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June 2, 2023

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

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

Dear Dr. Christle:

**RE: MANITOBA HYDRO'S 2023/24 & 2024/25 GENERAL RATE APPLICATION – UNDERTAKINGS**

Please find enclosed Manitoba Hydro's undertakings 10-13, 16-18, 24, 26, 29, 31, 34-38, and undertaking accepted at page 1516 of the transcript.

Should you have any questions with respect to the foregoing, please do not hesitate to contact the writer at 204-360-3257.

Yours truly,  
**MANITOBA HYDRO LEGAL SERVICES**  
Per:

A handwritten signature in blue ink, appearing to read 'Brent Czarnecki'.

**Brent Czarnecki**  
Senior Counsel

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## 2023/24 & 2024/25 GENERAL RATE APPLICATION

### Manitoba Hydro Undertaking #10

**MH undertake to explain negative CVF value projects in C23.**

#### Response:

A negative CVF score indicates that the cost of the investment is greater than the risk mitigated by said investment based on the CVF evaluation rubric. This is a rare occurrence, usually resulting from a special circumstance like a legacy investment. Legacy investments were approved using the process at the time and prior to the implementation of the Corporate Value Framework.

In recent years of the implementation of the CVF, when faced with a negative valuation score, additional scrutiny is applied in the justification of the project to ensure the right path is chosen. Cancellation or deferral of the project may be considered at that time.

The examples provided in PUB/MH II-53a-c with negative scores and raised during the hearing on May 23, 2023 are both legacy investments, with the following details:

1) HVDC BP2 Valve Hall Wall Bushing Replacement

- CVF score = (296)
- The original project budget of \$19.2 million was approved in 2009 for the replacement of oil filled bushing with solid core or SF6 bushings.
- This project is currently undergoing review to align with Bipole modernization efforts and will be re-valued.

As indicated in response to Coalition/MH II-130a-b, there are several factors that have impacted the in-service date of the replacement bushings, including:

- completion of an initial pilot to confirm viability of a dry-type bushing replacement as a direct replacement;
- decision to defer project spending due to capital budget constraints;
- direction to defer the work to align with Bipole II modernization; and
- prioritization of procurement of spares to manage in-service failures until execution is completed.

## 2) 13.2kV Shunt Reactor Replacements

- CVF score = (2,352)
- The original project budget of \$33.0 million was approved in 2009 for the reactors' replacement. The budget was reduced to \$15.9 million as result of lower estimated cost for the reactors as part of addendum #01 approved in 2012.
- The project was not valued in CVF until addendum #02 in 2019 at which time the investment was nearly complete (88% of addendum budget spent).
- The majority of the project value was captured prior to evaluation in the CVF and is therefore not reflected in the score.

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## 2023/24 & 2024/25 GENERAL RATE APPLICATION

### Manitoba Hydro Undertaking #11

Manitoba Hydro to provide a timeline of when existing assets are expected to fail and new assets are expected to come in-service for Pointe du Bois Generating Station.

#### Response:

The Pointe du Bois Renewable Energy Project began in late 2022 and is scheduled to be complete by June of 2027. The planned in-service dates of each generating unit per the CIJ provided in MIPUG/MH I-82d-Attachment 1 page 25 of 225, are as follows:

- First Unit – December 2024
- Second Unit – February 2025
- Third Unit – September 2025
- Fourth Unit – October 2025
- Fifth Unit – May 2026
- Sixth Unit – July 2026
- Seventh Unit – January 2027
- Eight Unit – March 2027

Units 2, 3, 4, 5, 7, 8, 9, and 11 are being replaced as part of this project and will provide 54MW of capacity.

Based on their condition, units 6, 10, 12, 13, 14 are anticipated to reach their end of life by 2029. These units provide 23MW of capacity.

Units 1, 15, 16 are expected to continue operating over the long-term providing 20MW of capacity.

Starting in 2030, the full plant capacity resulting from the remaining existing units and the eight new units would be 74MW.

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2023/24 & 2024/25 GENERAL RATE APPLICATION

**Manitoba Hydro Undertaking #12**

**Did the NPV of the PREP project increase as a result of the reduction in gov't payments?**

**Response:**

Based on a project cost of \$308 M, net of ICIP Funding, PREP results in a NPV of \$70M, as discussed in the response to PUB/MH II-55a-b. The NPV increases to \$93M with a 50% reduction in Water Rental Fees and a 50% reduction to the Debt Guarantee Fee.

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## 2023/24 & 2024/25 GENERAL RATE APPLICATION

### **Manitoba Hydro Undertaking #13**

**MH to undertake to provide list of communities MH has partnered with to improve reliability, provide employment opportunities.**

#### **Response:**

Manitoba Hydro has partnered with the following communities since 2017 as part of the Fire Shield Program:

- Black River First Nation
- Duck Bay Community Council
- Ebb and Flow First Nation
- Fisher River Cree Nation
- Gambler First Nation
- O-Chi-Chak-Ko-Sipi First Nation
- Peguis First Nation
- Pinaymootang First Nation
- Pine Creek First Nation
- Rolling River First Nation
- Sagkeeng First Nation
- Sandy Bay First Nation
- Sapotaweyak Cree Nation
- Sioux Valley Dakota Nation
- Skownan First Nation
- Waywayseecappo First Nation

Manitoba Hydro has engaged in employment opportunities with the following communities as part of Distribution and Transmission vegetation programs since 2016:

- Gods Lake First Nation
- Wasagamack First Nation
- York Factory First Nation
- Brokenhead Ojibway Nation

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- Bunibonibee Cree Nation
  - Chemawawin Cree Nation
  - Dauphin River First Nation
  - Duck Bay Community Council
  - Fox Lake Cree Nation
  - Gardenhill First Nation
  - Gods Lade First Nation
  - Hollow Water First Nation
  - Pine Creek First Nation
  - Lake St. Martin First Nation
  - Little Grand Rapids First Nation
  - Mathias Colomb First Nation
  - Nisichawayasihk Cree Nation
  - Norway House Cree Nation
  - Opipon-Na-Piwin Cree Nation
  - Pauingassi First Nation
  - Peguis First Nation
  - Pimicikamak Cree Nation
  - Pinaymootang First Nation
  - Rolling River First Nation
  - Sapotaweyak Cree Nation
  - Skownan First Nation
  - Tataskweyak Cree Nation
  - Coalition of First Nations with an Interest in Riding Mountain National Park (which consists of):
    - Ebb & Flow First Nation
    - Gambler First Nation
    - Keeseekoowenin First Nation
    - Rolling River First Nation
    - Sandy Bay First Nation
    - Tootinoawaziibeeng First Nation
    - Waywayseecappo First Nation

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**Manitoba Hydro Undertaking #16**

**Provide the MH customer satisfaction and tracking study topline report for Dec 2022 Q3.**

**Response:**

Please see Attachment 1 to this response for a copy of Manitoba Hydro's customer satisfaction and perceptions topline report for December 2022.



**2023/24 & 2024/25 GENERAL RATE APPLICATION**

**Manitoba Hydro Undertaking #17**

**MH to advise if the sub-transmission level performance included in distribution SAIFI or SAIDI, or is it at the transmission level or both.**

**Response:**

Manitoba Hydro responded to this undertaking on the record on May 24, 2023, which is further explained below. See page 1529 of the transcript dated May 24, 2023.

T-SAIDI and T-SAIFI includes sub-transmission and transmission voltages as defined by Electricity Canada, which is the voltage class range of 60 to 750kV. It does not include the 33kV voltage class. T-SAIDI and T-SAIFI metrics measure delivery point interruptions to the distribution system (<60kV), and directly connected customers. Delivery point interruptions can result in customer interruptions.

SAIDI and SAIFI metrics measure customer interruptions and include all voltage classes, including the 33kV and 66kV voltage classes. It is any outage within the power system that is at least one minute long and results in a customer losing service. The table below shows which voltage levels are included in the metrics. While voltage levels greater than or equal to 115 kV are within the scope of SAIDI and SAIFI, in practice these voltage levels contribute marginally to SAIDI and SAIFI.

Transmission and Distribution Voltage Level (kV)	In scope of SAIDI/SAIFI	In scope of T-SAIDI /T-SAIFI
<=0.75	Yes	No
2.4 to 14.4	Yes	No
24	Yes	No
33	Yes	No
66	Yes	Yes
115	Yes	Yes
138	Yes	Yes
230	Yes	Yes
500	Yes	Yes

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## 2023/24 & 2024/25 GENERAL RATE APPLICATION

### Manitoba Hydro Undertaking #18

**Manitoba Hydro to answer the question: the \$10 per kilowatt hour, and if it goes in greater granularity, what numbers are used for that greater granularity**

#### Response:

Manitoba Hydro has not updated the value for unserved energy, used as an input to the Corporate Value Framework (CVF) and valuation of investments.

The number used is factored into various calculations within the CVF, including frequency cost, duration cost and electrical CMI (customer minutes of interruption) cost which ultimately are factored into the following CVF value measures:

- Import transfer capacity risk
- Blackstart delay cost
- Transmission reliability risk

Manitoba Hydro is not able to provide a more granular breakdown of these figures or details, as these calculations are proprietary.

Figure 7.10 “SAMP Objectives and Current Status” found in the Application identifies CVF recalibration efforts which will include a review and update, where prudent, of the input parameters.

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**2023/24 & 2024/25 GENERAL RATE APPLICATION****Manitoba Hydro Undertaking #24**

**Can MH advise what rates would have to be for the rest of the forecast period to reach 70/30 with even annual rates with 1.59% rate increases in the two test years?**

**Response:**

Assuming rate increases of 1.59% in the 2023/24 and 2024/25 test years as demonstrated in PUB MFR 22 (Amended), even annual rate increases of 2.08% are required from 2025/26 to 2039/40 to achieve a debt ratio of 70% in 2039/40.

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## 2023/24 & 2024/25 GENERAL RATE APPLICATION

### **Manitoba Hydro Undertaking #26**

**Who was MH IRP consultant? (Taken under advisement)**

**Response:**

MH engaged two consultants to support development of the 2023 IRP:

1. Prairie Research Associates to support the development, execution, incorporating feedback from and reporting on engagement activities.
2. Energy + Environmental Economics (E3) to act as an IRP development consultant to review the development process, as well as the key inputs, scenarios, modeling, evaluations, results and documentation phases of the IRP process to advise whether those phases meet generally acceptable industry practice standards and to identify gaps or opportunities for improvement.

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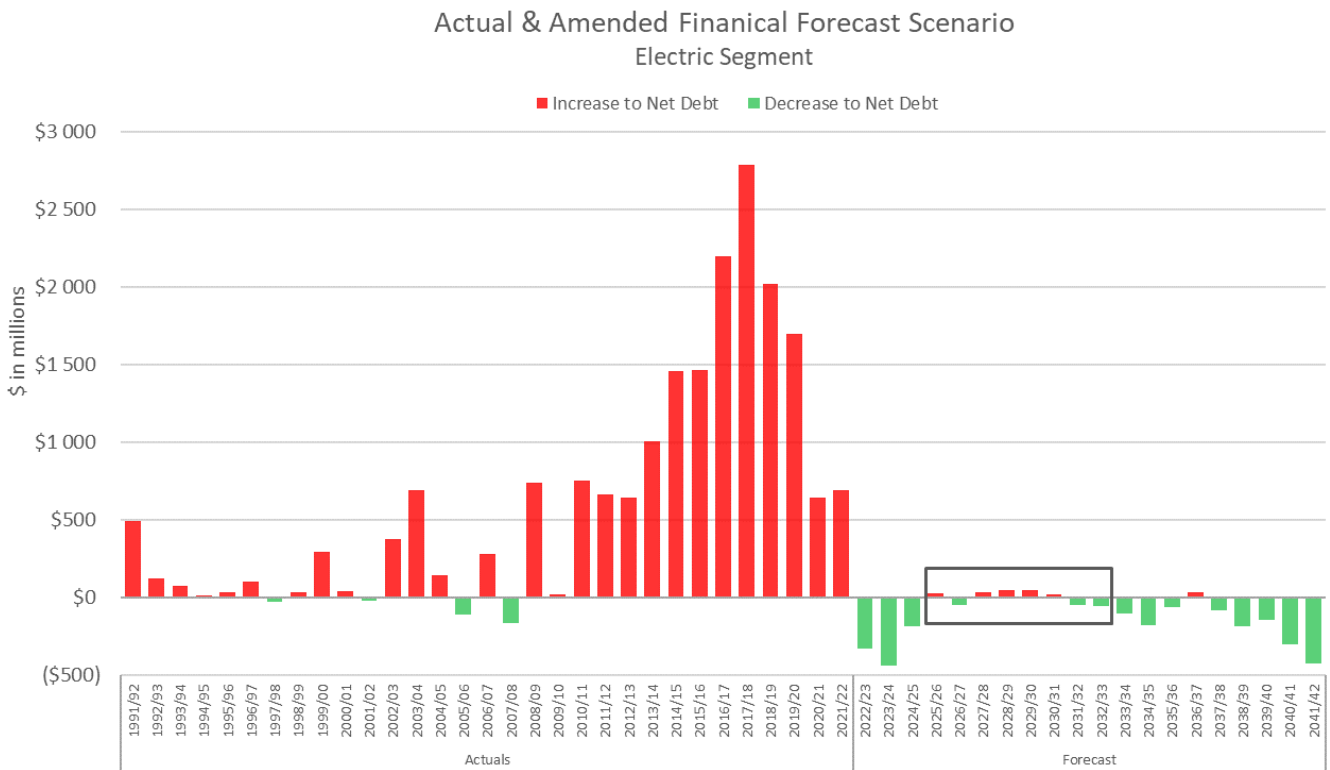
**Manitoba Hydro Undertaking #29**

MH to provide chart similar to Slide 15 of Direct Evidence that includes net debt, assets and retained earnings.

**Response:**

Figure 1 below is from slide 15 of MH Exhibit 42, Manitoba Hydro’s Revenue Requirement Panel’s direct evidence presented on May 29, 2023.

**Figure 1 – Actual & Forecasted Change to Net Debt**

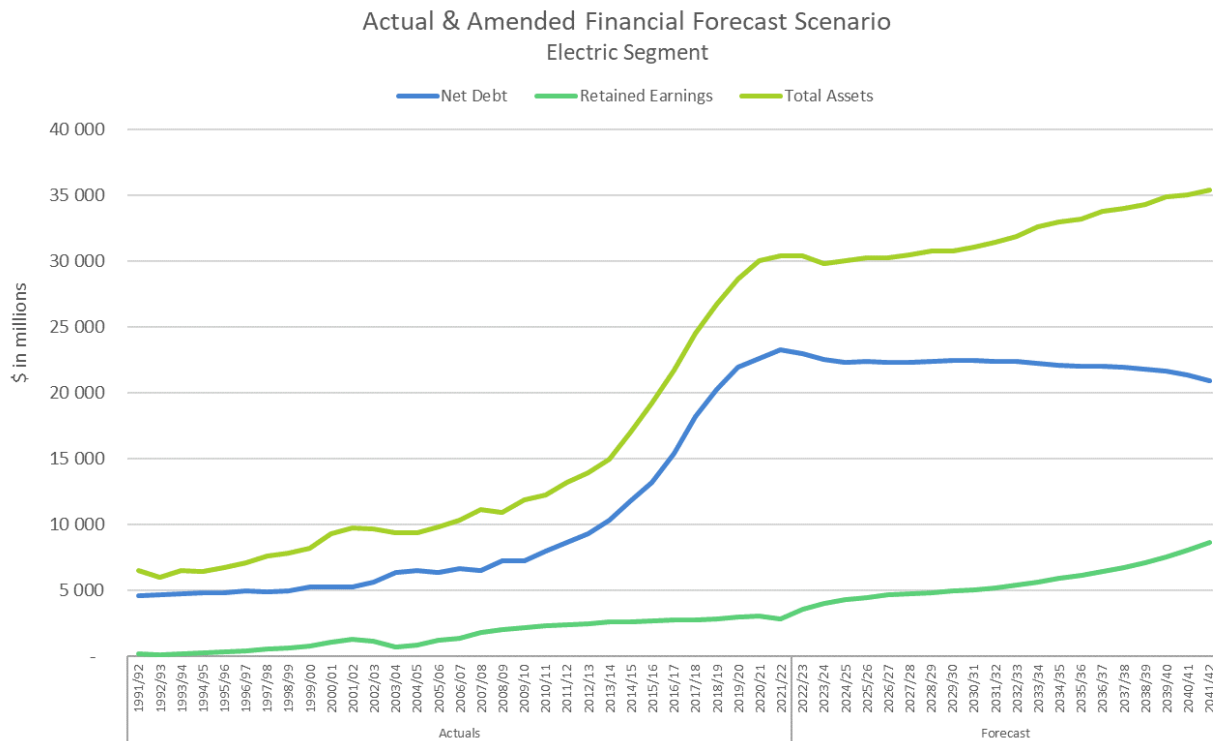


On March 31, 2008, Manitoba Hydro’s net debt was roughly \$6.5 billion. On March 31, 2022, after the completion of construction of the Major Projects, net debt was just over \$23 billion. Over this period, net debt increased by roughly \$17 billion or 3.5 times what it was heading into the capital build out.

Over the first 3 years of the forecast, Manitoba Hydro is projecting near-term net debt reductions of almost \$1 billion as a result of the reduction to government payments, surplus water flows, and strong energy prices for opportunity sales in the export market. Over the next 8 years of the forecast, there is minimal change to the net debt balance despite 2% rate increases in each year. During this period, the 2% rate path essentially holds the line and minimizes further debt growth. It's not until mid-way through the second decade that Manitoba Hydro is projected to make noticeable reductions to the net debt balance. The sum of the green bars from 2031/32 to 2041/42 (10 years where net debt decreases) totals \$1.5 billion – that is the equivalent to net debt increases in 2014/15 and 2015/16 alone.

**Figure 2** below compares the actual and forecast net debt balance, retained earnings balance and total assets for the electric segment. The Total Asset balance grows at a similar rate to the debt during construction of the Major Projects while Retained Earnings does not have the same steep increase during construction and grows steadily over the 50-year period.

**Figure 2 – Actual & Forecast Net Debt, Retained Earnings and Total Assets (1991/92 - 2041/42)**



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**2023/24 & 2024/25 GENERAL RATE APPLICATION****Manitoba Hydro Undertaking #31**

**Manitoba Hydro to advise if they don't receive the money from the federal government, what happens to the Pointe du Bois project**

**Response:**

Manitoba Hydro would proceed with the Pointe du Bois Renewable Energy Project (PREP) if the Federal Investing in Canada Infrastructure Funding were not received because the new generation is required to meet future load growth. Responses to COALITION/MH I-115-b and COALITION/MH II-103-a explain that if PREP did not proceed, then alternative new resources would still be required to meet load growth, assumed to be new wind generation and natural gas fueled thermal generation. Without the federal funding the economics for PREP compared to the alternative of new wind and thermal generation are similar.

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**2023/24 & 2024/25 GENERAL RATE APPLICATION****Manitoba Hydro Undertaking #34**

**Manitoba Hydro to advise why the number of uncollectible accounts for First Nation on reserve customers is higher in 2018 than the later years provided in the response to AMC/MH I-30a-e (Revised).**

**Response:**

When the Indigenous Accounts group is unsuccessful in collecting the outstanding balance on an inactive account, the account is referred to a collection agency. This referral process changes the status of the account to Uncollectible. The process is manual and fluctuates with resource availability.

The number of First Nation, on-reserve accounts transitioned to uncollectible status going back to 2015 is as follows and shows that numbers around the 600 range is not unusually high. This number represents approximately 7-8% of the total number of accounts transitioned to uncollectible status.

Fiscal Year	Uncollectable Accounts
2015	696
2016	366
2017	634
2018	677
2019	303
2020	189
2021	500
2022	346



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2023/24 & 2024/25 GENERAL RATE APPLICATION

**Manitoba Hydro Undertaking #35**

**Definition of 'energy burden' used in slide 10 of 26 of Coalition/MH I-126b Attachment 1**

**Response:**

As background, the Customer Satisfaction Tracking Study in September 2022 (Q2) was administered via the phone. The following is the script was used:

“Do you agree, disagree or neither with the following statement: Paying my energy bill has a major impact on my finances and requires I do without things I consider necessities for myself or my household.

IF AGREE/DISAGREE ... Would you say strongly\_\_\_\_\_ or somewhat \_\_\_\_\_?”

Responses were coded as: Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree and “Do not know.”

If a customer indicated “strongly agree” or “agree” they were categorized as experiencing an energy burden.

This question was designed in partnership between Electricity Canada and Innovative Research group.

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**2023/24 & 2024/25 GENERAL RATE APPLICATION**

**Manitoba Hydro Undertaking #36**

**Manitoba Hydro to advise if Manitoba Hydro has advice or recommendations from external consultants and if so, to file same.**

**Response:**

Please see Appendix 9.7 of the Application for a presentation related to Manitoba Hydro's Business Model review, which was based on advice and recommendations made by an external consultant retained by Manitoba Hydro.

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## 2023/24 & 2024/25 GENERAL RATE APPLICATION

### Manitoba Hydro Undertaking #37

#### **Manitoba Hydro to provide actuals and forecast additions to the Trades Trainee Program through to 2025**

#### **Response:**

Please see below for an update to Figure 6.4 and Figure 6.5 from Tab 6 of the Application.

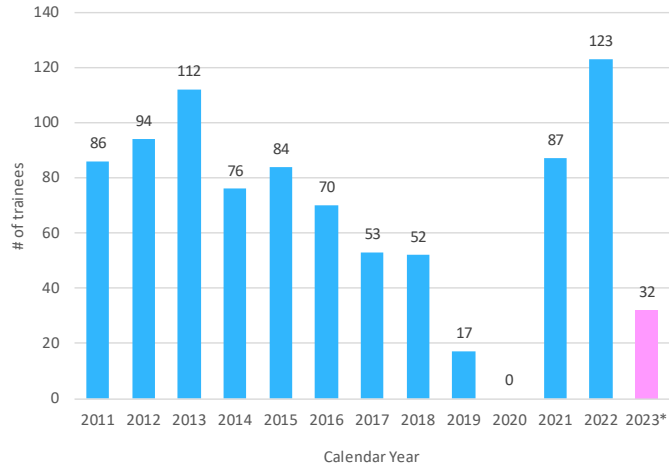
Please note that the 32 hires shown in the chart below (Update to Figure 6.4) were hired on March 13, 2023 and therefore represent approximately 2 FTE for the 2022/23 fiscal year (April 1, 2022 to March 31, 2023). This is calculated using the following rounded numbers for illustrative purposes: (15 working days x 8 hours per day x 32 people)/1916 hours available in a year.

In 2023/24, these 32 hires will represent 32 FTE as they will be at Manitoba Hydro for the full year.

As a result, the 129 FTE in 2023/24, shown in the Updated Figure 6.5 below, include:

- recruitments planned for 2023/24 (105 trainees that will start at different points through the fiscal year); and
- trainees hired in fiscal 2022/23 that will be here for a full year (including the 32 that started on March 13, 2023, along with other trainees that would have been counted as less than 1 FTE in the 2022/23 fiscal year based on their start date).

**Update to Figure 6.4**



\*actual hires for the period of January to March 2023

**Update to Figure 6.5**

Fiscal Year	FTEs	Positions
2022/23	89	119
2023/24	129	105
2024/25	112	113

**2023/24 & 2024/25 GENERAL RATE APPLICATION****Manitoba Hydro Undertaking #38****Manitoba Hydro to provide Actuals for the operations FTEs for 2022/23****Response:**

There were 2,489 actual straight time FTEs in the Operations business unit in 2022/23.

**2023/24 & 2024/25 GENERAL RATE APPLICATION****Manitoba Hydro Undertaking accepted at Transcript Page 1516****MH to provide a copy of their Asset Information Strategy****Response:**

Please see Attachment 1 of this response for a copy of Manitoba Hydro's Asset Information Strategy.