a position on the specific rate design matters affecting the General Service Medium and General Service Large classes.

15.2.3 GSS/GSM Representative

The GSS/GSM Representative supports Manitoba Hydro's rate design proposal and the utility's attempt to bring customer classes into the zone of reasonableness through differentiated rate increases. It notes that the proposal to end harmonization of the GSS and GSM rates will help Manitoba Hydro to achieve this goal more quickly.

The GSS/GSM Representative emphasizes that Order 164/16, which established the current cost of service methodology, was the result of a deliberate and focused process before the Board that resulted in a conclusion that cost causation was "paramount". This intervener also submits that the Board has accepted a zone of reasonableness of 95% - 105% since 1996 and rejected a wider zone in Order 59/18.

According to the GSS/GSM representative, the GSS classes have consistently been above the zone of reasonableness since the 1990s. While the GSS-D class was in the zone of reasonableness in PCOSS18 and PCOSS21, the GSS-ND class has remained well above the upper threshold of the zone, which means that, in the zero-sum game of

cost allocation, that class is subsidizing other classes. The GSS/GSM Representative argues that the Board should not compromise on its direction in Order 59/18 to move all classes into the zone of reasonableness within 10 years and points out that the utility is not seeking to expand the existing zone.

The GSS/GSM Representative requests that the Board reject the evidence of the Consumers Coalition's expert witness on cost of service and rate design. In the opinion of this intervener, Ms. Derksen crossed the line between a neutral witness and an advocate by tailoring her evidence to lead to a certain outcome and altering her recommendations to achieve that outcome. Further, the GSS/GSM Representative characterized Ms. Derksen as by being an evasive and intransigent witness.

The GSS/GSM representative further disagrees with the proposal of the Consumers Coalition to change net export revenue levels in Manitoba Hydro's cost of service study in an attempt to normalize that revenue. In its view, such an attempt does not create a credible cost of service scenario. Instead, this intervener recommends that the Board approve and rely on PCOSS24 for rate-setting purposes.

Manitoba Industrial Power Users Group

MIPUG supports differentiated rate increases, but argues that there should be additional differentiation to move the industrial classes into the zone of reasonableness within five years. It submits that based on PCOSS24, the 48 customers in the GSL 30-100kV class will contribute $11.8 million more than their costs, while the 14 companies in the GSL > 100 kV class will contribute $19.4 million more than their measured costs annually. In MIPUG's view, if a class is outside the zone of reasonableness, then by definition the rates charged to that class are unreasonable. Additionally, MIPUG emphasizes that the Board established a 10-year timeframe in Order 59/18 to get classes into the zone of reasonableness, and sees no compelling reason to deviate from that timeframe. MIPUG further submits that clause 39.1(1)(a) of *The Manitoba Hydro Act*, which will apply to future general rate applications, suggests a pressing need to move the four customer classes currently above the zone of reasonableness to a revenue to cost coverage ratio of unity.

MIPUG disagrees with the position of the Consumers Coalition's expert Kelly Derksen that revenue to cost coverage ratios are unstable. In MIPUG's submission, RCCs have been remarkably stable over the decades. With respect to Ms. Derksen's recommendation to focus on RCC ratios before crediting net export revenue to each class, MIPUG submits that this is an attempt to attack the Board's decision in Order 164/16 that net export revenue should not be allocated on the basis of distribution costs.

MIPUG recommends that the Board should rely on the findings of PCOSS24 in setting rates. It states that while starting reservoir levels in the study are above average, water inflows are set at an average level and normalization does not directionally change the conclusions of the study. It also points out that in PCOSS21, a significant part of the cost of Keeyask was included, but little new revenue. In contrast, PCOSS24 includes Keeyask revenue and appropriately offsets net export revenue against those assets that create export revenue, namely generation and transmission.

MIPUG argues that when there are above-average export revenues, the GSL 30-100kV and GSL >100 kV classes are penalized, as higher reservoir starting conditions increase the RCC ratio of those classes, suggesting an over-contribution to costs. According to MIPUG, there is a dramatic under-contribution by the Residential customer class to generation and transmission costs.

With respect to Manitoba Hydro's proposed change to the definition of billing demand, MIPUG considers the change to be directionally appropriate. However, in MIPUG's view, the proposal does not go far enough and using 90% of the off-peak demand as a limit when determining the billing demand is unjustified. While MIPUG would like to see no cap at all, it points out that Manitoba Hydro appears to be prepared to accept a higher amount of off-peak demand of 75%. MIPUG also submits that there should be no increase to the GSL demand rates included with this proposal to address the foregone revenue from the change in billing demand definition, given that the larger GSL classes pay well above the zone of reasonableness already.

15.3 Board Findings

15.3.1 Rate Differentiation

The Board approves Manitoba Hydro's rate differentiation proposal. However, because the overall approved rate increase for each of the 2023/24 and 2024/25 test years is 1.0% rather than 2.0%, the differentiated rate increases for the individual customer classes differ from those proposed by Manitoba Hydro. For ease of reference, the actual differentiated rate increases, or class revenue target increases, approved in this order are set out in Figure 15.7.

Customer Class	PCOSS24 RCC and Position in ZOR		Proposed Rate Increases	Proposed Differentiation (+/- from Overall)	Approved Rate Increases
Residential	94.4%	Below	2.4%	+ 0.4%	1.4%
GSS-ND	109.7%	Above	1.0%	– 1.0%	no increase
GSS-D	101.8%	In	2.1%	+ 0.1%	1.1%
GSM	100.3%	In	2.1%	+ 0.1%	1.1%
GSL 750V-30kV	97.9%	In	2.1%	+ 0.1%	1.1%
GSL 30-100kV	112.4%	Above	1.5%	– 0.5%	0.5%
GSL >100 kV	113.2%	Above	1.5%	– 0.5%	0.5%
A&RL	108.2%	Above	1.0%	– 1.0%	no increase

Figure 15.7 — Approved Differentiated Rate Increases

The Board continues to be of the view that cost of service is an important criterion in setting rates, and that a revenue to cost coverage ratio that is persistently above or below the zone of reasonableness for any class should be avoided. However, as set out in section 2.3, the Board must balance cost of service considerations against other ratemaking criteria, including rate stability and affordability. The Board's rate differentiation directive in Order 59/18 was based on PCOSS18. It also assumed annual differentiated rate adjustments over 10 years. Since that time several relevant factors have changed. Firstly, a legislated across-the-board rate increase of 2.9% through *The Budget Implementation and Tax Statutes Amendment Act, 2020* and the lack of a rate

change in 2022/23 meant that for two years, there was no progress towards moving classes into the zone of reasonableness through rate differentiation. Secondly, the differentiated rate change in 2019/20 was limited to the GSS-ND class, as no prospective cost of service study was filed with the 2019/20 General Rate Application, meaning there was no evidentiary basis to order additional rate differentiation. Thirdly, methodological changes between PCOSS18 and PCOSS24 have contributed to changes in the revenue to cost coverage ratios. Fourthly, the high net export revenue included in PCOSS24 has skewed revenue to cost coverage ratios in PCOSS24, in what may be a one-time occurrence.

In the Board's view, Manitoba Hydro's attenuated rate differentiation proposal is just and reasonable and strikes an appropriate balance between cost of service criteria and other ratemaking criteria, notably affordability and rate stability.

In contrast, under the PCOSS24 results and the average 1.0% rate increase approved in this order, a mechanistic rate differentiation would result in an increase of 1.43% for residential and commercial customers while leading to a rate reduction of 0.49% for large industrial customers. The Board finds that this level of differentiation is not just and reasonable as it does not adequately balance cost of service criteria against the need for rate stability and affordability. The Board also finds that it would not be just and reasonable to impose a rate differentiation of 0.43% on the commercial customer classes that are already in the zone of reasonableness, and that Manitoba Hydro's proposal for a 0.1% rate differentiation for those classes strikes an appropriate balance.

The Board is not persuaded that the zone of reasonableness, currently ranging from 95% to 105%, needs to be expanded. The purpose of the zone of reasonableness is to provide guidance for rate-setting, but it is not determinative of the Board's rate decisions, including rate differentiation. Like cost of service, it is one of the input factors the Board considers at the ratemaking stage.

Likewise, the Board finds that it is not necessary to normalize net export revenue in Manitoba Hydro's cost of service studies. While swings in net export revenue from year

to year may change RCC ratios, these swings can be dealt with through the zone of reasonableness and the application of rate design criteria as explained in section 2.3. The impact of higher-than-normal net export revenue is one of the factors the Board considered in approving Manitoba Hydro's attenuated rate differentiation proposal.

The Board further notes that the approved rate increases for all classes are less than expected inflation for the 2023/24 and 2024/25 test years.

15.3.2 Area & Roadway Lighting Class

The Board approves Manitoba Hydro's proposal for further rate differentiation within the Area & Roadway Lighting class. The proposal is just and reasonable in light of the results of Manitoba Hydro's LCOSS24 lighting cost of service study. Since this rate differentiation is taking place within the same customer class, and most of the affected customers are likely to have a range of lighting standards, the Board places increased emphasis on cost causation principles in this case rather than rate stability.

While the Board approves Manitoba Hydro's rate differentiation proposal in principle, it notes that Manitoba Hydro's specific differentiated rates for the Area & Roadway Lighting class do not reflect the actual class rate increases approved by this order. In light of the Board approving an overall rate freeze for this class instead of the 1.0% sought in Manitoba Hydro's application, Manitoba Hydro will have to adjust the increases for the individual light fixture types to accomplish the approved level of rate differentiation.

The Board also approves Manitoba Hydro's proposal to add ten new High Mast rates to cover potential High Mast asset configurations. These ten new High Mast rates are to be based on the LCOSS24 results for the already existing HPS and LED High Mast rates with two or four luminaires of the same wattage per pole, but reflect an overall freeze in the class revenue target.

15.3.3 Rate Design for the Residential Class

The Board approves Manitoba Hydro's proposal to apply the approved rate increase for the Residential class both to the basic charge and the energy charge.

15.3.4 Rate Design for the GSS-ND, GSS-D, and GSM Classes

The Board approves Manitoba Hydro's proposal to end harmonization of the General Service Small and General Service Medium customer classes. The Board notes that without ending harmonization, it is not possible to adjust the RCC ratio of the GSS-ND class separately from the other two classes, which limits the effectiveness of differentiated rate increases that seek to bring the revenue to cost coverage ratios for all three classes into the zone of reasonableness.

The Board also conceptually approves Manitoba Hydro's proposal to achieve rate differentiation between the GSS-ND and GSS-D classes by adjusting the second energy block rate and the demand charge more than the first energy block rate. However, the Board notes that Manitoba Hydro's proposed increases to those components assume a 2.0% overall rate increase, with class revenue target increases of 1.0% for the GSS-ND class and 2.1% for the GSS-D class. In light of the Board approving differentiated class revenue target increases of 0.0% and 1.1% for these classes, respectively, the Board expects that Manitoba Hydro will have to adjust the increases to the individual rate components in order to accomplish the approved class rate differentiation.

Similarly, the Board conceptually approves Manitoba Hydro's proposal to combine the first and second energy blocks for the GSM class and differentially adjust the energy and the demand rate components to achieve the overall class rate differentiation approved above.

15.3.5 Cooking and Heating Rates

The Board approves the elimination of the Cooking and Heating Standard and Cooking and Heating Seasonal rates. Given the evidence that there are no remaining customers using this rate option, the Board is satisfied that the rate is no longer required.

15.3.6 Rebalancing Demand and Energy Rates for the GSL customer classes

The Board approves Manitoba Hydro's proposal to achieve 2023/24 and 2024/25 rate increases for the three General Service Large customer classes solely through increases to the demand charges for those customer classes. The Board finds that the utility's proposal is justified based on the current misalignment between costs classified as Energy or Demand and their recovery through the existing rates.

The Board notes that, because the actual approved rate increase for each of the three General Service Large classes is different than what Manitoba Hydro applied for, the percentage increases to the demand charge will differ from those set out in Figure 15.6.

15.3.7 Billing Demand Definition for the GSL 30-100 kV and GSL >100 kV Classes

The Board approves Manitoba Hydro's proposed change to the definition of Billing Demand in its rate schedules for the two largest General Service Large customer classes effective April 1, 2024. In light of Manitoba Hydro's expressed uncertainty about load shifting within the customer class, using a minimum factor of 90% of measured off-peak demand is reasonable at this time. However, the Board is mindful of the interest expressed by MIPUG in providing a further credit for load-shifting by reducing the factor to 80% or 75%. Recognizing that this change will only be in place for a few months at the time of Manitoba Hydro's next general rate application filing, Manitoba Hydro is directed to report back to the Board at the next general rate application on its experience, together with the results of Manitoba Hydro's consultations with affected customers. The utility is to advise at that time whether it considers the 90% off-peak cap to remain appropriate or whether a different off-peak factor should be used.

15.3.8 Compliance Filing

Manitoba Hydro is directed to file updated rates, proofs of revenue, and bill impacts for all customer classes with the utility's compliance filing.

15.3.9 Evidence of Expert Witnesses

The Board finds that the expert evidence of Kelly Derksen, the Consumers Coalition's expert on cost of service matters, remains admissible in this proceeding. While the Board agrees with the GSS/GSM Representative's characterization that Ms. Derksen was at times a difficult witness, the threshold to disqualify an expert based on a lack of independence is a high one. As the Board noted in Order 109/22, the duty of an expert witness is as set out by the Supreme Court of Canada in *White Burgess Langille Inman v. Abbott and Haliburton*, 2015 SCC 23. The question is whether the expert is unable or unwilling to carry out their primary duty to provide fair, non-partisan and objective assistance. While Ms. Derksen forcefully advocated for and defended her positions in a somewhat adversarial manner, there is no reason for the Board to believe that her evidence does not reflect her genuine opinions. As such, the Board has considered Ms. Derksen's evidence on its merits in reaching a decision on cost of service and rate differentiation matters.

Both the independence of an expert and the expert's credentials are important threshold questions of admissibility. However, beyond that threshold question, the Board is uneasy about an increased focus in recent hearings on the character of witnesses in support of submissions that a witness's evidence should be discounted, or that one witness's evidence should be preferred over that of another. The Board reminds all parties that the purpose of interveners and expert witnesses in a general rate application is to assist the Board. The Board finds the hearing process to be most productive when it receives a range of perspectives being presented in a factual manner.

16.0 ENERGY POVERTY ISSUES

16.1 Background

Manitoba is a cold-weather jurisdiction, which results in significant heating costs for many residential consumers. Currently, approximately 40% of Manitoba Hydro's residential customers use electricity to heat their homes. As set out in Figure16.1, heating with electricity is more expensive than heating with natural gas, although it is cheaper than heating with fuel oil or propane. Natural gas service does not extend to all municipalities in Manitoba, in particular the north. This means that customers in those areas have no choice but to heat with electricity or another more expensive fuel source.

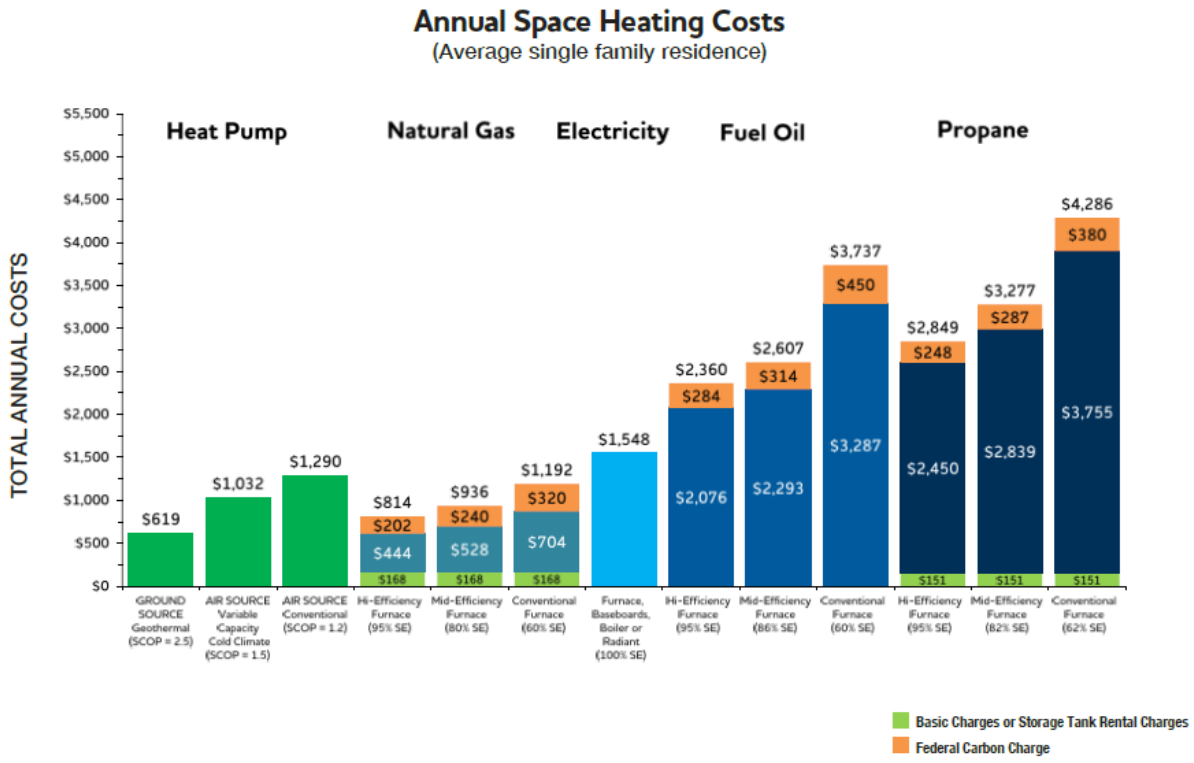

Figure 16.1 — Manitoba Hydro Heating Cost Comparison

Over the past decade inflation in Manitoba has been 24.63% while electricity rates have increased 42.11%, approximately 1.7 times the rate of inflation. This has had an effect on Manitoba Hydro's lower-income customers. In a 2022 survey of residential customers,

over one-third of respondents reported experiencing an energy burden, which is related to the proportion of household income that goes towards energy bills.

The Board has expressed concern about bill affordability and energy poverty in the context of Manitoba Hydro's rates for almost 20 years. While bill affordability may relate to temporary financial difficulty, energy poverty is a structural problem in which energy bills constitute too high of a percentage of a household's total income. In the Board's 2014 NFAT report, the Board expressed concern about projected rate increases on lower-income customers, including customers living in First Nations communities. The Board noted the significant rate burden expected as a result of investments made into the Keeyask generating station and other major capital projects. In the NFAT Report, the Board recommended that the government should direct a portion of the incremental capital taxes and water rental fees from the development of the Keeyask project to be used to mitigate the impact of rate increases on lower-income consumers, northern and aboriginal communities.

Following a directive set out in Order 73/15, Manitoba Hydro established a Bill Affordability Working Group which conducted an in-depth analysis of energy affordability in Manitoba. In the 2017/18 & 2018/19 General Rate Application, Manitoba Hydro filed a summary report detailing the work of this group. The working group noted that most organizations consider a household to be energy-poor if energy bills constitute more than 10% of pre-tax household income, while some organizations also use a 6% threshold. The working group further found that energy poverty is deeply complex and multi-faceted, and should be addressed through a combination of lower-income energy initiatives, landlord and tenant initiatives, equal payment plans, arrears management, and bill forgiveness. However, the group did not reach a consensus on specific rate options or assistance programs.

In the hearing of Manitoba Hydro's 2017/18 & 2018/19 General Rate Application, the Board received testimony from a panel of residential ratepayers sponsored by the Consumers Coalition. The presentations from that witness panel illustrated the issue of

energy poverty for the Board. For example, one individual testified that they had transitioned from welfare to pension income, were renting an apartment, and were struggling with heating bills. The presenter testified that, among other things, they would keep the apartment at 65 degrees Fahrenheit to lower heating bills or let hot water stand in the bathtub to heat the bathroom.

In Order 59/18, the Board noted that there may not be a single solution to a multifaceted bill affordability problem. The Board found that while government has a role to play in addressing the issue of affordability, so too does Manitoba Hydro. The Board stated that rate design can assist Manitoba Hydro in fulfilling its role on the issue.

The Board's jurisdiction to order rate relief in the face of energy poverty has been a matter of debate for many years. Manitoba Hydro has consistently taken the position that the Board does not have the jurisdiction to order the implementation of lower rates or bill affordability programs, while several interveners have concluded the opposite. However, events since Manitoba Hydro's 2017/18 & 2018/19 General Rate Application have provided some guidance on this issue.

In Order 59/18 issued by the Board for the 2017/18 & 2018/19 General Rate Application, the Board concluded that it had jurisdiction to order the implementation of lower-income rate assistance. In that order, the Board directed Manitoba Hydro to establish a First Nations On-Reserve Residential customer class, which was to receive a 0% rate increase for the 2018/19 fiscal year. In its decision, the Board was guided by evidence that 96% of First Nations people on reserve lived in poverty and reserves in Manitoba had the highest rates of child poverty in Canada. The Board also noted that First Nations reserves had poor housing stock and no access to the more economical option of heating with natural gas.

Manitoba Hydro subsequently applied to review and vary the Board's directive on the ground that the Board had no legal jurisdiction to order the creation of the First-Nations On-Reserve Residential customer class. In Order 90/18, the Board affirmed its decision and upheld the 0% rate increase. Manitoba Hydro then appealed the matter to the

Manitoba Court of Appeal, which ultimately overturned the Board's order to create the First Nations On-Reserve Residential customer class.

The Manitoba Court of Appeal considered the First Nations On-Reserve Residential Rate in *Manitoba (Hydro-Electric Board) v. Manitoba (Public Utilities Board) et al*, 2020 MBCA 60. In that decision, delivered in June 2020, the court ruled that the rate violated subsection 43(3) of *The Manitoba Hydro Act*, which states that Manitoba Hydro's funds are not to be used by the government to serve any purpose other than that of Manitoba Hydro. The court also found that the rate contravened clause 39(2.2)(b) of *The Manitoba Hydro Act*, which prohibits the classification of customers based on geographic location. In the view of the court, initiatives to address broad social issues such as poverty should be left to the government.

As a result of the Manitoba Court of Appeal's ruling, the First Nations On-Reserve Residential customer rate was unwound in Order 110/20, and those customers now pay the same rate as other residential consumers.

At the time the Board directed the establishment of the First Nations On-Reserve Residential customer rate, the Board was guided by jurisprudence from other Canadian jurisdictions, and the matter had not been settled in Manitoba. The legislated changes recently made by *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act*, on the other hand, introduce a clear prohibition against such rates in the future, as Rule 5 of subsection 39(5) of *The Manitoba Hydro* Act now states that "rates for different customers or classes of customers must not differ based on affordability or other socio-economic factors". Absent a further legislative amendment, this provision will prohibit any low-income rate relief subsidized by Manitoba Hydro ratepayers.

In this proceeding, Manitoba Hydro provided evidence that it considers bill affordability on a "holistic basis" involving different supports provided by different agencies. This includes non-rate-related Manitoba Hydro programs such as a flexible payment program and a customer arrears assistance program, energy efficiency programs delivered by Efficiency Manitoba, and referrals to other social service agencies. Manitoba Hydro further testified

that it provides between 100,000 and 150,000 flexible payment arrangements annually. It also offers its Customer Arrears Assistance Program, which provides an interest-free arrears repayment plan for residential customers in arrears, with payments amortized over a period of up to three years or, in exceptional circumstances, up to five years. According to Manitoba Hydro, approximately 1,500 to 2,000 customers participate in that program annually. However, Manitoba Hydro currently does not provide low-income electricity options, nor are there any rebates or credits applied to Manitoba Hydro's bills based on a customer's energy burden.

16.2 Positions of the Parties

16.2.1 Manitoba Hydro

Manitoba Hydro states that it is aware that some customers are financially struggling with energy poverty, which is why the utility offers a holistic approach to bill affordability through a bundling of programs, as well as referrals to other agencies, depending on the needs of each customer. In addition to its own programs and referrals, the utility developed the Neighbours Helping Neighbours program in cooperation with the Salvation Army. This program provides a one-time grant of up to $400 for customers in arrears at risk of disconnection who do not currently receive social assistance.

Manitoba Hydro also acknowledges that it has a role to play in advancing reconciliation, and states that as a Crown corporation, its approach is guided by *The Path to Reconciliation Act*. However, the utility states that it also must carefully balance its financial health with the impact on customers when establishing the level of rate increase required. In Manitoba Hydro's view, the issues underlying bill affordability and energy poverty are complex and engage considerations of social policy, and those issues cannot be solved by Manitoba Hydro alone. It reiterates the findings of the Manitoba courts that initiatives to address broad social issues such as poverty should be left to the government. In Manitoba Hydro's submission, the Board's ability to consider factors such as social policy and bill affordability in approving and fixing rates for service does not equate to the authority to direct the creation of customer classifications which implement broader social

policy aimed at poverty reduction. The utility concludes that its mandate, current legislation, and the passing of *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act* prohibit Manitoba Hydro from creating bill affordability programs that focus on one segment of residential customers.

16.2.2 Interveners

Assembly of Manitoba Chiefs

The Assembly of Manitoba Chiefs states that issues of bill affordability and energy poverty have been prominent concerns before the Board for at least a decade. It references the findings of the Board when the Board established the First Nations On-Reserve Residential customer class in Order 59/18. In the view of this intervener, while the Manitoba Court of Appeal overturned the Board's directive to create this class, the underlying findings of the Board remain true. In particular, the Assembly of Manitoba Chiefs points out that most on-reserve residential customers use over 2,000 kWh of electricity per month, and that high electricity consumption increases the bill impact of rate increases. The effect of higher average consumption is seen when comparing annual bills from on-reserve residential customers, which average $2,924, to annual bills for off-reserve residential customers, which average $1,463. In addition, while on-reserve residential customers comprise only 3.67% of total residential customers, they account for 16% of residential disconnections and 22% of residential late payment charges.

The Assembly of Manitoba Chiefs also submits that the Manitoba Court of Appeal confirmed that the Board may consider *The Path to Reconciliation Act*. This intervener requests the Board to make a recommendation that Manitoba Hydro be directed to consider and understand the impacts of rate increases on First Nations customers. It also asks the Board to recommend that Manitoba Hydro and the provincial government work with First Nations governments and the federal government to come up with real and impactful solutions to First Nations energy poverty, and for the provincial government to use the water rental fees it still collects to fund bill affordability programs that are at least in part directed at First Nations customers. The Assembly of Manitoba Chiefs also

expresses disappointment about what it considers to be a lack of initiative or concern by Manitoba Hydro with bill affordability, energy poverty, and reconciliation. The Assembly of Manitoba Chiefs requests that the Board recommend to the provincial government that it collaborate with First Nations and the federal government to implement meaningful action on energy poverty for First Nations customers. In its view, the statistics set out above indicate that programs such as the Equal Payment Plan, Energy Finance Plan, and Neighbours Helping Neighbours have not had a meaningful impact on energy poverty issues affecting First Nations customers. While the Assembly of Manitoba Chiefs supports these Manitoba Hydro programs, it advocates for additional solutions.

The Assembly of Manitoba Chiefs argues that the Board should consider whether First Nations customers equitably benefit from proposed rate increases, and urges the Board to consider substantive as opposed to formal equality. In particular, this intervener states that First Nations are historically disadvantaged in terms of access to Manitoba Hydro's services —only two of the 63 First Nations have access to natural gas, while the adverse impacts of generating and transmitting electricity falls disproportionately on First Nations. In contrast, First Nations are underrepresented in Manitoba Hydro's labour force, as only six percent of Manitoba Hydro's workforce self-identifies as indigenous, while First Nations citizens constitute 12% of the overall Manitoba population.

Consumers Coalition

The Consumers Coalition states that Manitoba Hydro must meaningfully consider the potential financial hardships its decisions impose on customers and that this extends beyond Manitoba Hydro's proposal for differential rate increases which disproportionately affect residential customers. This intervener argues that Manitoba Hydro's data shows that following financial pressure induced by the COVID-19 pandemic, the burden of residential utility bills is becoming harder to bear. As an example, it points out that grants issued by Manitoba Hydro's flagship program Neighbours Helping Neighbours in 2020/21 totalled less than half of the contributions made to program recipients than in any of the preceding four years, just as Manitoba Hydro's customers were in most dire need. The Consumers Coalition also suggests that the uniform rate adjustment made after the

provincial government harmonized residential customer rates across the province reflects a conscious government choice that the revenue to cost coverage ratio of the residential class should be below that of other customer classes.

Manitoba Keewatinowi Okimakanak

Manitoba Keewatinowi Okimakanak considers it to be unfortunate that the Manitoba Court of Appeal reversed the creation of the First Nations On-Reserve Residential customer rate. It urges the Board to recommend to the provincial government to amend *The Manitoba Hydro Act* to restore, or permit the Board to restore, this rate. It notes that while the court found that the Board did not have the jurisdiction to direct the creation of such a rate, the government has the jurisdiction to implement a recommendation by the Board. In Manitoba Keewatinowi Okimakanak's view, even if the current government is not open to such a recommendation, a future government may be.

Like the Assembly of Manitoba Chiefs, Manitoba Keewatinowi Okimakanak cites statistics to highlight the relative energy poverty of First Nations customers. This intervener states that Manitoba Keewatinowi Okimakanak customers comprise 1.45% of all residential customers yet are billed 3.0% of total residential electricity charges, meaning they pay twice as much per capita as the average residential consumer. They are also responsible for 37.5% of all residential arrears, despite making up less than two percent of residential customers. In contrast, customers in the four diesel zone communities, who are prohibited from using electricity for space heat, pay closer to the average annual electricity cost paid by all customers. In Manitoba Keewatinowi Okimakanak's view, this suggests that electric heating is a major cause of the large bills and arrears faced by First Nation residential customers.

Manitoba Keewatinowi Okimakanak points out that it asked Manitoba Hydro whether reinstating the First Nations On-Reserve Residential rate would be a meaningful solution to First Nations' energy poverty, and that Manitoba Hydro refused to answer, stating that the matter has been settled by the Manitoba Court of Appeal. In Manitoba Keewatinowi

Okimakanak's view, Manitoba Hydro's refusal to take a position on the issue undermines the principle of reconciliation.

Manitoba Keewatinowi Okimakanak further submits that the Board should recommend that the government specifically enact a Northern First Nation On-Reserve Residential rate, in recognition of high electric heating costs in the far north. It suggests that the required geographic delineation could be based on the existing definition of "northern Manitoba" in *The Northern Affairs Act*.

16.3 Board Findings

16.3.1 Energy Poverty in Manitoba

The Board remains deeply concerned about energy poverty issues in Manitoba and finds that little progress has been made since the 2017/18 & 2018/19 General Rate Application to help Manitoba Hydro's poorest customers for whom energy bills are a heavy burden.

The government's recent decision to reduce water rental fees and the debt guarantee fee is a step towards affordability for all ratepayers. However, energy poverty issues are distinct from bill affordability issues generally. On the one hand, the government has gone further than the Board's recommendation by reducing both water rental fees and the debt guarantee by 50%. On the other hand, there continues to be a lack of targeted energy poverty measures in Manitoba, which is reflected in the statistics cited by the Assembly of Manitoba Chiefs and Manitoba Keewatinowi Okimakanak in this proceeding. The programs cited by Manitoba Hydro do not have performance metrics other than the number of people enrolled in the different programs. The utility also was unable to advise the Board of the amount low-income customers actually saved under the programs. On both a Canada-wide and a global scale, Manitoba Hydro's electricity rates remain low, even after the rate increases approved by this Order. However, in Manitoba's climate, heating is not a matter of comfort, but of necessity and safety. With natural gas not available in all regions of Manitoba, and with many poorer residents tending to live in energy-inefficient buildings, energy poverty remains a problem that requires government intervention.

The Board's rationale for establishing a First Nations On-Reserve Residential customer class was expressed in Order 59/18. While the Board's reasoning concerning the benefit of such a rate has not changed, the Board is bound by the Manitoba Court of Appeal's decision on the issue in *Manitoba (Hydro-Electric Board) v. Manitoba (Public Utilities Board) et al.* 2020 MBCA 60. Without a legislative amendment, there can be no low-income rate for Manitoba Hydro customers. The government's current policy on this issue is set out in the new subsection 39(5) of *The Manitoba Hydro Act*, which states that "rates for different customers or classes of customers must not differ based on affordability or other socio-economic factors". This broadly aligns with the finding of the Manitoba Court of Appeal that:

> *[85] Nevertheless, the ability to consider factors such as social policy and bill affordability in approving and fixing rates for service does not equate to the authority to direct the creation of customer classifications implementing broader social policy aimed at poverty reduction and which have the effect of redistributing Manitoba Hydro's funds and revenues to alleviate such conditions.*

However, if the Manitoba Court of Appeal decision means that social policy and bill affordability issues are matters reserved for the government, in the Board's view, the government must devote resources to those matters and develop policies to alleviate energy poverty issues in Manitoba, especially in the face of continued Manitoba Hydro rate increases over the next 20 years. The Board accordingly recommends that the provincial government establish an energy poverty program to relieve the energy burden of households facing energy poverty.

The Board finds that while Manitoba Hydro operates bill affordability programs, it has limited evidence on how useful those programs are in addressing energy poverty in Manitoba. Accordingly, the Board recommends that Manitoba Hydro evaluate its existing suite of bill affordability programs to assess the effectiveness of those programs in mitigating or eliminating energy poverty. Manitoba Hydro should also consult with First

Nations about creating targeted programs to alleviate energy poverty faced by the utility's customers living in First Nation communities.

16.3.2 Reconciling Cost of Service and the Bonbright Criteria with Energy Poverty Measures

The Board considers cost of service criteria, as reflected by the second and third Bonbright criteria set out in Figure 2.1, to be important in setting rates. It is clear that the provincial government shares this view, as *The Manitoba Hydro Amendment and Public Utilities Board Amendment Act* includes the following policy statement, now reflected in subsection 39.1(1) of *The Manitoba Hydro Act*:

> *Electricity and rates policies*
>
> *39.1(1) It is hereby declared to be the policy of the government that*
>
> > *(a) the rates charged by the corporation to each class of grid customers in Manitoba are to be based on the revenue requirements properly allocated to that class;*
> >
> > *[…]*

However, in the absence of a meaningful energy poverty program, it may be impossible for the Board to endorse a level of rate differentiation to move classes into the zone of reasonableness at a satisfactory pace. While the eighth criterion set out in Figure 2.1 (rate stability) applies to all classes, the Board places increased weight on that criterion when the personal health and safety of customers is at stake, as opposed to mere economic considerations.

Even industrial customers may benefit from an energy poverty program if the presence of such a program enables rate differentiation to reduce the revenue to cost coverage ratio of those customers. As explained in section 15.1.1, customers in the General Service Small – Non-Demand, General Service Large 30-100kV, General Service Large >100 kV, and Area & Roadway Lighting customer classes currently have revenue to cost coverage ratios above the zone of reasonableness. In Order 59/18, the Board approved rate

increases to move those classes into the zone of reasonableness in ten years. Per the Board's ruling on rate differentiation in this order, that pace is now slowed down, as reducing the revenue to cost coverage ratio of these classes involves increasing the ratio for other classes, including residential ratepayers.

While the Board is approving Manitoba Hydro's attenuated rate differentiation proposal for the two test years, it is only doing so because the overall rate increase approved is less than the 2.0% annually applied for by Manitoba Hydro. The Board would not have been prepared to approve the utility's rate differentiation proposal if it had resulted in a 2.4% rate increase for the Residential customer class as proposed by Manitoba Hydro. Depending on the overall rate increase approved in future general rate applications, the Board may not be prepared to maintain the current pace of rate differentiation absent an energy poverty program.

16.3.3 The Path to Reconciliation Act

In the Board's view, energy poverty measures are also required under *The Path to Reconciliation Act* that the Manitoba Legislative Assembly passed in 2016. The Act requires the government to develop a strategy that builds upon meaningful engagement with Indigenous nations and Indigenous peoples about the past, present and future relationships between Indigenous and non-Indigenous peoples and establishes immediate and long-term actions that are responsive to the priorities and needs of Indigenous Nations and Indigenous peoples. This requires a focus not on formal equality but on substantive equality, meaning a focus on equality of outcomes that takes into account a particular group's disadvantages or an unequal distribution of opportunity. Reconciliation in Manitoba cannot take place without acknowledging that northern First Nations disproportionately bear the adverse effects of hydroelectric development. Many of those people saw their lands flooded and lost their livelihood through northern hydroelectric development.

The Board is concerned that Manitoba Hydro currently is not doing enough to alleviate energy poverty issues faced by the utility's Indigenous customers. The Board takes

judicial notice of the Clean Environment Commission's report *A Review of the Regional Cumulative Effects Assessment for Hydroelectric Developments on the Nelson, Burntwood, and Churchill River Systems* published in May 2018, which, among other things, included the following description:

> *The resulting impact on the socioeconomic and biophysical environment of this region over the past half-century has been continuous and significant. Jobs have been created and regional income increased. Rivers have been rerouted, lakes and waterways flooded, and communities relocated. The seasonal and daily flows of rivers have been altered, with significant impact on the livelihoods of the region's original residents. Thousands of transitory workers came into the region, especially during construction periods. It took considerable time to recognize and compensate Indigenous people for the impact of this development on their communities. The Northern Flood Agreement (NFA) with five First Nations in the region was signed in 1977. In the 1990s, compensation agreements were reached with other First Nations, northern communities, and resource user groups. The more recent generating stations have been developed in partnership with local First Nations.*

The statistics on energy poverty in First Nations cited by the Assembly of Manitoba Chiefs and Manitoba Keewatinowi Okimakanak summarized in section 16.2.2 show that many First Nation customers of Manitoba Hydro continue to face a disproportionate energy burden, despite having borne the brunt of the environmental adverse effects of Manitoba Hydro's generating facilities. The shared equity ownership approach used by Manitoba Hydro to construct Wuskwatim and Keeyask (under which First Nations were offered an ownership stake in the projects) represents a meaningful step towards reconciliation, but the participation of First Nations in resource projects alone does not eliminate the need to assist individual customers facing energy poverty — shared equity is not a replacement for substantive equality.

17.0 OTHER MATTERS

17.1 Curtailable Rate Program (CRP) & Finalization of Interim *Ex Parte* CRP Orders

17.1.1 Background

Manitoba Hydro's Curtailable Rate Program is a program available to some industrial customers by which those customers receive a financial credit in exchange for those customers agreeing to curtail (i.e., shut down) their load during periods when Manitoba Hydro has capacity constraints on its system. The Curtailable Rate Program is used by Manitoba Hydro as a resource within its electricity supply portfolio. It enables Manitoba Hydro to utilize the customer-provided capacity as an operating reserve and energy supply option for system planning purposes as well as to respond to certain operational conditions. The use of curtailable load reduces the risk of disruption to firm customers in the event of a loss of generation or transmission. During the 2021/22 fiscal year, three customers participated in the program.

Changes to the terms and conditions of the program were last approved in Order 73/15. Under the existing program, Manitoba Hydro offers three base curtailment options (A, R, and E) and two combination options (AE and RE). The existing options are summarized in Figure 17.1.

The magnitude of the monthly credit provided to participants depends on the program option selected and the amount of curtailable load being made available to Manitoba Hydro. The reference discount is used to determine the monthly discounts credited to customers. This reference discount is related to Manitoba Hydro's marginal value of capacity and is adjusted annually for inflation through interim *ex parte* orders. The current reference discount is $4.23/kW of curtailable load. For Option R customers, a fixed discount of $0.04 per kWh is also used to determine an additional reserve discount credited for successfully completed curtailments.

Option	Minimum Notice	Maximum Duration per Curtailment	Maximum Daily Hours per Curtailment	Maximum Number of Curtailments per Year	Maximum Annual Hours of Curtailment	Discount as Percentage of Reference Discount
A	5 min	4.25 hrs	6 hrs (Oct. 1 – Apr. 30) 10 hrs (May 1 – Sep. 30)	15	63.75	70%
E	48 hrs	10 days	24 hrs	3	720	35%
R	5 min	4.25 hrs	10 hrs (Apr. 1 – Mar. 31)	25	106.25	70% + Reserve Discount
A&E	Combination			18	783.75	100%
R&E	Combination			28	826.25	100% + Reserve Discount

Figure 17.1 — Existing Curtailable Rate Program Options

In this Application, Manitoba Hydro is proposing several changes to the terms and conditions of the Curtailable Rate Program. Firstly, Manitoba Hydro proposes to require an annual curtailment test for Options A and R customers. Under this change proposal, customers will have up to three attempts to curtail their load based on the annual test. If the customer fails to curtail on the third test attempt, the customer will forego the monthly discount indefinitely until there is a successful curtailment test. Secondly, Manitoba Hydro plans to increase the number of possible Option A curtailments per year from 15 to 16 to account for one successful test. Thirdly, Manitoba Hydro proposes to increase the notice period for conversion to firm service from 12 months from the date the notice is given to 18 months from the end of the calendar year in which the notice is given. This is to align the notice period with the amount of time needed to obtain additional capacity from external sources. The same timeframe would be required to increase or decrease the amount of protected firm load or guaranteed curtailment load, and for switching from Option A to Option R or vice versa. Lastly, Manitoba Hydro is proposing minor editorial changes.

No interveners made submissions on this proposal, although MIPUG suggests that Manitoba Hydro should consider allowing new entrants to the program.

Manitoba Hydro also seeks the finalization of all interim *ex parte* CRP rate orders that have been issued since Order 59/18.

17.1.2 Board Findings

The Board approves Manitoba Hydro's proposed changes to the Terms and Conditions of the Curtailable Rate Program, effective September 1, 2023. The Board expects Manitoba Hydro to promptly communicate the approved program changes to affected customers.

The Board also approves the finalization of Orders 77/18, 51/19, 63/20, 50/21, 50/22, and 56/23.

The Board notes that Manitoba Hydro's integrated resource plan may provide new insight into the value of curtailable load for planning purposes. As such, the Board may re-examine the curtailable rate program at the next general rate application.

17.2 Surplus Energy Program (SEP) & Finalization of Interim *Ex Parte* SEP Orders

17.2.1 Background

The Surplus Energy Program is a program that enables qualifying commercial customers to purchase surplus energy (i.e., energy not required to meet Manitoba's domestic demand or firm export contract obligations) at Manitoba Hydro's weekly forecast marginal cost. It is intended to be a revenue-neutral program that allows domestic customers to buy excess energy at similar prices to those Manitoba Hydro could achieve in the export spot market. The Board approves Surplus Energy Program rates through weekly interim *ex parte* orders. Surplus energy service is an interruptible service, which means that customers do not pay a demand charge. However, they do make a contribution to fixed costs through a variable distribution charge.

Changes to the Surplus Energy Program terms and conditions were last approved in Order 59/18. In this Application, Manitoba Hydro proposes further amendments to these terms and conditions.

Firstly, Manitoba Hydro proposes to temporarily suspend enrollments in the program as a result of changing firm prices, market prices, carbon pricing, and an increasing prevalence of customers looking to decarbonize. Given these market changes and the fact that the utility has not traditionally curtailed Surplus Energy Program customers, Manitoba Hydro is seeing increased inquiries from customers looking to obtain essentially firm service at rates less than approved firm rates. Manitoba Hydro is concerned about customers migrating from firm service, leading to an erosion of revenue.

Manitoba Hydro proposes freezing new enrollments while continuing to serve existing Surplus Energy Program customers. In the meantime, Manitoba Hydro submits that it will be exploring the potential for new rate offerings or demand response programming for customers as part of the suite of potential options, which together with the Surplus Energy Program may contribute to the deferral of new resources to meet future electric demand.

Manitoba Hydro is also proposing to amend the existing interruption provisions for the Surplus Energy Program, as it considers them to be insufficient from an operational standpoint. Specifically, Manitoba Hydro proposes to reduce the notice period for interruption from 36 hours to 12 hours, as 36 hours is too far in advance for the utility to determine whether an interruption will be required to meet firm energy obligations. Lastly, Manitoba Hydro is proposing minor editorial changes.

None of the interveners made submissions on this proposal.

Manitoba Hydro also seeks the finalization of all interim *ex parte* SEP rate orders that have been issued since Order 59/18.

17.2.2 Board Findings

The Board approves Manitoba Hydro's proposed amendments to the Terms and Conditions of the Surplus Energy Program, effective September 1, 2023. The Board expects Manitoba Hydro to promptly communicate the approved program changes to affected customers.

The Board also approves the finalization of the following Surplus Energy Program interim *ex parte* orders, as well as any other such orders made before this order is issued.

- 2018 Orders: 60/18, 62/18, 64/18, 65/18, 69/18, 71/18, 73/18, 79/18, 80/18, 86/18, 88/18, 91/18, 102/118, 110/18, 111/18, 112/18, 114/18, 117/18, 120/18, 122/18., 127/18, 132/18, 136/18, 137/18, 142/18, 145/18, 149/18, 150/18, 154/18, 155/18, 156/18, 161/18, 162/18, 168/18, 170/18

- 2019 Orders: 2/19, 7/19, 8/19, 13/19, 17/19, 21/19, 22/19, 23/19, 27/19, 29/19, 31/19, 33/19, 37/19, 39/19. 41/19, 45/19, 50/19, 52/19, 58/19, 61/19, 67/19, 70/19, 78/19, 79/19, 83/19, 88/19, 90/19, 96/19, 99/19, 107/19, 112/19, 113/19, 114/19, 119/19, 124/19, 132/19, 137/19, 138/19, 141/19, 146/19, 151/19, 155/19, 158/19, 160/19, 163/19, 168/19, 169/19, 172/19, 177/19, 182/19, 192/19, 197/19

- 2020 Orders: 1/20, 4/20, 5/20, 8/20, 16/20, 19/20, 21/20, 27/20, 32/20, 36/20, 38/20, 39/20, 40/20, 47/20, 52/20, 54/20, 59/20, 65/20, 68/20, 69/20, 70/20, 78/20, 80/20, 82/20, 84/20, 86/20, 87/20, 89/20, 93/20, 95/20, 98/20, 99/20, 101/20, 104/20, 109/20, 111/20, 112/20, 113/20, 115/20, 119/20, 120/10, 124/20, 125/20, 129/20, 132/20, 133/20, 134/20, 138/20, 141/20, 144/20, 147/20, 149/20, 152/20

- 2021 Orders: 4/21, 6/21, 12/21, 17/21, 21/21, 24/21, 27/21, 29/21, 30/21, 32/21, 35/21, 38/21, 41/21, 43/21, 44/21, 46/21, 49/21, 52/21, 54/21, 58/21, 59/21, 60/21, 61/21, 65/21, 67/21, 71/21, 72/21, 74/21, 79/21, 85/21, 86/21, 88/21, 91/21, 92/21, 93/21, 96/21, 98/21, 102/21, 105/21, 111/21, 112/21, 114/21, 118/21, 123/21, 125/21, 127/21, 129/21, 130/21, 132/21, 135/21, 136/21, 139/21

- 2022 Orders: 1/22, 4/22, 5/22, 8/22, 13/22, 14/22, 17/22, 19/22, 26/22, 27/22, 30/22, 31/22, 33/22, 35/22, 38/22, 41/22, 46/22, 49/22, 52/22, 54/22, 57/22, 59/22, 61/22, 64/22, 66/22, 69/22, 71/22, 74/22, 76/22, 81/22, 86/22, 91/22, 96/22, 97/22,

98/22, 100/22, 102/22, 103/22, 106/22, 108/22, 110/22, 113/22, 116/22, 118/22, 119/22, 121/22, 124/22, 126/22, 128/22, 131/22, 135/22, 139/22

- 2023 Orders: 1/23, 5/23, 7/23, 11/23, 14/23, 17/23, 20/23, 23/23, 26/23, 29/23, 30/23, 36/23, 38/23, 40/23, 43/23, 48/23, 53/23, 59/23, 61/23, 63/23, 65/23, 66/23, 69/23, 70/23, 72/23, 74/23, 76/23, 81/23, 82/23, 87/23, 90/23, 91/23, 96/23, 100/23

The Board notes that Manitoba Hydro's integrated resource plan may provide new insight into the benefits of the Surplus Energy Program. As such, the Board may re-examine the Surplus Energy Program at the next general rate application.

17.3 Diesel Zone Rates

17.3.1 Background

Four communities in Manitoba (Lac Brochet, Brochet, Shammatawa, and Tadoule Lake) are not connected to the electrical grid and are served by separate diesel-generated electricity. Rates for these communities are established separately from Manitoba Hydro's general rate applications and have been approved on an interim basis pending an executed diesel zone settlement agreement with the federal government.

Diesel zone rates are based on a separate Manitoba Hydro diesel cost of service study last filed in 2011. Consistent with Orders 100/20 and 137/21, Manitoba Hydro is not seeking any changes to diesel zone rates in this Application, with one exception. The utility proposes to adjust the basic monthly charge and the first block grid-equivalent rate for the Diesel General Service customers in the same manner as the GSS-ND class.

Manitoba Hydro has confirmed that it received true copies of the diesel zone settlement agreement from Manitoba Keewatinowi Okimakanak on February 7, 2018. However, Manitoba Hydro advises the Board that to finalize interim diesel rates and file a diesel zone-specific application, the utility requires a resolution on capital funding from the federal government, and that these discussions are ongoing. The utility also indicates that it plans to work with the Board to develop a timetable for a separate diesel zone application, consistent with Directive 4 of Order 100/20.

MKO also confirms that the diesel zone settlement agreement has been fully executed and received by Manitoba Hydro. It submits that Manitoba Hydro is in a position to advise the Board of its intentions regarding diesel zone rates.

17.3.2 Board Findings

The Board approves Manitoba Hydro's proposal to freeze most diesel rates and align the basic monthly charge and first block grid-equivalent rate for the Diesel General Service customers with the GSS-ND class. This treatment is consistent with Orders 100/20 and 137/21.

The Board expects Manitoba Hydro to advance its diesel zone capital funding discussions with the federal government in a timely manner and to file its long-outstanding diesel zone rate application as soon as possible. With diesel zone rates having remained interim for a long time, the Board notes that there is a potential for rate shock the longer the application is delayed.

17.4 Light-Emitting Diode (LED) Rates

17.4.1 Background

As light-emitting diode (LED) technology is improving, there has been a move across North America to replace existing area and roadway lighting fixtures, such as high-pressure sodium lamps, with LED technology. In Order 150/20, the Board approved, on an interim *ex parte* basis and effective December 1, 2020, six new rates for the following type of LED lighting fixtures:

- 300 watt LED street light on a 60-foot pole;
- 300 watt LED street light where 2 lights are on a 100-foot pole;
- 300 watt LED street light where 4 lights are on a 100-foot pole;
- 400 watt LED street light;
- 500 watt LED street light;

- 600 watt LED street light.

Manitoba Hydro derived the six new rates by determining the annual energy savings expected by converting high-pressure sodium lights to LED technology. The utility then determined the monthly cost savings using the Area & Roadway Lighting class's energy charge from the utility's 2013 Prospective Cost of Service Study, updated to reflect the rate increases implemented for the Area & Roadway Lighting class since September 1, 2012. It then deducted the monthly energy-related cost savings from the existing 1,000-watt high-pressure sodium street light rates to arrive at LED rates.

Manitoba seeks final approval of the six new LED rates in this application. None of the interveners made submissions on this proposal.

17.4.2 Board Findings

The Board approves the finalization of the six new rates approved on an interim basis in Order 150/20.

Increases for these rates are to be differentiated in accordance with the Board's findings on additional differentiation for the Area & Roadway Lighting customer class set out in section 15.3.3.

17.5 Distributed Generation

17.5.1 Background

Manitoba Hydro currently has several customers with self-generation such as roof-top solar photovoltaic (PV) panels. While solar PV systems can be configured as off-grid systems, residential solar PV installations are usually tied into the local electric grid system. This allows solar PV customers to benefit from reduced grid-electricity consumption while maintaining system reliability through access to the local grid for backup electric energy. Similarly, any excess solar PV power not consumed by the solar PV customer can be sold back to Manitoba Hydro, usually at Manitoba Hydro's excess energy price, which is less than the domestic energy sales rates. The utility sets its excess energy price based on the previous year's actual export market energy prices

in a manner that approximates the return Manitoba Hydro can generate from selling the excess energy into the export market.

In Directive 7 of Order 59/18, the Board determined that it had jurisdiction over the excess energy rates and directed Manitoba Hydro to offer the same rate as the domestic energy rate. The Board subsequently set that directive aside in Order 90/18 in response to a review & vary application by Manitoba Hydro based on the excess energy rate not representing the value of the excess electricity to Manitoba Hydro. However, the Board indicated that it would canvass the issue, including arguments over the Board's jurisdiction on Manitoba Hydro's excess energy rate, at the next general rate application.

Manitoba Hydro remains of the view that the Board does not have jurisdiction to approve power purchase rates such as the excess energy rate, as under subsection 25(1) of *The Crown Corporations Governance and Accountability Act* the Board is only authorized to review the "rates for services" of Manitoba Hydro, which under subsection 25(2) of that Act are defined as "prices charged […] with respect to the provision of power". The utility also argues that the existing section 39 of *The Manitoba Hydro Act* makes it clear the provision of power only refers to the sale of power, not its purchase by the utility, and that section 38 of that Act specifically deals with the purchase of power.

17.5.2 Board Findings

Directive 7 of Order 59/18 remains set aside. Without a provincial energy policy or an integrated resource plan in place before the completion of the hearing, it is premature to determine an appropriate scheme for the crediting of excess energy from distributed generation. As such, the Board does not need to make a determination on its jurisdiction under *The Crown Corporations Public Review and Accountability Act* at this time.

17.6 Completed, Closed, and Set Aside Directives

17.6.1 Financial Targets and Rule-Based Regulation (Directive 1 of Order 70/22 and Directive 9 of Order 69/19)

In Directive 9 of Order 69/19, the Board required Manitoba Hydro to participate in a technical conference on the issue of rule-based regulation to guide the setting of consumer rates and establishment of sufficient reserves. In Order 70/22, the Board varied this directive to require Manitoba Hydro to include, in its next general rate application, proposed financial targets together with all underlying assumptions, including financial metrics, in each of the long-term financial scenarios presented. In this Application, Manitoba Hydro provided the information requested in Order 70/22. The Board accordingly confirms that Directive 1 of Order 70/22 and Directive 9 of Order 69/19 have been completed.

17.6.2 Combined General Rate Application Request (Directive 1 of Order 63/22 and Directive 1 of Order 67/22)

In Directive 1 of Order 63/22, the Board directed Manitoba Hydro to answer information requests for the utility's request for a combined Manitoba Hydro / Centra Gas general rate application. In Directive 1 of Order 67/22, the Board varied the Order 63/22 directive to extend the time to provide answers to those information requests to July 8, 2022. Manitoba Hydro filed its responses to the Board's information requests on July 8, 2022, and the Board subsequently ruled on the combined application request in Order 95/22. The Board accordingly confirms that Directive 1 of Order 63/22 and Directive 1 of Order 67/22 have been completed.

17.6.3 Interim Rates (Directive 1 of Order 9/22, Directive 2 of Order 140/21, and Directive 2 of Order 137/21)

In Directive 3 of Order 137/21, the Board stated that the interim rates approved in that order will remain in effect only until November 15, 2022, unless Manitoba Hydro filed a general rate application by that date. This directive was confirmed in Directive 2 of Order 140/21. In Directive 1 of Order 9/22, the Board varied the preceding two directives to extend the interim rates to November 30, 2022.

Manitoba Hydro filed the current application on November 15, 2022. The Board accordingly confirms that Directive 1 of Order 9/22, Directive 2 of Order 140/21, and Directive 3 of Order 137/21 have been completed.

17.6.4 Major Capital Projects Deferral Account (Directive 4 of Order 137/21)

In Directive 4 of Order 137/21, the Board required Manitoba Hydro to cease funding the Major Capital Projects Deferral account discussed in section 13.1.2 on December 31, 2021. Manitoba Hydro complied with this requirement and ceased funding the account on that date. The Board accordingly confirms that Directive 4 of Order 137/21 has been completed.

17.6.5 Strategy 2040 (Directive 3 of Order 9/22)

In Directive 3 of Order 9/22, the Board required Manitoba Hydro to file a copy of Strategy 2040 with the Board as soon as it is released to stakeholders. Manitoba Hydro delivered a presentation on Strategy 2040 to the Board and interested stakeholders in September 2022. It also included additional information, including its Enterprise Plan, in this application. The Board accordingly confirms that Directive 3 of Order 9/22 has been completed.

17.6.6 Long-Term Financial Forecast (Directive 4 of Order 9/22 and Directive 7 of Order 69/19)

In Directive 4 of Order 9/22 and Directive 7 of Order 69/19, the Board required Manitoba Hydro to include a long-term financial forecast in its next general rate application. Manitoba Hydro included a 20-year financial forecast scenario in the current application. The Board accordingly confirms that Directive 4 of Order 9/22 and Directive 7 of Order 69/19 have been completed.

17.6.7 Inclusion of Updated Costs in PCOSS (Directive 5 of Order 9/22 and Directive 11 of Order 69/19)

In Directive 11 of Order 69/19, the Board required Manitoba Hydro to file an updated prospective cost of service study (PCOSS) as part of its next general rate application. Directive 5 of Order 9/22 required Manitoba Hydro to prepare its updated Prospective Cost of Service study based on revised costs for the utility's major capital projects. In this proceeding, Manitoba Hydro filed PCOSS24, which includes updated costs. The Board accordingly confirms that Directive 5 of Order 9/22 and Directive 11 of Order 69/19 have been completed.

17.6.8 Business Operations Capital Spending (Directive 6 of Order 9/22) and Asset Maturity Assessments (Directive 14 of Order 59/18 and Directive 3 of Order 90/18)

In Directive 6 of Order 9/22, the Board required Manitoba Hydro to demonstrate savings in business operations capital spending by comparing its updated spending proposal to the spending proposed in the 2021/22 interim proceeding. In this proceeding, Manitoba Hydro's capital expenditure plan shows reduced business operations capital spending plans in 2023/24 and 2024/25 when compared to the business operations capital expenditure plan for those same years in the 2021/22 interim application. These forecast reductions in the test years are driven by investment optimization and work delays resulting from ongoing supply chain issues predicted for those years. Similarly, Manitoba Hydro's current application materials show actual and forecast business operations expenditures for 2021/22 and 2022/23 are lower than the forecast included for those same years in the 2021/22 interim application.

Manitoba Hydro explained that the reduced business operations capital spending in 2021/22 and 2022/23 was as a result of unplanned construction delays, supply chain issues, and labour shortages, as well as the IBEW strike in 2021.

In Directive 14 of Order 59/18, the Board required the utility to retain an independent expert consultant to assess Manitoba Hydro's development of its asset management program and its progress in addressing the recommendations made by UMS, as well as

the progress of the development of the Corporate Value Framework. With Directive 3 of Order 90/18, the Board varied this directive to require Manitoba Hydro to file its terms of reference for the proposed asset management consultant by August 31, 2018. Manitoba Hydro subsequently filed with the Board its terms of reference for the external asset management consultant on August 28, 2018 and ultimately retained Asset Management Company Ltd. (AMCL) to conduct this asset management maturity assessment in 2022. AMCL's assessment report was filed in this proceeding.

The Board accordingly confirms that Directive 6 of Order 9/22, Directive 14 of Order 59/18, and Directive 3 of Order 90/18 have been completed.

17.6.9 O&A Spending and Cost Control (Directive 7 of Order 7/22, Directive 8 of Order 69/19, and Directives 12 and 13 of Order 58/18)

In Directive 7 of Order 9/22, the Board required Manitoba Hydro to demonstrate savings in O&A spending by comparing the updated spending proposal to the spending proposed in the interim 2021/22 proceeding. In Directives 12 and 13 of Order 59/18, as well as in Directive 8 of Order 69/19, the Board required Manitoba Hydro to file additional information on O&A matters in the next general rate application.

In this proceeding, as further discussed in Section 10 of this Order, Manitoba Hydro filed additional information on its O&A spending plans. At this time, the Board finds Manitoba Hydro's responses to Directive 8 of 69/19 as well as to Directives 12 and 13 of Order 59/18 to be completed.

In regards to Directive 7 of Order 9/22, the Board notes that actual O&A expenditures in 2021/22 were $22 million higher than forecast at the 2021/22 interim application. However, the Board received extensive evidence on Manitoba Hydro's planned O&A expenditures and the utility's rationale. Accordingly, the Board rules that Directive 7 of Order 9/22 is closed.

17.6.10 LED Conversion for Area & Roadway Lighting (Directive 2 of Order 150/20)

In Directive 2 of Order 150/20, the Board required Manitoba Hydro to advise customers with 1,000 watt high-pressure sodium (HPS) street lights that those fixtures were being converted to LED. In this proceeding, Manitoba Hydro provided evidence that the only affected customers were the City of Winnipeg and Manitoba Infrastructure, both of whom the utility notified on January 19, 2021. The Board accordingly confirms that Directive 2 of Order 150/20 has been completed.

17.6.11 Notifying Customers of 2019 Rate Increases (Directive 2 of Order 75/19)

In Directive 2 of Order 75/19, the Board required Manitoba Hydro to notify its customers of the rate increases approved in that order. In this proceeding, Manitoba Hydro provided evidence that such notice was provided to customers by way of a bill insert. The Board accordingly confirms that Directive 2 of order 75/19 has been completed.

17.6.12 Cost and Revenue Implications of Keeyask (Directive 6 of Order 69/19)

In Directive 6 of Order 69/19, the Board required Manitoba Hydro to file, with its next general rate application, an explanation of the cost and revenue implications of the advancement in the Keeyask construction schedule from an in-service date of August 2021. In this proceeding, Manitoba Hydro confirmed the in-service date and included the revenue requirement impact of Keeyask in its responses to the Board's minimum filing requirements. The Board accordingly confirms that Directive 6 of Order 69/19 has been completed.

17.6.13 Rate Rebalancing for the GSS and GSM Customer Classes (Directive 10 of Order 69/19)

In Directive 10 of Order 69/19, the Board required Manitoba Hydro to study and report at the next general rate application on the issues associated with rate differentiation and rate design of the GSS-ND, GSS-D, and GSM customer classes. As discussed in section 15.1.3, Manitoba Hydro addressed these issues in this Application. The Board accordingly confirms that Directive 10 of Order 69/19 has been completed.

17.6.14 Time-of-Use Rate Design Proposal (Directives 1, 2, 3, and 4 of Order 126/18 and Directive 29 of Order 59/18)

With Directive 29 of Order 59/18, the Board required Manitoba Hydro to file a time-of-use rate design proposal (inclusive of the results of customer consultations) with its next general rate application. With Directive 1 of Order 126/18, which followed a review and vary application from Manitoba Hydro, the Board effectively set aside Directive 29 of Order 59/18. However, Directives 2, 3, and 4 of Order 126/18 required Manitoba Hydro to develop a time-of-use rate design proposal in consultation with the General Service Large customer classes and to file a status update with the next general rate application.

In this hearing, Manitoba Hydro has advised the Board that it consulted with large industrial customers on four different time-of-use rate design alternatives and that there was no widespread support for such a proposal. However, the utility did indicate that there was support for optional time-of-use rates. Manitoba Hydro further advises that due to the nature of their operations, customers in the General Service Large classes have less discretionary loads compared to residential customers, which would limit their ability to respond to mandatory time-of-use rates. While the utility is of the view that time-of-use rates should be considered as a potential option as part of a portfolio of rate alternatives, it submits that they should not be the default option. Given the refinements to the existing General Service rate structure proposed by Manitoba Hydro in this Application, as further discussed in section 15.1.3, and given the ongoing changes in the energy landscape, Manitoba Hydro is not proposing to implement industrial time-of-use rates at this time. However, the utility states that it will be exploring other potential alternative rate options such as interruptible and curtailable options, as well as critical peak pricing going forward.

The Board finds that in light of the outcome of Manitoba Hydro's consultation, at this point is it not appropriate to direct the utility to implement time-of-use rates. However, the idea of time-of-use rates may need to be re-evaluated based on Manitoba Hydro's upcoming integrated resource plan as part of a broader suite of rate measures. The Board accordingly

- rules that Directives 1 and 2 of Order 126/18, as well as Directive 29 of Order 59/18, are set aside; and
- confirms that Directives 3 and 4 of Order 126/18 have been completed.

17.6.15 Other Cash Payments (Directive 10 of Order 59/18)

In Directive 10 of Order 59/18, the Board required Manitoba Hydro to provide information about the Other Cash Payments line item in Manitoba Hydro's cash flow statement. In response to this directive, Manitoba Hydro provided the requested detail as part of its submission in the 2019/20 General Rate Application and also refiled this information in this proceeding. The Board accordingly confirms that Directive 10 of Order 59/18 has been completed.

17.6.16 Independent Expert Consultant Recommendations on Load Forecasting (Directive 11 of Order 59/18)

In Directive 11 of Order 59/18, the Board directed Manitoba Hydro to consider implementing the load forecasting recommendations made by two independent experts during the 2017/18 & 2018/19 General Rate Application. Manitoba Hydro's response to this Directive is further discussed in section 7. The Board accordingly confirms that Directive 11 of Order 59/18 has been completed.

17.6.17 Implementation of Expert Findings on Capital Project Management (Directive 15 of Order 59/18)

In Directive 15 of Order 59/18, the Board required Manitoba Hydro to consider implementing the recommendations with respect to the utility's major capital projects made by the independent expert consultants during the 2017/18 & 2018/19 General Rate Application. On November 12, 2018, Manitoba Hydro filed a letter with the Board advising that it had implemented certain recommendations referenced in Directive 15 of Order 59/18 and that it had moved to closer collaboration on execution, planning, and oversight of the general civil contractor for the Keeyask generation station.

In this proceeding, Manitoba Hydro provided a further update on the implementation of the major capital recommendations of the independent expert consultants. Moreover, Manitoba Hydro submits that its major capital projects are now in service and that the impacts of implementing those recommendations cannot be isolated. However, its Great Northern Transmission Line project was completed on schedule and significantly under budget and Keeyask was placed into service five months ahead of schedule and has a forecast completion cost below the $8.7 billion control budget from the 2017/18 & 2018/19 General Rate Application. The Board accordingly confirms that Directive 15 or Order 59/18 has been completed.

17.6.18 Depreciation Rates (Directive 17 of Order 59/18 and Directives 8 and 9 of Order 43/13)

In Directive 17 of Order 59/18, the Board required Manitoba Hydro to continue using the Average Service Life methodology for rate-setting, without amortizing the difference between Equal Life Group and Average Service Life. This directive is superseded by the Board's determination on depreciation in this Order discussed in section 12.

In Directive 8 of Order 43/13, the Board required the utility to provide an IFRS-compliant Average Service Life depreciation study. In Directive 9 of the same order, the Board required a comparison between the Average Service Life and Equal Life Group methodologies. These materials were filed with Manitoba Hydro's Application.

The Board accordingly confirms that Directive 17 of Order 58/18 and Directives 8 and 9 of Order 43/13 are closed.

17.6.19 Demand-Side Management Deferral Account (Directive 23 of Order 59/18)

In Directive 23 of Order 59/18, the Board required Manitoba Hydro to cease recognizing a demand-side management deferral account. As set out in section 13.3.3, in this order the Board is approving a write-off of the existing account, which has not been funded for several years. The Board accordingly confirms that Directive 23 of Order 59/18 has been completed.

17.6.20 PCOSS Methodologies (Directives 24, 25, 26, and 27 of Order 59/18)

In Directives 24, 25, 26, and 27 of Order 59/18, the Board required Manitoba Hydro to make certain changes to its cost of service methodology. Those changes were made in PCOSS24. The Board accordingly confirms that Directives 24, 25, 26, and 27 have been completed.

17.6.21 Rationale for Declining Block Rate for GSS and GSM Customers (Directive 28 of Order 59/18)

In Directive 28 of Order 59/18, the Board requested Manitoba Hydro's rationale for a declining tail block structure for the GSS and GSM customer classes. In this proceeding, Manitoba Hydro indicated that it must recoup fixed costs, usually classified as Customer or Demand, as well as variable costs, usually classified as Energy. For rate structures where no demand charge is in place, a declining block structure allows the utility to recover the fixed costs through the first energy block. Manitoba Hydro also submits that the existing declining energy block rate structure should continue as it minimizes potential bill impacts and generally reflects the cost to serve these customer classes. The Board accordingly confirms that Directive 28 of Order 59/18 has been completed.

17.6.22 Solar Energy Program (Directive 30 of Order 59/18)

In Directive 30 of Order 59/18, the Board required Manitoba Hydro to provide additional details on the solar energy program and net metering installations in Manitoba. The utility provided this information in the Application. The Board accordingly confirms that Directive 30 of Order 59/18 has been completed.

17.6.23 Diesel Zone Rates (Directive 36 of Order 59/18 and Directives 3a and 3b of Order 134/10)

In Directive 36 of Order 59/18, the Board required Manitoba Hydro to confirm to the Board that the utility has received the executed diesel zone settlement agreements and that they are in proper form. That directive followed Directives 3a and 3b of Order 134/10, which required confirmation that the settlement agreement had been fully executed and required Manitoba Hydro to file a copy of the agreement with the Board. Manitoba Hydro has

confirmed that it has received the executed original agreement and has previously provided a copy of the agreement to the Board. The Board accordingly confirms that Directive 6 of Order 59/18 and Directives 3a and 3b of Order 134/10 have been completed.

17.6.24 O&A Benchmarking (Directive 6 of Order 150/08)

In Order 150/08, the Board required Manitoba Hydro to file an independent benchmarking study on key performance metrics, using the most currently available data, by June 30, 2009. Manitoba Hydro never complied with this directive and indicated, with its filing in this application, that it has been unsuccessful in obtaining comparable financial data and O&A key drivers. In particular, the utility indicates that detailed O&A information is not disclosed in other utilities. The utility requests the directive to be set aside.

As set out in section 10.3, the Board is directing Manitoba Hydro to organize and participate in a workshop regarding the utility's key performance indicators and scorecard. That directive supersedes Directive 6 of Order 150/08. The Board accordingly rules that Directive 6 of Order 150/08 is set aside.

18.0 RECOMMENDATIONS

18.1 Background

As an independent quasi-judicial tribunal with specialized expertise, the Board hears extensive evidence on Manitoba Hydro's rate applications and financial condition and has developed a deep institutional knowledge of rate regulation in Manitoba. Board members are also active in the Canadian Association of Members of Public Utility Tribunals (CAMPUT), the Canadian equivalent to the National Association of Regulatory Utility Commissioners (NARUC) in the United States. This allows the Board to stay apprised of, and to some extent help shape, regulatory policy across Canada.

While the Board's role under *The Crown Corporations Governance and Accountability Act* is to fix Manitoba Hydro's rates for services, the Board has made several non-binding recommendations to the provincial government over the years. Recommendations of the Board that the Province of Manitoba has accepted in the past include the following:

- Having the Board review the needs for and alternatives to Manitoba Hydro's preferred development plan, which resulted in the 2014 Needs-For-and-Alternatives-To (NFAT) review of Manitoba Hydro's preferred development plan;
- Stopping further expenditures on the multi-billion dollar Conawapa generating station;
- Proceeding with the Keeyask Generating Station and Manitoba-Minnesota Transmission Project;
- Establishing a demand-side management entity separate from Manitoba Hydro;
- Commencing integrated resource planning in Manitoba; and
- Using some of the revenues the government receives from Keeyask (primarily through water rental fees) to fund bill affordability programs.

The cancellation of the Conawapa Generating Station as a result of a recommendation of the Board in particular means that Manitoba Hydro avoided over $10 billion of additional

capital project expenditures that would have weakened the financial position of Manitoba Hydro and the provincial government.

Recommendations are a powerful tool because the Board can make recommendations in areas that are within the Board's specialized expertise but in which it does not have the jurisdiction to issue a binding directive. In those cases, the provincial government retains the authority to make decisions, but those decisions are made with the benefit of the Board's input.

The Manitoba Hydro Amendment and Public Utilities Board Amendment Act curtails the ability of the Board to make recommendations in the future, as it has added the following provision to *The Manitoba Hydro Act*:

> *Restriction*
> *39(7) Except as expressly permitted by this section, the regulator's mandate to approve or vary rates does not include the authority to issue an order or directive governing the corporation's operations or its capital management, investments or expenditures. However, at the regulator's request, the minister responsible for The Public Utilities Board Act may authorize the regulator to review and make recommendations about any of those matters.*

In the Board's view, it is not practicable to seek the minister's prior approval before making a recommendation the Board considers to be in the public interest. Often, recommendations are the result of specific evidence received by the Board in the hearing process. Having to discuss pending recommendations undermines the independence of the Board and its ability to make recommendations the Board considers to be in the public interest.

In this proceeding, the Board is making the recommendations to Manitoba Hydro and the Province of Manitoba set out in sections 18.2 and 18.3.

18.2 Recommendations to Manitoba Hydro

The Board makes the following recommendations to Manitoba Hydro:

1. Manitoba Hydro should evaluate its existing suite of bill affordability programs to assess the effectiveness of those programs in mitigating or eliminating energy poverty.

2. Manitoba Hydro should consult with First Nations about creating targeted programs to alleviate energy poverty faced by the utility's customers living in First Nation communities.

3. Manitoba Hydro should consult with stakeholders, including past interveners of record before the Board, as to the appropriate scope and risks to be included in the utility's Enterprise Risk Management framework.

18.3 Recommendations to the Province of Manitoba

The Board makes the following recommendation to the Province of Manitoba:

1. The Province of Manitoba should establish an energy poverty program to relieve the energy burden of households facing energy poverty.

19.0 IT IS THEREFORE ORDERED THAT:

1. The 3.6% rate increase previously approved as interim effective January 1, 2022 in Orders 137/21 and 140/21 **BE AND HEREBY IS APPROVED AS FINAL**.

2. Manitoba Hydro's application for a 2.0% increase in General Consumers Revenue on each of September 1, 2023 and April 1, 2024 **BE AND HEREBY IS DENIED**.

3. A 1.0% increase in General Consumers Revenue on each of September 1, 2023 and April 1, 2024 **BE AND HEREBY IS APPROVED**.

4. Manitoba Hydro is to implement each of the two general rate increases approved by Directive 3 through differentiated customer class rate increases, as follows:

Customer Class	September 1, 2023 Rate Increase	April 1, 2024 Rate Increase
Residential	1.4%	1.4%
General Service Small Non-Demand	no increase	no increase
General Service Small Demand	1.1%	1.1%
General Service Medium	1.1%	1.1%
General Service Large 750V-30kV	1.1%	1.1%
General Service Large 30-100kV	0.5%	0.5%
General Service Large >100kV	0.5%	0.5%
Area & Roadway Lighting*	no increase	no increase

*Average increase for the class — see Directive 5 for further differentiation within the class

5. In addition to the rate differentiation set out in Directive 4, Manitoba Hydro is to further differentiate rates within the Area & Roadway lighting class as proposed in the utility's application, subject to that class not receiving an overall rate increase.

6. Manitoba Hydro's application to directly assign 38% of the LED roadway lighting conversion program costs to the Area & Roadway Lighting customer class **BE AND HEREBY ARE APPROVED**.

7. Manitoba Hydro's application to add ten additional high mast rates for the Area & Roadway Lighting customer class **BE AND HEREBY IS APPROVED**. The new rates are to be implemented in accordance with Directive 5.

8. The light emitting diode (LED) rates previously approved as interim effective December 1, 2020 in Order 150/20 **BE AND HEREBY ARE APPROVED AS FINAL**.

9. Manitoba Hydro's application to end the harmonization of the General Service Small Demand, General Service Small Non-Demand, and General Service Medium customer classes **BE AND HEREBY IS APPROVED**.

10. Manitoba Hydro's application to achieve rate differentiation between the General Service Small Non-Demand and General Service Small Demand customer classes by differentially adjusting the individual rate components **BE AND HEREBY IS APPROVED**. The specific rate component adjustments are to be based on the overall rate increases approved in Directive 4 of this Order.

11. Manitoba Hydro's application to consolidate the first and second blocks of the energy charge for the General Service Medium customer class and achieve rate-differentiation for that class by differentially adjusting the individual rate components **BE AND HEREBY IS APPROVED**. The specific rate component adjustments are to be based on the overall rate increases approved in Directive 4 of this Order.

12. Manitoba Hydro's application to rebalance the energy charge and the demand charge for the three General Service Large customer classes by achieving the differentiated rate increases for those classes solely by means of an increase to the demand charge **BE AND HEREBY IS APPROVED**. The specific rate component adjustments are to be based on the overall rate increases approved in Directive 4 of this Order.

13. Manitoba Hydro's application to change the definition of "billing demand" for the General Service Large 30-100kV and General Service Large >100kV classes **BE AND HEREBY IS APPROVED** effective April 1, 2024. The utility is directed to report to the Board, together with its next general rate application, on its experience and customer consultations with respect to the change and whether it would be appropriate to use a different off-peak factor in the determination of a customer's billing demand.

14. Manitoba Hydro's application to eliminate the Cooking and Heating Standard and Cooking and Heating Seasonal rates **BE AND HEREBY ARE APPROVED**.

15. Manitoba Hydro's request for final approval of all interim *ex parte* Curtailable Rate Program orders as set out in this order **BE AND HEREBY IS APPROVED AS FINAL**.

16. Manitoba Hydro's application for modifications to the Terms and Conditions of the Curtailable Rate Program **BE AND HEREBY IS APPROVED** effective September 1, 2023.

17. Manitoba Hydro's request for final approval of all interim *ex parte* Surplus Energy Program rate orders as set out in this order, and any other interim *ex parte* Surplus Energy Program orders issued before the date this order is issued, **BE AND HEREBY IS APPROVED AS FINAL**.

18. Manitoba Hydro's application for modifications to the Terms and Conditions of the Surplus Energy Program **BE AND HEREBY IS APPROVED** effective September 1, 2023.

19. Manitoba Hydro's application to determine depreciation expense using the Equal Life Group (ELG) methodology while ceasing the deferral of interim gains and losses **BE AND HEREBY IS DENIED**. Instead, the Board directs that depreciation expense be determined using the following methodology:

    a) Manitoba Hydro is to continue to use the Average Service Life (ASL) methodology, also known as the Average Life Group (ALG) methodology;

    b) Manitoba Hydro is to continue to use the whole life technique;

    c) interim gains and losses are to be deferred into the Loss on Retirement or Disposal of Assets Deferral Account and amortized over the respective weighted average remaining life of the Manitoba Hydro, KHLP and WPLP asset components contributing to the deferral balance;

    d) the portion of the existing balance in the Loss on Retirement or Disposal of Assets Deferral Account relating to the deferral of interim gains or losses is to be treated in the same manner as set out in clause (c);

    e) future terminal losses are not to be deferred without the prior approval of the Board;

f) the portion of the existing balance in the Loss on Retirement or Disposal of Assets Deferral Account relating to terminal losses of approximately $43 million for the decommissioning of the Selkirk Generating Station is not to be amortized;

g) until Manitoba Hydro's next depreciation study, Manitoba Hydro is to use the level of componentization in the utility's 2019 depreciation study prepared by Concentric Energy Advisors and determine depreciation expense for rate-setting purposes using the depreciation accrual rates based on the Average Service Life (ASL) methodology set out in that study;

h) if the utility determines, through professional accounting advice, that determining depreciation expense in accordance with clause (g) is not compliant with International Financial Accounting Standards (IFRS), Manitoba Hydro is to write off any difference in depreciation expense and is directed not to establish a regulatory deferral account for the difference;

i) in preparing Manitoba Hydro's next depreciation study, the utility is to re-evaluate the level of componentization reasonably required under an IFRS-compliant Average Service Life (ASL) methodology and make adjustments to the existing level of componentization if necessary;

j) in revising the level of componentization in accordance with clause (i), Manitoba Hydro is to avoid a level of componentization intended, or that could reasonably be constructed to be intended, to recreate the effect of using the Equal Life Group (ELG) methodology to determine depreciation expense;

k) Manitoba Hydro is to begin determining depreciation expense in accordance with this Directive on September 1, 2023, without a phase-in period or a deferral account in respect of a phase-in.

20. Manitoba Hydro's application to amortize the existing balance in the Change in Depreciation Method Deferral Account for rate-setting purposes **BE AND HEREBY IS DENIED**. For certainty, the Board is not directing how Manitoba Hydro is to treat this account for financial reporting purposes, but the Board is not approving the account for rate-setting purposes.

21. Manitoba Hydro's application to amortize the existing balance in the Keeyask In-Service Deferral Account over the weighted average remaining life of the assets (currently projected at 106 years) beginning on September 1, 2023 **BE AND HEREBY IS APPROVED**;

22. Manitoba Hydro's application to establish and begin the amortization of an SAP S/4HANA Cloud Computing Deferral Account **BE AND HEREBY IS DENIED**, without prejudice to the utility to apply to the Board for the approval of such an account once Manitoba Hydro has completed a business case for this project or any similar project. For certainty, the Phase 0 costs of the SAP S/4HANA project are to be recognized as an O&A expense in the year they are incurred.

23. Manitoba Hydro's application to amortize the Major Capital Projects Deferral Account over two years beginning on April 1, 2025 **BE AND HEREBY IS APPROVED**.

24. Manitoba Hydro's application to write off the Demand-Side Management Deferral Account debit and credit balances **BE AND HEREBY IS APPROVED**.

25. Manitoba Hydro is directed to include, in each financial forecast filed with the Board as part of a rate application, the utility's financial targets in each year covered by the forecast.

26. Manitoba Hydro is directed to file, with its next general rate application, an update on its key process documentation and succession planning initiative with respect to drought risk and drought management procedures, including a description of all progress made in formalizing institutional knowledge into written policies and procedures.

27. Manitoba Hydro is directed to organize and participate in a workshop with stakeholders by October 31, 2024 to assess the utility's enterprise performance management and key performance indicators, using a facilitator appointed by the Board and following the procedure recommended by the facilitator in consultation with Manitoba Hydro and stakeholders.

28. Manitoba Hydro is directed to complete, and include together with its next general rate application, an uncertainty analysis that assesses the probability and likely impact of the significant risks faced by the utility.

29. Manitoba Hydro is directed to file, with its next general rate application, an update on its progress towards maturing the utility's asset management approach. The update is to be prepared by AMCL or another external asset management consultant retained by Manitoba Hydro.

30. Manitoba Hydro is directed to file, together with its next general rate application, its updated Strategic Asset Management Plan and Asset Management Plan.

31. Manitoba Hydro is directed to file, as part of its future general rate applications, a chart that compares the business operations capital forecasts filed by Manitoba Hydro in prior general rate applications against the actual amounts spent during the forecast years and includes a five-year rolling average of that comparison.

32. Manitoba Hydro is directed to conduct a review of the 2009 National Bank model on fixed-rate vs. variable-rate financing and file a report detailing the outcome of the review with its next general rate application.

33. Manitoba Hydro is directed to file, by October 31, 2023, updated schedules of its revenue requirement for the 2023/24 and 2024/25 fiscal years that reflect the decisions and rates approved in this order.

34. Manitoba Hydro is to file, for Board approval, revised rate schedules to be effective September 1, 2023 and April 1, 2024, along with the associated proof of revenues and bill impact tables, reflecting the decisions of the Board in this order.

35. The following directives from earlier Board orders are set aside:

    a) Directive 6 of Order 150/08;

    b) Directive 29 of Order 59/18; and

    c) Directives 1 and 2 of Order 126/18.

Board decisions may be appealed in accordance with the provisions of Section 58 of *The Public Utilities Board Act*, or reviewed in accordance with Section 36 of the Board's Rules of Practice and Procedure. The Board's Rules may be viewed on the Board's website at www.pubmanitoba.ca.

THE PUBLIC UTILITIES BOARD

"Robert Gabor, K.C."
Board Chair

"Rachel McMillin, B.Sc."
Associate Secretary

Certified a true copy of Order No. 101/23
issued by The Public Utilities Board

Associate Secretary

APPENDIX A — GLOSSARY

Term	Acronym	Description
Alternating Current	AC	An electric current that reverses itself many times per second based on regular intervals. All electricity provided to end users in Manitoba is alternating current.
Applicant		A party who makes an application to the Public Utilities Board. Generally, this is a utility seeking an approval from the Board.
Area & Roadway Lighting (Customer Class)	A&RL	Customer class used for streetlights and similar outdoor lighting fixtures used to illuminate roadways and private areas on a dusk-to-dawn basis. Light fixtures in the A&RL class are not metered. Instead, customers pay a flat monthly fee per fixture.
Arrear		An amount owing for which payment is overdue. Unpaid arrears may lead to a disconnection of service.
Assembly of Manitoba Chiefs		An intervener in this hearing who primarily represents the interests of First Nation residential and commercial ratepayers.
Average Life Group	ALG	See Average Service Life (ASL).
Average Service Life	ASL	A depreciation methodology under which assets are grouped into asset groups based on the type of asset. A depreciation rate is then established based on the average life anticipated for the assets in the group. The Average Service Life methodology is also known as the Average Life Group (ALG) methodology.
Bipole III		Manitoba Hydro's most recent long-distance HVDC transmission line.
Business Operations Capital		Capital expenditures to renew existing assets and facilities, extend the electrical system to new customers, and address both load growth and requirements for new capacity. This excludes capital expenditures for major new generation and transmission facilities.
Canadian Generally Accepted Accounting Principles	CGAAP	Accounting standards that applied to Manitoba Hydro before the adoption of International Financial Reporting Standards (IFRS) in 2015.
Conawapa		A generating station that was planned to be constructed on the Nelson River but was cancelled following a 2014 review of the Public Utilities Board into the economics of the project.
Consumer Price Index	CPI	An index published by Statistics Canada to measure inflation.
Consumers Coalition		An intervener in this hearing who primarily represents the interests of residential ratepayers.
Classification		Step 2 in the cost of service process. Costs are classified into one of three categories: (1) Demand, (2) Energy, or (3) Customer.

Term	Acronym	Description
Cost of Service		A process by which a utility's approved revenue requirement is allocated to different customer classes. The process involves three steps: (1) Functionalization, (2) Classification, and (3) Allocation. As an alternative to the Allocation step, costs attributable to a specific customer class may be directly assigned to that class.
Cost of Service Study	COSS	A method for allocating a utility's costs to the various classes of customers it serves. The purpose of a cost of service study is to assess how different customer classes contribute to a utility's overall costs. Cost of service studies are an input into ratemaking decisions by utility regulators.
Customer Class		Manitoba Hydro's customers are grouped into customer classes based on their service characteristics. All customers within the same class pay the same rates. The customer classes discussed in this Order include the following: (1) Residential, (2) General Service Non-Demand, (3) General Service Demand, (4) General Service Medium, (5) General Service Large 750V-30kV, (6) General Service Large 30-100kV, (7) General Service Large >100kV, and (8) Area & Roadway Lighting.
Customer (Classification)		The classification used for costs that are directly affected by the number of customers attached to the system.
Demand (Classification)		The classification used for costs that vary based on the peak demand for electricity rather than the amount of electricity consumed or the number of customers.
Demand-Side Management	DSM	Programs targeted to customers to reduce their demand, e.g., through energy efficiency incentives. Efficiency Manitoba, a Crown corporation, has a statutory mandate to provide demand-side management in Manitoba.
Dependable Energy		Energy that can be supplied by Manitoba even during the worst drought on record, which happened in 1940.
Depreciation		An accounting mechanism used to reflect that assets are used up over time. Depreciation expense forms part of a utility's revenue requirement and is calculated based on depreciation studies that calculate the appropriate amount of annual depreciation for all of a utility's asset groups.
Distribution		Utility assets used to distribute lower voltage electricity to individual customers. These assets include distribution lines operating at less than 30 kV along with associated low voltage portions of substations, as well as low voltage transformers and metering.
Energy (Classification)		The classification used for costs that are directly affected by the amount of electricity purchased or consumed.
Equal Life Group	ELG	A depreciation methodology under which assets are grouped by their projected lifespan as opposed to the type of asset.

Term	Acronym	Description
Ex Parte		Latin for "without notice" (literally "without the parties"). An *ex parte* order is an order the Public Utilities Board makes without public notice and without intervener input. *Ex parte* orders are typically made on an interim basis for non-controversial matters or when there is a degree of urgency that makes public notice impracticable.
Firm Sales		Export sales made from dependable energy resources under contracts with utilities outside of Manitoba.
Full-Time Equivalent	FTE	A measure of Manitoba Hydro's staffing level. It is calculated by adding the total annual hours of all regular, seasonal, hourly, and part-time staff and dividing by 1,916 hours per year.
Functionalization		Step 1 in the Cost of Service process. Assets and costs are grouped into one of five Functions: (1) Generation, (2) Transmission, (3) Subtransmission, (4) Distribution, and (5) Customer Service.
General Rate Application	GRA	A Public Utilities Board process to review Manitoba Hydro's proposed changes to rates and their impact on various customer classes.
General Service Large (Customer Class)	GSL	Customer class containing predominantly industrial customers. These customers make use of customer-owned voltage transformation assets. This customer class is divided into three sub-categories: (1) 750V-30kV (2) 30-100kV, and (3) >100 kV, to reflect the voltage supplied to the customer by Manitoba Hydro.
General Service Medium (Customer Class)	GSM	Customer class containing predominantly large commercial customers. These customers use Manitoba Hydro-owned transformation assets and have loads exceeding 200 kW.
General Service Small (Customer Class)	GSS	Customer class containing predominantly small commercial customers with loads less than or equal to 200 kW. This customer class is divided into two sub-categories: (1) Demand (2) Non-Demand. Demand customers pay a demand charge based on the peak demand each month, in addition to a basic monthly charge and an energy (per kWh) charge.
Generation		Utility assets used to generate electricity, including generating facilities, northern collector transmission lines and Manitoba Hydro's long-distance high-voltage direct current (HDVC) transmission facilities.
Gigawatt-Hour	GWh	An amount of electrical energy equivalent to 1,000,000 kilowatt-hours (kWh) or 1,000 megawatt-hours (MWh). As an example, a typical non-electrically heated home uses 10,000 kWh per year. One GWh is enough to power 100 homes for one year.
GSS/GSM Representative		An intervener in this hearing who primarily represents the interests of the General Service Small and General Service Medium customer classes, meaning commercial ratepayers.

Term	Acronym	Description
High Voltage Direct Current	HVDC	An electric power transmission system that uses direct current for the bulk transmission of electrical power, in contrast with the more common alternating current (AC) systems. HVDC transmission is point-to-point, as opposed to the interlaced networks that are possible with AC systems. For long-distance transmission, HVDC systems may be less expensive and suffer lower electrical losses.
International Financial Reporting Standards	IFRS	Accounting standards adopted by Manitoba Hydro in April 2015 which replace Canadian Generally Accepted Accounting Principles (CGAAP).
Interim Rate		A rate that is approved on an interim basis based on an abbreviated review by the Public Utilities Board. An interim rate is "at risk" until the Public Utilities Board finalizes the rate in a subsequent rate order, generally after a more detailed review.
Intervener		A party to a Public Utilities Board hearing who is not the Applicant. The purpose of an intervener is to assist the Board in making a decision by bringing a perspective to an issue that may not align with that of the Applicant.
Keeyask		Manitoba Hydro's newest and fourth-largest hydroelectric generating station, which came into service in 2021.
Keeyask Hydropower Limited Partnership	KHLP	A partnership operating the Keeyask generating station. The partnership is part of a shared equity approach involving a First Nations stake in the generating station.
Kilovolt	kV	An amount of electromotive force equivalent to 1,000 volts. A volt is unit of measure for the electromotive force, and representative of the difference of potential that would drive one ampere of current against one ohm of resistance.
Kilowatt	kW	An amount of electrical power equivalent to 1,000 watts. A watt is unit of measure for electrical power.
Kilowatt-Hour	kWh	The basic unit of electric energy equal to one kilowatt of power supplied to, or taken from, an electric circuit steadily for one hour (e.g.: ten 100 W lightbulbs left on for 1 hour would use 1 kWh, or 1,000 W for one hour). A typical home without electric heat uses approximately 10,000 kWh each year.
Lighting Cost of Service Study	LCOSS	A cost of service study specifically focused on the light fixtures serving the Area & Roadway Lighting (A&RL) customer class.
Load Factor		The ratio of average consumption to peak consumption. A load factor of 1.0 means that a customer consumes electricity at a steady state, without swings in demand. A low load factor means that there are significant swings in demand.

Major New Generation & Transmission	MNG&T	A category of Manitoba Hydro's capital expenditures that includes projects that provide significant new generation and transmission capacity, and are of a substantial cost. Such major capital projects can involve new electricity generation assets or the construction of long-distance transmission lines.
Manitoba Industrial Power Users Group	MIPUG	An intervener to this hearing who primarily represents the interests of the General Service Large customer classes, meaning industrial ratepayers.
Manitoba Keewatinowi Okimakanak	MKO	An intervener to this hearing who primarily represents the interests of northern First Nation residential ratepayers.
Manitoba-Minnesota Transmission Project	MMTP	The Canadian portion of a recently constructed 500 kV alternating current interconnection between Dorsey converter station northwest of Winnipeg and a new station near Grand Rapids, Minnesota.
Mid-Continent Independent System Operator	MISO	An independent regional organization that manages the electrical grid in the midwestern United States. It is Manitoba Hydro's principal export market.
Megawatt	MW	An amount of electrical power equivalent to 1,000,000 watts, or 1,000 kilowatts (kW).
Needs For and Alternatives To	NFAT	A Public Utilities Board review of Manitoba Hydro's preferred development plan that took place in 2014.
Off-Peak		Off-peak refers to periods when lower electricity prices are generally expected, coinciding with periods of low electricity usage. Manitoba Hydro's off-peak periods are defined as all night time hours from 11pm to 7am.
On-Peak		On-peak refers to periods when higher electricity prices are generally expected, coinciding with periods of high electricity usage. Manitoba Hydro's on-peak periods are defined as Monday to Friday (excluding Statutory Holidays) 12pm-8pm (May-October), as well 7am-11am and 4pm-8pm (November-April).
Operating & Administrative Expense	O&A	Expenditures to support Manitoba Hydro's day-to-day operations, including labour costs and external service providers.
Opportunity Sales		Export sales made from surplus generation, typically generation that is available in most water flow conditions except drought conditions. Opportunity sales are made at prevailing market prices.
Peak Demand		The instantaneous maximum amount of electricity required by a customer or group of customers
Prospective Cost of Service Study	PCOSS	A cost of service study that is prepared on a forward-looking basis. This is the approach used by Manitoba Hydro, as distinct from a fully allocated cost of service study (FACOSS) that looks backward. Prospective service studies are named based on the test year for which they are prepared, so the 2024 prospective cost of service study is named PCOSS24.

Rate Design		The process of determining how the rates charged to various customer classes should be structured. This includes the overall prices as well as how to allocate the rate between a basic monthly charge, an energy charge, and a demand charge. Rates may also be divided into different tiers based on how much energy is consumed.
Rate Rider		A temporary credit or charge on a utility bill that is separate from the regular monthly rate.
Revenue to Cost Coverage	RCC	The ratio of the revenues recovered from a customer class divided by the costs allocated to that class. Generally, rate design aims to achieve an RCC ratio of as close to 100% as practicable or within an approved range called a zone of reasonableness.
Spot Market		An electricity market in which a central system operator determines prices for generated electricity on a day-ahead or real-time basis.
Surplus Energy Program	SEP	A rate program that allows qualifying industrial customers to purchase surplus energy at export market prices that are determined on a weekly basis for peak, shoulder, and off-peak periods.
System Average Interruption Duration Index	SAIDI	A reliability index calculated by adding the sum of all customer interruption durations over the course of a year and dividing that sum by the total number of customers.
System Average Interruption Frequency Index	SAIFI	A reliability index calculated by adding the total number of customer interruptions during the course of a year and dividing that sum by the total number of customers.
Test Year		The year for which the Public Utilities Board is asked to approve rates. A test year is aligned with the fiscal year of the provincial government and begins on April 1 of one year and ends on March 31 of the following year. For this general rate application, the applicable test years are 2023/24 and 2024/25.
Time of Use Rates		A rate design concept that varies the cost of electricity based on when it is used. The aim is to promote energy conservation and load smoothing in order to reduce overall system peak loads, thus deferring the need for new generation assets and to maximize the value of electricity exports during on-peak periods.
Transmission		Utility assets used to transmit electricity between load centres. In the cost of service study, Manitoba Hydro considers all transmission lines and high voltage portions of substations operating in excess of 100 kV as transmission. With respect to capital expenditures, transmission refers to assets operating in excess of 33 kV.
Water Rentals		Fees paid by Manitoba Hydro to the Provincial Government based on the amount of electricity produced from hydraulic generation.
Wuskwatim Power Limited Partnership	WPLP	A partnership operating the Wuskwatim generating station. The partnership is part of a shared equity approach involving a First Nations stake in the generating station.

Zone of Reasonableness	ZOR	An established tolerance zone around the COSS RCC target of 100% for each class. Manitoba Hydro's RCC Zone of Reasonableness currently has a range of 95 to 105 percent. A RCC ratio outside of the ZOR is one factor to be considered in the possible differentiation of rate increases.

APPENDIX B — SUMMARY OF PRESENTER EVIDENCE

In addition to receiving evidence from Manitoba Hydro and registered interveners (see Appendix D), the Board also received several written and oral public presentations from interested parties. As with other witnesses before the Board, those giving oral public presentations were sworn and subject to questioning by all parties and the Board. The written public presentations were certified by the authors.

A summary of the public presentations made in this proceeding is provided below.

Interchurch Council on Hydropower

Amanda Leighton presented on behalf of the Interchurch Council on Hydropower. The Interchurch Council describes itself as a non-partisan advocacy group with a 50-year history of working for justice with hydro-impacted communities and people. Ms. Leighton defined hydro-impacted areas as communities and territories that have been devastated environmentally, culturally, economically, and spiritually by hydro development.

The Interchurch Council opposes the proposed rate increase as it would unfairly affect First Nation on-reserve customers. Ms. Leighton referenced a report by the Assembly of Manitoba Chiefs titled “Energy Poverty on First Nation Reserves”, which found that First Nation on-reserve customers are already unfairly burdened with higher hydro consumption compared to residential customers in Winnipeg. Ms. Leighton submitted that as a result of the dissolution of the First Nations On-Reserve Residential customer class following a 2020 Manitoba Court of Appeal ruling on the matter, on-reserve customers were subject to a 9% rate increase in September 2020. As such, the Interchurch Council considers it to be unfair to burden these customers with another rate increase. The Interchurch Council also considers the rate increase to be unnecessary in light of Manitoba Hydro’s current strong financial position.

The Interchurch Council also opposes Manitoba Hydro’s proposal for differentiated rate increases under which residential customers would receive a 2.4% increase while industrial customers only receive a 1.5% increase. In the submission of this presenter, if

the Board approves a rate increase, the increase should be applied equally to all customer classes.

Social Planning Council of Winnipeg

Josh Brandon presented on behalf of the Social Planning Council of Winnipeg. He expressed concerns with respect to the proposed rate increase and the impacts that it may have on families, and more specifically children, living in poverty. The Social Planning Council found that Manitoba has the highest rates of child poverty in the country, and that child poverty results in negative social impacts, such as higher rates of child mortality, childhood disease, child suicide, and reduced social inclusion. Mr. Brandon stated that families who live in poverty are likely to be paying more than 6% of their income into energy costs, which results in these families making critical decisions around what they can afford, and that the proposed rate increase would only add to this burden.

Mr. Brandon requested two things of the Board: first, that the Board consider the potential impacts on low income families in determining any rate increase; and second, that the Board examine whether there are other opportunities for assistance, such as subsidies to lower-income families, to make sure that power is available for everyone. Mr. Brandon further stated that Manitoba Hydro has a responsibility to provide equitable rates to customers based on what they can afford, and that currently energy costs are not affordable.

Manitoba Non-Profit Housing Association

Bailey Wall presented on behalf of the Manitoba Non-Profit Housing Association, which is a member-based organization that offers housing support, educational tools, resources, and advocacy for its members. In April 2021, the Association partnered with SEED Winnipeg and Manitoba Housing to establish the Rent Relief Fund which provides interest-free loans to tenants across Manitoba who fall below a certain income threshold to secure, stabilize and maintain housing. The Rent Relief Fund and covers costs such as rent arrears, damage deposit, first month’s rent, and utility arrears.

Ms. Wall stated that in 2022, the Rent Relief Fund received 952 applications towards utility arrears, which represented approximately 33% of all applications to the fund. Ms. Wall clarified that utility arrears applications are most likely higher than 33%, but as a result of the application structure, an applicant cannot select both rent arrears and utility arrears when applying for relief. Ms. testified that the Rent Relief Fund is not only for low-income households, but is also available to moderate to low-income households. The threshold for a household without dependents is an annual income of $63,450 and a household with dependents is an annual income of $84,600. For these participants, the average costs of utility expenses for their participants falls between 9% and 12% of the household income.

Out of the 952 applications received, the Association approved 126 loans toward electricity arrears, representing a total sum of $130,049.21, and 38 loans towards water arrears. Ms. Wall stated that the discrepancy in the number of applications compared to the loans approved is due to two reasons. Firstly, the Rent Relief Fund is designed to be a last resort, and if other programs are available the Association will connect those applicants to such other resources. Secondly, it is often the case that applicants have utility arrears beyond what the Rent Relief Fund can appropriately fund, so approval would not stabilize the applicant's housing.

New Journey Housing

Codi Guenther and Azarias Butariho presented on behalf of New Journey Housing, a charitable housing resource centre that helps newcomers to Canada. They testified that many of the individuals who use their services have trouble affording clean and safe housing, and that high monthly utility costs, as well as connection fees or first-time customer deposits, create additional hardships for newcomers.

The number of households accessing New Journey Housing jumped from approximately 30 households per month to between 150-250 households per month in 2022. This increase is largely due to the war in Ukraine. Since March of 2022, over 18,000 Ukrainians

have arrived in Winnipeg and New Journey Housing has worked on moving these refugees out of temporary hotels and into permanent housing.

Ms. Guenther submitted that Manitoba Hydro is not meeting the needs of newcomers to Manitoba. Specifically, she stated that while she is aware that some one-time fees can be waived for low-income individuals, newcomers often lack the literacy or language skills to advocate for themselves. Further, Manitoba Hydro's shift toward online or telephone customer support, with reductions in available in-person service options have contributed to the barriers faced by newcomers. Ms. Guenther also stated that New Journey Housing has seen a dramatic increase in newcomers accessing their services, which has put strain on their organization. For example, New Journey Housing's team members can spend an hour with clients on hold with Manitoba Hydro (or navigating an online customer portal) to assist them with their utility account issues, which shifts the non-profit's resources away from other assistance work. As a result, Ms. Guenther submitted that it is not fair for Manitoba Hydro to close some customer service options and putting that responsibility on the non-profit sector.

Mr. Butariho stated that most newcomers to Canada live in poverty for their first few years in Canada, and many of them rely solely on Employment and Income Assistance. This limited budget can result in situations where a recipient is forced to pick between paying for rent or utilities or groceries, which will only get worse should energy rates increase while assistance payments remain stagnant. On behalf of New Journey Housing, Mr. Butahiro stated that the organization opposes any rate increase.

Chemtrade Electrochem Inc.

Dale Bossons and Rick Zetariuk presented on behalf of Chemtrade Electrochem Inc., a Canadian chemical manufacturing and handling company. Chemtrade operates a sodium chlorate plant in Brandon, Manitoba. Chemtrade is Manitoba Hydro's largest customer, a member of the General Service Large >100kV customer class, and a member of the Manitoba Industrial Power Users Group. Chemtrade is considering a capital investment of over $100 million in its Brandon facility over the next five years.

Chemtrade notes that the chlorate market is highly competitive and shrinking. Chlorate competitiveness is determined by three key considerations: power pricing, stability of operation, and availability. According to Mr. Zetariuk, out of those factors, power pricing is the most important one due to the large amount of electricity required for electrolysis. Chemtrade's competitiveness is helped by having predictable, reliable power at true cost, together with flexible or alternate rate options and good customer service. Mr. Zetariuk further noted that ChemTrade originally located its facility in Manitoba because of the available power prices, as well as for product transportation considerations.

Mr. Zetariuk indicated that reliability of supply is critical for Chemtrade, as even a two-second interruption could result in a $40,000 loss in production, in part because after any interruption, Chemtrade's systems have to be purged. He cited a power fluctuation event on April 19, 2023 that resulted in a capacitor bank failure, requiring $30,000 in repairs.

Mr. Zetariuk also emphasized that Chemtrade consumes $65 million of electricity per year and the cost of electricity accounts for 72% of the facility's costs. He pointed out that a 2.0% annual increase over five years would increase annual costs by $20 million, which is significant when trying to be competitive and total sales are decreasing.

Mr. Zetariuk expressed frustration that the General Service Large customer class currently pays 113% of its costs, indicating that this amounts to an overpayment of $7.5 million for the Brandon facility. Chemtrade is of the view that the long-term goal should be for the customer class to pay 100% of its costs.

Gerdau Ameristeel Corporation

Jeff Anthofer presented on behalf of Gerdau Ameristeel Corporation, which operates a steel mill in Selkirk, Manitoba. Energy represents Gerdau's third-largest variable cost, and Mr. Anthofer indicated that any increase in that cost would negatively affect the mill, as internal competition with other Gerdau mills for investment capital is dependent on stable and competitive rates.

Mr. Anthofer testified that the Selkirk mill is Gerdau's fifth-most expensive mill to operate out of a portfolio of fifteen, on a dollar-per-kilowatt-hour basis. In Gerdau's assessment, this is because Manitoba Hydro is not offering reasonable options to monetize load flexibility and demand reduction in the same manner as other jurisdictions. According to Mr. Anthofer, the mill's load flexibility could be of great value in Manitoba through shared revenue and offering relief in the future for times of reduced capacity.

Mr. Anthofer explained that Gerdau's load fluctuates based on the operation of the facility's arc furnaces. Gerdau's load factor is approximately 50-55%. As a result, Gerdau takes issue with Manitoba Hydro's rate design proposal to implement the rate increase only to the demand charge. Mr. Anthofer stated that the impact of this proposed design is that it would disproportionately negatively impact low load-factor customers like Gerdau. Gerdau proposes that Manitoba Hydro transition to an hourly measurement of demand from the current fifteen-minute peak window measurement, similar to the jurisdictions of the ISO, MISO, and PJM.

Lastly, Mr. Anthofer expressed frustration with the current revenue to cost coverage ratio faced by the General Service Large >100kV customer class and stated that rates for this class should remain frozen until the class is in the zone of reasonableness.

TC Energy

Christopher Host and Justin Chan presented on behalf of TC Energy, which owns the TC Energy Liquids Pipeline that transports oil through Manitoba. Along the pipeline are approximately 50 pump stations, six of which are located in Manitoba , which increase the internal pipeline pressure and flow. The pipeline has been in operation for 13 years, and in that time has transported 3.6 billion barrels. The pipeline currently transports 500-600 barrels of oil daily.

TC Energy's presentation focused on the need for reliability of the electrical supply to its pump stations. Mr. Host testified that when there is an interruption in power to any of the pump stations in Manitoba, even a momentary interruption lasting a few seconds, it

causes a delay in the pump station's operation for a minimum of 30 minutes. An interruption in one of the two critical pumping stations in Manitoba could result in a line shutdown for a minimum of two hours. Mr. Chan stated that outages related to Manitoba Hydro's declining performance have resulted in more frequent and longer downtime than any other provider on the Keystone system.

As a result, TC Energy is seeking that Manitoba Hydro's funds be prioritized and allocated to increase reliability across the system. Further, TC Energy offered to partner with Manitoba Hydro to work on finding ways to make the system more reliable.

Maple Leaf Foods

Morgan Curran-Blaney presented on behalf of Maple Leaf Foods. Maple Leaf started its presentation by highlighting how it and Manitoba are intertwined. Maple Leaf has significant assets and investments in Manitoba. The majority of its farm and feed mills reside in Manitoba, as well as a large primary processing plant in Brandon and Canada's largest bacon manufacturing facility in Winnipeg. Maple Leaf estimates that these investments create approximately $753 million in direct benefits to Manitoba. Mr. Curran-Blaney stated that some of the highest quality pork for the Japanese chilled pork industry is made in Manitoba, and that such a product is very labour-intensive and energy-intensive, requiring strict cooling protocols and programs.

Mr. Curran-Blaney further stated that at this time, the pork industry is facing unprecedented financial pressures such as elevated feed costs, which are leading to plant closures, consolidations, and reduced outputs. The cost of energy places financial pressure on Maple Leaf, with an annual cost of approximately $5.2 million. Mr. Curran Blainey pointed out that food is a commodity-based market, which means that cost increases cannot easily be passed on to the consumer. Mr. Curran-Blaney also clarified that due to its operations running 24 hours at a time, Maple Leaf has been unable to use or benefit from the Curtailable Rate Program.

Maple Leaf does not oppose a rate increase but requests that the Board consider the pressures placed on ratepayers in determining a rate approval.

Canadian Kraft Paper

Dan Hotel presented on behalf of Canadian Kraft Paper, a paper mill based in The Pas, Manitoba. Canadian Kraft Paper estimates the economic impact of the mill to Manitoba to be $120 million, most of which accrues to the north. Mr. Hotel testified that the company's operations are very energy-intensive, with energy being consumed as electricity and steam. Mr. Hotel emphasized that the mill operates 24/7, so reliability of service is important for the success of the business. Even a momentary interruption of service would require hours to restart production and lose the company over $100,000 per occurrence, as the company does not have any backup source of power.

Mr. Hotel indicated that the company has a great working relationship with Manitoba Hydro and that Manitoba Hydro's customer service has been good.

With respect to Manitoba Hydro's proposed rate structure, Mr. Hotel stated that pulp and paper is a very competitive industry with low-margin production, so any large changes to service rates directly affect the company's bottom line. Canadian Kraft Paper also cannot utilize Manitoba Hydro's alternative rate options as it has no operational flexibility to use those options.

Manitoba School Boards Association

The Manitoba School Boards Association filed a written presentation. The entity represents Manitoba's 38 public school boards and states that Manitoba's public school boards faces cumulative years of damage through sustained underfunding. In setting their budgets, school boards are restricted from incurring deficits or overruns, even as the proportionate share of provincial funding in support of school operating requirements has steadily declined from previous years. Further imposition of restrictions on the ability of school boards to raise additional local revenues has meant that boards are no longer able

to absorb outside pressures. As a result, many of its members are making very difficult choices as to which programs, supports, and services will be reduced.

For the 2022 school year, total annual costs for all 38 school boards were approximately $30 million. The proposed rate increases in this Application would increase these collective expenditures by $1.2 million. The Association submits that this would further increase burdens on the public school system and result in a reduced level of programs, supports, and services provided.

The Association states that it cannot support Manitoba Hydro rate increase proposals. In its view, adopting a more gradual rate increase over a longer period of time would still contribute towards meeting Manitoba Hydro's needs while at the same time avoiding significant impacts to public education programs, supports and services for children and their communities across our province.

Manitoba Association of Newcomer Serving Organizations

The Manitoba Association of Newcomer Serving Organization (MANSO) filed a written presentation. MANSO supports newcomers to Manitoba and helps to inform over 70 member agencies about housing issues and the related barriers faced by newcomers. MANSO submits that newcomer families are often larger in size and rent older and poorly insulated homes, leading to higher rent and utility bills. Further, newcomers are either on fixed incomes like Employment and Income Assistance or they are working minimum wage jobs. As a result, the proposed 4.8 % rate increases for residential customers by April 2024 will affect low-income households more harshly than those with higher incomes. With record Manitoba Hydro projects over the past years, MANSO questions the justification for increasing rates.

MANSO states that newcomers are one of the main group that activate new Manitoba Hydro accounts, which typically requires a deposit. While Manitoba Hydro has a pathway to get this deposit waived if someone is struggling financially, the process is not widely promoted and is often only used when a community worker or customer advocates with

Manitoba Hydro on their client's behalf. Manitoba Hydro also has cut costs over the past few years by closing in-person customer services and shifting to online services. The only way to set up a new Manitoba Hydro account is either online or over the phone. For a newcomer that does not have computer access and cannot communicate in English or French, they are left with no options other than to find community agencies to get support.

MANSO submits that non-profit agencies like it are already working beyond capacity and with limited resources. As such, Manitoba Hydro should not be cutting their services and then pushing the work onto the non-profit sector.

APPENDIX C — APPEARANCES

PARTY	LEGAL COUNSEL
The Public Utilities Board	Bob Peters, Sven Hombach
Manitoba Hydro	Brent Czarnecki, Odette Fernandes, Matthew Ghikas, Deanna Hiebert, Gwen Muirhead
Independent Expert Consultant	William Haight, Bradley McLelland
Assembly of Manitoba Chiefs	Carly Fox, Emily Guglielmin
Consumers Coalition	Byron Williams, Chris Klassen, Hannah Taylor
Representative of the General Service Small and General Service Medium Customer Classes	Thomas Reimer, Robert Walichnowski
Manitoba Industrial Power Users Group	Antoine Hacault, Melissa Beaumont
Manitoba Keewatinowi Okimakanak	Markus Buchart

APPENDIX D — PARTIES OF RECORD AND WITNESSES

PARTY	WITNESSES
Manitoba Hydro	**Policy Panel**
	Jay Grewal, President & CEO
	Aurel Tess, Vice-President and Chief Financial Officer
	Export, Drought Management & Hydrology Panel
	Hal Turner, Vice-President, Asset Planning & Delivery
	Nikhil Karanwal, Director, Energy Markets
	Cheryl Sanclemente, Acting Manager, Wholesale Power Trading
	Kevin Gawne, Manager, Energy Operations & Planning
	Asset Management & Capital Panel
	Hal Turner, Vice-President, Asset Planning & Delivery
	James Pawluk, Director, Asset Management
	Krista Halayko, Manager, Asset Management Strategy & Planning
	Alastair Fogg, Corporate Controller
	Cyril Patterson, Director, Distribution Operations & Maintenance — Rural
	Tanis Brako, Director, Sales, Marketing & Product Development
	Sarah Vine, External Asset Management Consultant, AMCL Canada
	Revenue Requirement Panel
	Aurel Tess, Vice-President & Chief Financial Officer
	Alastair Fogg, Corporate Controller
	Sandra Amorim-Dew, Manager, Financial Advisory Services
	Greg Epp, Manager, Financial Planning
	Susan Stephen, Treasurer
	Rates & Cost of Service Panel
	Shannon Gregorashuk, Director, Rates & Regulatory
	Marnie Van Hussen, Manager, Rate Analysis & Design
	Kevin Gawne, Manager, Energy Operations & Planning
	Depreciation Concurrent Evidence Panel
	Alastair Fogg, Corporate Controller
	Michelle Hooper, Senior Analysis, Asset & Operations Accounting
	Dane Watson, External Depreciation Consultant, Alliance Consulting Group

PARTY	WITNESSES
	Facilitator: Ian Innis, Elenchus Research Associates
Independent Expert Consultant	John Athas, Douglas Smith and Jeffrey Bower, Daymark Energy Advisors
Consumers Coalition	Peter Helland & Chris Oakly, Midgard Consulting Inc. Darren Rainkie, Darren Rainkie Consulting Pelino Colaiacovo, Morrison Park Advisors Kelly Derksen, Kelly Derksen Consulting
Representative of the General Service Small and General Service Medium Customer Classes	Dustin Madsen, Emrydia Consulting
Manitoba Industrial Power Users Group	Patrick Bowman, Bowman Economic Consulting