CAC/MH II-1

Subject: **Application**
Reference: **CAC/MH I-1 a)**

a) Please provide a status update with respect to Time of Use rates for General Service Large customers.

ANSWER:

On October 3, 2012, Manitoba Hydro amended its Application to request Public Utilities Board approval to implement Time-of-Use Rates for the General Service Large customer class served at greater than 30 kV, effective April 1, 2013. Manitoba Hydro is also proposing to increase the demand ratchets for these customers from 25% to 50% of contract demand or 50% of the highest demand in the past 12 months.

CAC/MH II-2

Subject: **Summary & Reasons for Application**
Reference: **CAC/MH I-4 a) & b)**

a) To what does Manitoba Hydro attribute the change in the outlook for peak and off-peak export prices (e.g., is it demand-related or cost-related)?

ANSWER:

Please see Manitoba Hydro's response to CAC/MH I-19(a). This response confirms that the change in outlook for on and off peak prices is both demand and cost related.

CAC/MH II-2

Subject: **Summary & Reasons for Application**
Reference: **CAC/MH I-4 a) & b)**

b) Is the pricing in any of Manitoba Hydro's firm export contracts linked to the price of natural gas? If so, does this affect the anticipated revenues from these contracts as between IFF09 and IFF11-2?

ANSWER:

No. For the period up to the end of the 2013/14 covered in Manitoba Hydro's response to CAC/MH I-4(a), there are no export contracts where the price is linked to the price of natural gas.

CAC/MH II-3

Subject: **Corporate Overview**
Reference: **CAC/MH I-8 a)**

a) Please provide Manitoba Hydro's Accident Severity and Accident Frequency Rates for 2009/10, 2010/11 and 2011/12.

ANSWER:

Measure	2009/10	2010/11	2011/12
Accident Severity Rate - days per 200,000 hours worked	25.35	13.17	10.18
Accident Frequency Rate – accidents per 200,000 hours worked	1.29	1.04	0.91

CAC/MH II-3

Subject: **Corporate Overview**
Reference: **CAC/MH I-8 a)**

b) Please explain what contributed to Manitoba Hydro's 2009/10 OMA being $36/customer over target.

ANSWER:

Please see Manitoba Hydro's response to PUB/MH II-5(b).

CAC/MH II-4

Subject: **Corporate Overview**
Reference: **CAC/MH I-8 b)**

a) Please explain why the Power Supply business unit was 18% over budget on capital expenditures in 2010/11 (page 17 of 29).

ANSWER:

The Power Supply business unit was 18% over budget on capital expenditures in 2010/11 primarily as a result of the following:

1. System Emergency – Jenpeg Unit 1-6 Turbine Shaft Repair ($6.1M)
   All 6 turbines at Jenpeg Generating Station were temporarily shut down on June 28, 2010 after a preliminary inspection revealed a series of circumferential cracks near the runner flange on the Unit 1 turbine shaft. The inspection followed reports of catastrophic turbine shaft failures due to cracks forming in the same location on nearly identical units at the Iron Gates II hydro plant on the Danube River at the Serbia-Romania border. The failures at Iron Gates II commenced after 20 years of service. Unit 1 was the last unit commissioned at Jenpeg, and has been in-service for over 30 years.

2. Power Supply Dam Safety Upgrades ($7.5M)
   The over expenditure was primarily due to the advancement of the Pointe du Bois access bridge.

3. High Voltage Test Facility ($5.4)
   The over expenditure on the High Voltage Test Facility was as a result of earlier than planned procurement of test equipment to ensure delivery conformed with the current construction schedule.

4. Domestic Item ($4.8M)
   The Power Supply domestic item was overspent primarily due to the acceleration of numerous projects in Generation South, Generation North and HVDC to address aging infrastructure requirements, in addition to increased construction costs for the Kelsey Airstrip Extension.

CAC/MH II-4

Subject: **Corporate Overview**
Reference: **CAC/MH I-8 b)**

b) Why are there no 2009/10 or 2010/11 O&M results reported (page 29 of 29) for the Transmission business unit?

ANSWER:

Transmission O&M Performance:

Measure	Target	Performance
Operating and Maintenance	2009-10: +/- 5% of plan	101% (+1% of plan)
	2010-11: +/- 5% of plan	98% (-2% of plan)

CAC/MH II-4

Subject: **Corporate Overview**
Reference: **CAC/MH I-8 b)**

c) Why are there no Performance Measure targets or results for Manitoba Hydro's Corporate business units?

ANSWER:

Business units with a corporate focus (Corporate Relations and Finance and Admin) refer to the Corporate Strategic Plan measures previously provided in response to PUB/MH I-6(b).

CAC/MH II-5

Subject: **Corporate Overview**
Reference: **CAC/MH I-9 a) and 11 b)**
PUB/MH I-82 b)

Preamble: **The responses provided have not described how the AIP was used in the development of the current capital plan as originally requested.**

a) **Please provide documentation/description as to how the AIP facilitates and enhances long-term capital planning.**

ANSWER:

Manitoba Hydro has purchased Asset Investment Planning (AIP) software which Power Supply is piloting for the corporation. The system was designed, installed and went live in December 2011. During much of 2012, data such as asset condition, degradation curves, probability of failure curves, asset replacement value, etc have been validated and fed into the system. Power Supply is currently building a risk based priorization tool to be embedded into the software.

While the AIP system is fully functional, managing the workflows and reporting on capital projects, the influence of the AIP software and processes on long term planning and condition assessment reporting will evolve over future capital forecasts.

CAC/MH II-5

Subject: **Corporate Overview**
Reference: **CAC/MH I-9 a) and 11 b)**
PUB/MH I-82 b)

Preamble: **The responses provided have not described how the AIP was used in the development of the current capital plan as originally requested.**

b) Please document how the AIP was used and the results it produced with respect to Manitoba Hydro's current long-term capital plan.

ANSWER:

CEF-11 was not developed using the Asset Investment Planning software but was based on customer load growth, safety, system reliability, environmental and regulatory requirements as well as asset condition and performance. The CEF takes into account funding available for upgrade or replacement, considering competing interests within the overall capital targets.

CAC/MH II-6

Subject: **Integrated Financial Forecast**
Reference: **CAC/MH I-17 a)**

Preamble: **The response just speaks to the "average" differences in the outlook for export prices over the 2012-2021 period as between the various IFFs.**

a) **Please provide more details as to the extent to which the outlook for export prices differs or is the same across the various IFFs in the earlier years versus the later years of the referenced period.**

ANSWER:

Manitoba Hydro's response to CAC/ MH I-17(a) stated in part

> "In comparison with the similar forecast used for IFF09-1, the on-peak forecast used for IFF10-2 for was 8% lower in the 2012 to 2021 time period, and was similar to the forecast used for IFF09-1 in the 2022-2036 period.
>
> In comparison with the similar forecast used for IFF10-2, the on-peak forecast used for IFF11-2 was on average 16% lower in the 2013 to 2021 time period. In the period between 2022 and 2035, the on-peak forecast used for IFF11-2 was down on average 8% in comparison with the similar forecast used for IFF10-2."

For additional clarity, the differences between the various forecasts used in the IFFs are not uniform over the 2012-2021 and 2013 to 2021 periods. Rather, the differences are the significantly greater than the averages in the first few years of the periods, and less than the averages in the later years of the period.

CAC/MH II-6

Subject: **Integrated Financial Forecast**
Reference: **CAC/MH I-17 a)**

Preamble: **The response just speaks to the "average" differences in the outlook for export prices over the 2012-2021 period as between the various IFFs.**

b) **If the forecasts differ primarily in the earlier years, please explain what factors change in IFF11-2 that brings the outlooks closer over in the later years.**

ANSWER:

As stated in the response to CAC/MH II-6(a), the differences are significantly greater than the averages in the first few years of the period and less than the averages in the later years of the period.

As stated in Tab 4 of Volume 1 of the application, "Lower export prices can be attributed to the reduced value of capacity in the near term resulting from the carryover of excess capacity from the economic recession in the Midwest Independent Transmission Systems Operator ("MISO") market area, a delay in the implementation of and the value of carbon pricing, as well as lower natural gas prices."

To further clarify the statement in Tab 4, the lower exports prices were the combined result of three major factors:

1) The reduced value of capacity in the near term
2) A delay in the implementation of and the value of carbon pricing
3) Lower natural gas prices

These factors impacted the outlook for export prices used for IFF11-2 as follows:

The reduced value of capacity in the near term: As stated in response to CAC/MH I-19(a) "The value of capacity is forecasted to return to a long-term equilibrium value over the next five years as the capacity supply and demand conditions in the market are forecasted to come back into equilibrium." The value of capacity is not an input into the model but rather an output that forms part of the price of long term power and energy. The recent economic recession in the Midwest Independent Transmission Systems Operator ("MISO") market area resulted in a slowing of load growth, created excess capacity, and in turn depressed the value

of the value of capacity until the load growth catches back up with the capacity supply (comes back into equilibrium).

Lower natural gas prices: As also stated in response to CAC/MH I-19(a) "As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon."

A delay in the implementation of and the value of carbon pricing: As stated in response to CAC/MH I-19(a) "Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon." Please also see the response to CAC/MH II-9(a) for a comment on the relative carbon values in the forecast.

As natural gas prices were down fairly uniformly across the entire forecast horizon, they were not the factor that causes the outlooks for export prices to be closer in the later years. Rather it was combination of the impact of the delay in carbon pricing increases toward the end of the forecast horizon, and the expected increase in the value of capacity over the next five years that are together causing the outlooks to be closer in the later years.

CAC/MH II-6

Subject: **Integrated Financial Forecast**
Reference: **CAC/MH I-17 a)**

Preamble: **The response just speaks to the "average" differences in the outlook for export prices over the 2012-2021 period as between the various IFFs.**

c) **If the forecast differ in both the earlier and later years, please explain what the underlying drivers are that lead to this fundamental change over the longer term.**

ANSWER:

As explained in Manitoba Hydro's responses to CAC/MH II-6(a) and 6(b), the differences in the outlooks are significantly greater than the averages in the first few years of the periods.

CAC/MH II-7

Subject: **Integrated Financial Forecast**
Reference: **CAC/MH I-17 b) & c)**

a) Please indicate what is meant by a "signed contract" in response to CAC/MH I-17 b).

ANSWER:

The term "signed contract" is referring to a fully executed Power Sales Agreement between Manitoba Hydro and the customer,

CAC/MH II-7

Subject: **Integrated Financial Forecast**
Reference: **CAC/MH I-17 b) & c)**

b) **The response to CAC/MH I-17 c) states that a signed term sheet can be amended/extend by mutual agreement. Presumably the same applies to a signed contract. If so, what is the difference between the two in terms of commitment by the parties to the agreed terms?**

ANSWER:

Manitoba Hydro confirms that both term sheets and contracts can be amended by mutual agreement. The difference between a term sheet and a contract in terms of commitment by the parties to the terms set out in the document requires the provision of a legal opinion, which Manitoba Hydro declines to provide.

CAC/MH II-8

Subject: **Integrated Financial Forecast**
Reference: **CAC/MH I-18 c)**

a) **Has Manitoba Hydro assessed the risks and benefits of this practice (i.e., risks are increased need for thermal/imports during low water whereas benefits are increased firm sales) to determine if the practice is prudent? If not, why not?**

ANSWER:

Yes. As part of the approval process for each firm export sale, Manitoba Hydro assesses both the risks and benefits. For firm export sales served from dependable non-hydro resources the incremental costs of serving these sales under low water conditions are included in the over-all evaluation.

CAC/MH II-8

Subject: **Integrated Financial Forecast**
Reference: **CAC/MH I-18 c)**

b) If yes, please provide the analyses undertaken by Manitoba Hydro and the conclusions reached.

ANSWER:

Manitoba Hydro's analyses of all long-term export sales contracts are commercially sensitive and confidential and cannot be provided.

However, the conclusions with regard to including existing thermal and import resources as part of the dependable supply that may serve these export sales or Manitoba load, strongly supports the practice for two reasons:

1. The overall cost of dependable energy from off peak imports is lower than that of new dependable hydro energy. Off peak imports are generally from some of the lowest cost resources in the market, but are available only within the import limitations of transmission interconnections. Off peak imports have no ongoing capacity charge and can be purchased only if required.
2. Both imports and Manitoba Hydro's own thermal resources can be purchased/ dispatched only when needed. Given Manitoba Hydro's hydrology this means they will generally only be called on to serve firm load less than 10% of the time over the long run.

Long term sales provide a number of benefits including the justification for constructing transmission in neighbouring jurisdictions. This transmission can then be used for surplus opportunity energy sales as well as for import energy when needed to serve Manitoba load. As a result, and to the extent that additional export contracts provide significant net benefits to Manitoba Hydro, utilizing these resources to increase dependable supply results in lower customer rates in addition to increased supply reliability and energy security.

Manitoba Hydro notes that concept of considering thermal and imports as dependable energy was discussed at length during the 2010 GRA. See for example Chapter 7 "Analysis of the Risks in Selling Long-Term Firm Energy in Consideration of Drought" of the ICF Report "Independent Review of Manitoba Hydro Export Power Sales and Associated Risks," included as Appendix 12.2 of Manitoba Hydro's 2010 GRA.

CAC/MH II-9

Subject: **Integrated Financial Forecast**
Reference: **CAC/MH I-19 a) and f)**

a) **The response to CAC/MH I-19 a) appears to suggest that the implementation of carbon pricing will be delayed until after the end of the forecast period (10 years). Please confirm whether this is the general assumption underlying Manitoba Hydro's most recent export price forecast.**

ANSWER:

The response to CAC/MH I-19(a) stated in part "Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon."

This statement should be interpreted as indicating that there was minimal carbon value in the first few years of the price forecasts used for IFF10-2 and IFF11-2. However, beyond the first few years, the two price forecasts begin to slowly diverge, with the value of carbon embedded within the price forecast used for IFF11-2 being somewhat lower and beginning a few years later than that assumed for IFF10-2. There is still some carbon value in the latter part of the price forecast period (10 years) used for IFF11-2.

CAC/MH II-10

Subject: **Integrated Financial Forecast**
Reference: **CAC/MH I-22 a)**

a) Have there been any further pronouncements by the AcSB regarding the changeover date for qualifying rate-regulated entities?

ANSWER:

There have been no further pronouncements from the AcSB since September 19th, 2012 related to the changeover date to IFRS for entities with rate-regulated activities.

CAC/MH II-10

Subject: **Integrated Financial Forecast**
Reference: **CAC/MH I-22 a)**

b) Please provide a schedule that indicates the impact the one-year delay (i.e. to 2014/15) will have on Manitoba Hydro's forecast operating statement (per IFF11-2) for 2013/14 assuming the IFRS-related accounting changes are also delayed one year.

ANSWER:

Please see the response to PUB/MH II-18(a) which provides the Electric operating statement for 2013/14 assuming IFRS implementation is deferred to 2014/15.

CAC/MH II-11

Subject: Integrated Financial Forecast
Reference: CAC/MH I-26 a)

a) Please explain the reasons for the increase in Base Capital spending in the years 2011/12 and 2012/13 in IFF11-2 as compared to IFF10-2.

ANSWER:

The Base Capital spending forecast for 2011/12 and 2012/13 was increased in IFF11-2 to reflect the requirement to upgrade aging distribution and generation infrastructure to avoid large-scale and long-duration outages. In addition, IFF11-2 reflected an updated apportioning of the target adjustment between Major New Generation & Transmission and Base Capital to better reflect expected spending levels in 2011/12 and 2012/13.

CAC/MH II-12

Subject: **Financial Results and Forecast**
Reference: **CAC/MH I-31 a)**

a) **With respect to 2011/12, please provide a revised table that includes IFF09-1 and IFF-11-2.**

ANSWER:

Please see updated table below which includes IFF09-1 data. As IFF11-2 was prepared in April, 2012 and included preliminary actual export revenues, it has not been included in the table because there is no significant variance from the Actuals for 2011/12.

	2011/12					
	Actual		Forecast (IFF10-2)		Forecast (IFF09-1)	
	GWh	Avg Price CDN$	GWh	Avg Price CDN$	GWh	Avg Price CDN$
Dependable	3,742	46.79	2,814	55.78	3,818	63.96
Short Term Bilateral	1,923	26.02	0	0.00	0	0.00
Spot Market	4,579	20.65	6,254	38.82	4,020	70.82

CAC/MH II-13

Subject: **Financial Results & Forecast**
Reference: **CAC/MH I-34 a)**

a) What was the actual amount of bad debt written off in 2009/10, 2010/11 and 2011/12?

ANSWER:

The following table provides the bad debt write offs related to Electric operations.

Fiscal Year	Bad Debt Write-Off ($ thousands)
2010	3 412
2011	3 003
2012	3 054

CAC/MH II-13

Subject: **Financial Results & Forecast**
Reference: **CAC/MH I-34 a)**

b) What was the amount for bad debt expense included in the last GRA for 2010/11 and 2011/12?

ANSWER:

The amount of electric bad debt expense included in the last GRA for 2010/11 and 2011/12 was $2.7 million for both years.

CAC/MH II-14

Subject: **Financial Results and Forecast**
Reference: **CAC/MH I-39 b) & c)**

a) Please explain the 6.3% increase in 2011/12 for wages and salaries per EFT.

ANSWER:

Please see Manitoba Hydro's response to PUB/MH II-48(d).

CAC/MH II-14

Subject: **Financial Results and Forecast**
Reference: **CAC/MH I-39 b) & c)**

b) Please explain the over 8% increase in benefit costs (not impacted by investment returns and discount rates) in 2010/11.

ANSWER:

The 8% increase in benefit costs (not impacted by investment returns and discount rates) in 2010/11 is due to the following:

- Increase in Dental and Health Plan benefit costs due to negotiated coverage enhancements;
- Increase in CPP and EI costs due to impact of contracted wage settlements and changes in the maximum deductions; and,
- Increase in pension expense (Winnipeg Hydro) due to an increase in employer contributions.

CAC/MH II-15

Subject: **Financial Results and Forecast**
Reference: **CAC/MH I-40 d)**

a) The referenced response does not address the question which was - how did Manitoba Hydro establish the level of spending required for the five largest spending items in each category. Please respond to the original question.

ANSWER:

The forecasted level of spending for maintenance on generating stations, thermal stations, converter stations, and control structures are compiled by station, not by individual maintenance project. The annual station forecast considers historical trends, future requirements, financial and human resource constraints. Actual maintenance expenditures are subsequently captured at the individual equipment level and summarized by station.

The level of spending at an equipment level is based on a complex assessment process which considers numerous factors such as asset condition, performance, age, failure rates, manufacturer's recommendations, clearance requirements, and other pertinent information. The decision to proceed with a maintenance project considers these assessments and prioritizes them with consideration to availability of financial and human resources.

The equipment level infrastructure is managed using a computerized maintenance management system called Applied Maintenance Planning System (AMPS). AMPS is the primary tool used by station staff to plan and schedule day to day maintenance tasks and inspections and document asset condition. The application, Power Supply Performance (PowerUp), is used to record and provide reports on unit operating availability, reliability and performance. Reliability Centered Maintenance (RCM) is used to determine maintenance tasks and inspections, time frames and work criticality.

In addition, Power Supply is now using a new tool called HydroAMP to provide an Equipment Health Index for main drive train components (items whose failure could cause extended outages) at Hydraulic Generating Stations. Technical teams comprised of experts from the four organizations involved in HydroAMP, the Bureau of Reclamation (BOR), Hydro-Québec (HQ), the Army Corps of Engineers (COE), and the Bonneville Power Administration (BPA), joined together in 2001 to develop condition assessment guides for hydroelectric power plants. The result of this collaborative work is a common framework and process to streamline, simplify and improve the assessment and documentation of the

condition of hydroelectric equipment and facilities in order to support condition-based prioritization of hydropower asset management.

CAC/MH II-16

Subject: **Capital Expenditures**
Reference: **CAC/MH I-51 b)**

a) **Please indicate where in Appendix 6.1 (CEF11) the aggregate adjustment is made to each year's forecast capital spending in order to account for the lower overhead capitalization under IFRS.**

ANSWER:

The aggregate adjustment is not included in CEF11. The adjustment was made directly to reduce the Property Plant and Equipment line in the electric Cash Flow Statement.

CAC/MH II-17

Subject: **Capital Expenditures**
Reference: **CAC/MH I-52 b)**

a) **The question did not ask for the existing export contract and term sheet commitments but rather the annual firm export inter-tie capability required through to 2029/30 to support them. Please respond to the question as posed.**

ANSWER:

No new interconnection transmission is planned until the 2020 timeframe in conjunction with Manitoba Hydro's proposed new generation. Manitoba Hydro considers the annual inter-tie capability requirements to be commercially sensitive and therefore confidential as Manitoba Hydro is in negotiations with respect to a new US interconnection. Therefore, Manitoba Hydro respectively declines to provide the information requested above.

CAC/MH II-18

Subject: **Capital Expenditures**
Reference: **CAC/MH I-53 b)**

Preamble: **The question asked that Manitoba Hydro provide examples of where/how alternatives were considered in determining the capital spending for the Pine Falls Rehabilitation and the Great Falls Unit 4 Overhaul.**

a) **The referenced pages of CEF11 do not describe the alternatives considered for either of these projects nor the basis for selecting the proposed spending alternative. Please respond to the question as posed.**

ANSWER:

As stated on page 12 of Manitoba Hydro's 2011/12 Power Resource Plan provided as Attachment 3 of the Electric Rate Application, "It is assumed that sufficient maintenance and investment in rehabilitation will continue to sustain the generating capability of existing resources throughout the study period. Any additional investment expected for the existing system is included in the Integrated Financial Forecast."

Pine Falls Units 1 to 4 are 60 years old and Great Falls Unit 4 is 85 years old, all beyond industry expected life for this type of equipment.

Over the past decade, Pine Falls Units 1 to 4 were tested and deemed to be either at or nearing the end of their useful life and required rehabilitation for continued reliable operation. If not overhauled, eventual unrepairable in-service failures would force them into long-term forced outage or retirement.

Alternatives considered for Pine Falls Units 1 to 4 were minimal upgrades to extend the operation of the plant for one unit and for two units as compared to a more extensive mechanical and electrical overhaul including generator rewinds and turbine runner upgrades to all four units. The analysis concluded that overhauling all four units to maximize station output was the most economically favourable alternative while also meeting safety and reliability requirements and enhancing output capability.

A similar process was followed for the Great Falls Unit 4 Major Overhaul. Alternatives considered were retirement of the unit, minimal upgrades to extend the operation of Great

Falls Unit 4 as compared to a more extensive mechanical and electrical overhaul including generator rewinds and turbine runner upgrades to maintain long-term operation of that unit. The analysis concluded that overhauling Great Falls Unit 4 to increase the unit capacity while also meeting safety and reliability requirements was the most economically favourable alternative.

CAC/MH II-18

Subject: **Capital Expenditures**
Reference: **CAC/MH I-53 b)**

Preamble: **The question asked that Manitoba Hydro provide examples of where/how alternatives were considered in determining the capital spending for the Pine Falls Rehabilitation and the Great Falls Unit 4 Overhaul.**

b) **If alternatives were not considered in determining the course of action to be undertaken for these two initiatives, please explain why. In such case, please provide business cases / capital justification cases for one/two other projects where alternatives were investigated and evaluated.**

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-18(a).

CAC/MH II-19

Subject: **Electric Load Forecast and Load Research**
Reference: **CAC/MH I-55 b)**

a) Please explain why wind generation and imports are excluded.

ANSWER:

Manitoba Hydro's response to information request CAC/MH I-55 as referenced in the question inadvertently omitted thermal generation from the definition of generation peak. The corrected response is as follows:

"The system peak is defined as the average of the top 50 Generation Peak times including hydraulic ***and thermal*** generation and excluding wind generation and imports."

Manitoba Hydro has historically excluded wind generation and imports from the determination of peak hours to be consistent with the resources included in the generation pool in the Cost of Service Study which, prior to proposed methodology changes, assigned wind generation and imports costs directly to the Export Class.

However, given the Cost of Service Study no longer allocate Generation on the basis of demand, the load research results based on generation peaks are used only in the allocation of Transmission Costs. Manitoba Hydro acknowledges that an alternate definition of peak may be more appropriate for purposes of allocating Transmission Costs and expects to revise the definition of peak hours for its next Cost of Service Study.

CAC/MH II-19

Subject: **Electric Load Forecast and Load Research**
Reference: **CAC/MH I-55 b)**

b) What would be impact of including wind generation and imports?

ANSWER:

Manitoba Hydro prefers to address this matter during the Cost of Service proceeding expected to be scheduled for 2013.

CAC/MH II-20

Subject: Electric Load Forecast and Load Research
Reference: CAC/MH I-59 a)

a) Please provide any analysis that Manitoba Hydro has undertaken regarding the accuracy of using a 25-year average as opposed to a 10-year average.

ANSWER:

The following table provides the metrics associated with the analysis. The 25 Year Average method was more stable than the 10 Year Average and was determined as the better method to use taking into account both accuracy and stability.

Methodology	Avg Change in DDH	Max Change in DDH	Avg Annual Difference Forecast DDH to Actual DDH	Max Annual Difference Forecast DDH to Actual DDH
25 Year Average	21	54	325	989
10 Year Average	43	146	301	1057

* Annual Environment Canada temperature data from 1874 to 2009 was used.

CAC/MH II-21

Subject: **Electric Load Forecast**
Reference: **CAC/MH I-64 b)**

a) For the years 2012/13 and 2013/14 would lower domestic load accompanied by correspondingly higher export sales increase or decrease overall revenues?

ANSWER:

Lower domestic load in 2012/13 and 2013/14 decreases total revenue (to the extent that lower domestic load is replaced with opportunity export sales).

CAC/MH II-21

Subject: **Electric Load Forecast**
Reference: **CAC/MH I-64 b)**

b) What is the sensitivity of the revenue forecasts for 2012/13 and 2013/14 of a 1% changed in domestic sales (and a corresponding volume change in exports)?

ANSWER:

A 1% reduction in domestic sales with a corresponding volume change in export revenue results in a reduction to total revenue of approximately $5 million in each of 2012/13 and 2013/14. The reduction in revenue would be partially offset by a reduction in the requirement for thermal purchases and energy imports.

CAC/MH II-22

Subject: **Energy Supply**
Reference: **CAC/MH I-70 a)**

Preamble: **The initial question asked for details regarding the alternatives assessed in the case of the Pointe du Bois Spillway Replacement project.**

a) **The referenced CEF does not outline the alternatives assessed and the basis for project scope as proposed. Please respond to the question as originally posed.**

ANSWER:

Modernization is required at Pointe du Bois to increase spillway capacity to be consistent with Canadian Dam Association (CDA) guidelines, to improve workplace safety and to address the aging Pointe du Bois generating station.

As stated on page 11 of Manitoba Hydro's 2010/11 Power Resource Plan provided as Attachment 2 of the Electric Rate Application :

> "The 2009/10 Power Resource Plan assumed that the Pointe du Bois Generating Station would be redeveloped at a higher capability than the existing facility with first power in 2016/17. Due to increased capital cost a decision was made to reduce the scope of the Pointe du Bois Modernization Project and it will now take the form of a new spillway and new concrete and earth dams (Spillway Replacement Project). For the 2010/11 Power Resource Plan the Pointe du Bois powerhouse is assumed to be rebuilt with an increase of 43 MW and 150 GW.h, similar to the 2009/10 Power Resource Plan, but with first power in 2030/31 instead of 2016/17. Until Pointe du Bois is rebuilt, it is assumed to continue to operate with ongoing maintenance."

The Spillway Replacement Project was selected as it allows for a reduction in short term capital requirements, the deferral of any costs related to decommissioning or rebuilding the powerhouse, and revenues from the existing station to be maintained. Additionally this alternative provides flexibility in relation to the life of the powerhouse and the potential future replacement or decommissioning of the powerhouse.

CAC/MH II-23

Subject: **Energy Supply**
Reference: **CAC/MH I-72 c)**
CAC/MH I-115 a)
CAC/MH I-17 b)

a) None of the referenced responses provides the MWh by year for each contract as requested in the original question. Please provide.

ANSWER:

The total energy volume associated with the requested contracts is listed by year on pages 38 & 39 of the 2011/12 Power Resource Plan (Attachment #3).

Manitoba Hydro cannot provide the individual contract numbers on the public record as same would facilitate reverse engineering of confidential export contract pricing.

CAC/MH II-24

Subject: **Energy Supply**
Reference: **CAC/MH I-72 e)**

a) The response and, in particular the reference to CAC/MH I-115 a), suggests that the inter-tie capacity needed to support firm exports is equal to the sum of the MWs associated with each export contract in effect in the given year. Please confirm that this is the case. If not, please respond to the question as posed.

ANSWER:

Manitoba Hydro can confirm that the firm capacity of the inter-tie must be at least that of the capacity of firm contracts that use or will use that inter-tie. These contracts are listed in MH's response to CAC/MH I-115(a).

However as indicated in the response to CAC/MH I-72(e), Manitoba Hydro's inter-tie capacity requirements are greater than that needed for firm export contracts. And in the case of surplus energy sales, without access to firm transmission, Manitoba Hydro would have to rely on non-firm transmission which is highly interruptible.

CAC/MH II-25

Subject: **Energy Supply**
Reference: **CAC/MH I-73 b)**

Preamble: **The response states that the prices paid for wind reflect the long-run value of wind energy resources.**

a) **Please outline (at a conceptual level) how the long-run value of wind resources is determined.**

ANSWER:

The value of a single wind project on the Manitoba Hydro system is determined in a similar manner to other supply side resources or demand side management resources recognizing the unique characteristics of the wind resource. Two planning sequences are compared: a base case and a case including the wind energy resource. The case with the wind energy resource would include the studied quantity of wind generation, including its seasonal, on/off peak energy patterns and wind integration costs. The result of the comparison is the overall value which represents a saving in operating cost or increase in revenue or a combination of both.

CAC/MH II-25

Subject: **Energy Supply**
Reference: **CAC/MH I-73 b)**

Preamble: **The response states that the prices paid for wind reflect the long-run value of wind energy resources.**

b) **Is the determination of the long-run value of wind resources consistent with how Manitoba Hydro determines the value of DSM? If not, why not and what are the differences?**

ANSWER:

Yes, the methodology for the determination of the long-run value of wind resources is consistent with how Manitoba Hydro determines the value of DSM. It should be noted that the long-run value of resource types could differ considerably depending on their characteristics.

CAC/MH II-25

Subject: **Energy Supply**
Reference: **CAC/MH I-73 b)**

Preamble: **The response states that the prices paid for wind reflect the long-run value of wind energy resources.**

c) **Please confirm that the prices paid for wind reflect the long-run value of wind energy resources as determined at the time the contracts were entered into.**

ANSWER:

The prices negotiated for the wind generation contracted to date in Manitoba were those necessary to achieve the current level of wind development in the Province at least cost. The cost of the contracts approximated Manitoba Hydro's long run valuation of wind energy at the time of negotiations.

CAC/MH II-26

Subject: **Energy Supply**
Reference: **CAC/MH I-78 b)**

a) Given that the 2011/12 Power Resource Development Plan is dated August 31, 2011, when is the 2012/13 Power Resource Development Plan expected to be completed?

ANSWER:

Manitoba Hydro states in its response to MIPUG/MH I-3(a) "The preparation of Manitoba Hydro's power resource plan for 2012/13 is in progress. Should the 2012/13 Power Resource Plan be completed and approved for public release prior to the completion of 2012/13 Electric Rate Application process, it will be filed". Manitoba Hydro would expect to release the 2012/13 Power Resource Plan in conjunction with the IFF12.

CAC/MH II-26

Subject: **Energy Supply**
Reference: **CAC/MH I-78 b)**

b) Please provide a copy of the 2012/13 Power Resource Development Plan.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-26(a).

CAC/MH II-26

Subject: **Energy Supply**
Reference: **CAC/MH I-78 b)**

c) Please clarify whether the export price outlook underpinning IFF11-2 is that used and underpinning the 2011/12 Power Resource Development Plan?

ANSWER:

It is confirmed that the same 2011 export price outlook was used in both the IFF11-2 and 2011/12 Power Resource Development Plan.

CAC/MH II-26

Subject: **Energy Supply**
Reference: **CAC/MH I-78 b)**

d) **If the export price outlook underpinning IFF11-2 is not that used and underpinning the 2011/12 Power Resource Development Plan, please clarify and identify the IFF where the export price outlook is consistent with that used in the 2011/12 Power Resource Development Plan?**

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-26(c).

CAC/MH II-26

Subject: **Energy Supply**
Reference: **CAC/MH I-78 b)**

e) if the particular IFF noted in response to part (d) above is not on the record, please provide a full copy including commentary as well as the tables.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-26(c).

CAC/MH II-26

Subject: **Energy Supply**
Reference: **CAC/MH I-78 b)**

f) Please confirm that the preferred development plan as set out in the 2011/12 Power Resource Development Plan was "economic" based on the export price outlook underpinning the "Plan".

ANSWER:

Manitoba Hydro respectfully declines to respond to this Information Request on the basis that determination of this question is central to and the purpose of a Needs For and Alternatives To (NFAT) review of Manitoba Hydro's Preferred Development Plan. Manitoba Hydro notes that Government confirmed, by letter dated January 13, 2011 (a copy of which was filed in the 2010/11 & 2011/12 General Rate Application as Exhibit MH-162) its intention to assign responsibility to an independent body for carrying out an NFAT assessment of major new hydro generation projects. To date the independent panel has not been announced however Manitoba Hydro expects that the NFAT process will commence in 2013.

CAC/MH II-26

Subject: **Energy Supply**
Reference: **CAC/MH I-78 b)**

g) If the confirmation sought in part (f) is not provided, please describe in detail the basis for proposing the preferred development plan.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-26(f).

CAC/MH II-26

Subject: **Energy Supply**
Reference: **CAC/MH I-78 b)**

h) **If the confirmation sought in part (f) is provided, was any sensitivity analysis undertaken to determine whether the "preferred development plan" in the 2011/12 Power Resource Development Plan would continue to be economic under different assumptions regarding: i) the capital costs of Keeyask and Conawapa and/or ii) future export prices? If yes, please provide the results of any such sensitivity analysis.**

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-26(f).

CAC/MH II-27

Subject: **Proposed Rates and Customer Charges**
Reference: **CAC/MH I-83 a)**
PUB/MH I-107 a)
CAC-GAC/MH I-4 a) and b)

a) With respect to the response to PUB/MH I-107 a), please confirm that the value quoted is comparable to the 8.5 cents/kWh referenced in CAC-GAC/MH I-4 b).

ANSWER:

Confirmed.

CAC/MH II-27

Subject: **Proposed Rates and Customer Charges**
Reference: **CAC/MH I-83 a)**
PUB/MH I-107 a)
CAC-GAC/MH I-4 a) and b)

b) Please provide a breakdown of the 8.52 cents/kWh by cost component (e.g. generation, transmission and/or distribution) in cents/kWh at the distribution level. Please explain how losses are reflected in the value of each cost component.

ANSWER:

The current estimates of Transmission and Distribution marginal costs provided in CAC/GAC/MH I-4(a) were transcribed in error. The appropriate values in 2011 dollars are as follows:

- Transmission: $60.46/kW/yr
- Distribution: $63.83/kW/yr

The marginal cost of 8.52 cents per kWh referenced above is at the distribution level and includes all generation costs and all capital costs associated with transmission and distribution. This value is made up of the following components:

Generation	7.11¢/kWh
Transmission	0.69¢/kWh
Distribution	0.73¢/kWh

The generation component cost is derived at the generation level and a 14% adjustment has been incorporated to arrive at the 7.11¢/kWh estimate that is applicable to load savings at the distribution level. There are no further loss factors applied to the transmission component or the distribution component at the distribution level.

CAC/MH II-28

Subject: **Proposed Rates and Customer Charges**
Reference: **CAC/MH I-84 e)**

a) The response provided does not address the original question which was - what are the limits, if any, on the amount of curtailable load that Manitoba Hydro can effectively use. Please respond to the question as posed. If the response depends on the Option, please address by Option.

ANSWER:

Limits for effective use of Curtailable Load:

Option 'R' – 90 MW. This is equivalent to MH's supplemental contingency reserve obligation to the MISO-MH Contingency Reserve Sharing Group. However, MH currently allocates only 50 MW of Option 'R' load. There is decreasing value from contracting more Option 'R' load (if it were available) for supplemental reserve as MH normally has some contingency reserve available on its hydraulic generation.

Option 'A' – There is no technical limit assuming the entire load could be curtailed in a timely and efficient manner. However, because Option 'A' load can be used to re-establish contingency reserves, a breakpoint in the effective use of this load is equivalent to MH's supplemental contingency reserve obligation of 90 MW. Beyond 90 MW, Option 'A' load has a lesser value to MH in restoring contingency reserves; more than 90 MW would be required in the less likely event that MH were to experience multiple contingencies or a series of contingencies in close succession. In this instance, successive activation (and restoration) of contingency reserves may be required, hence the limit of 180 MW which is double MH's supplemental contingency reserve requirement.

Option 'C' – There is no technical limit. However as explained in PUB/MH II-99(b), notification requirements limit the effectiveness of this type of curtailable load.

Option 'E' – There is no technical limit. However, similar to Option 'C' load, notification requirements limit the effectiveness of this type of curtailable load.

The limits imposed on curtailable load in the Proposed Terms and Conditions filed in Appendix 10.4 of the Application represent effective limits on the various types of curtailable load, considering both reliability and economic benefits of this resource.

CAC/MH II-29

Subject: **Proposed Rates and Customer Impacts**
Reference: **CAC/MH I-85 e)**

a) **The referenced response (PUB/MH I-142 a)) does not indicate how the actual annualized cost of a SCCT ($85/kW) was determined. Please provide the capital cost value used (including the source/reference) and indicate how the annualized value of $85 was determined from this cost.**

ANSWER:

The capital cost of a SCCT generating facility used in the Curtailable Rates Programs is based on a 50 MW LM6000 PC Sprint SCCT, as provided in the Gas Turbine World 2010 Handbook (the most recent information available at the time). The capital cost of this SCCT in our system is estimated to be $60 million.

The annualized cost/kW of a SCCT was determined by computing the future value of the SCCT annualized over a 30-year horizon and dividing that annualized cost by the SCCT capacity.

CAC/MH II-30

Subject: **Proposed Rates and Customer Impacts**
Reference: **CAC/MH I-86 b)**

a) Why is there no requirement for large GS customers to maintain a minimum power factor or penalties if they do not?

ANSWER:

Power factor is the ratio of real power (kW) to apparent power (kVA) for any given load and time, expressed as a decimal or percentage ratio. Manitoba Hydro does not have a requirement for large General Service customers to maintain a minimum power factor since demand is billed in kVA not kW, therefore customers with a poor power factor pay higher bills related to demand than customers with a high power factor and, hence, are incented to improve power factor.

SEP Option 1 customers are not billed for demand above their reference level therefore they have no incentive to control their power factor, hence the requirement for a minimum power factor.

CAC/MH II-30

Subject: **Proposed Rates and Customer Impacts**
Reference: **CAC/MH I-86 b)**

b) Does Manitoba Hydro monitor the power factors of its large GS customers? If yes, what has been the experience with customers having power factors of less than 90% over the last 12 months?

ANSWER:

Manitoba Hydro occasionally reviews the power factors of SEP customers to ensure compliance with the program. Since there are no Option 1 customers (large GS), compliance has not been an issue.

Manitoba Hydro does not routinely monitor the power factors of all GS customers. The monthly power factor is shown on the customer's monthly billing statement for their review.

CAC/MH II-30

Subject: **Proposed Rates and Customer Impacts**
Reference: **CAC/MH I-86 b)**

c) Is there a system cost when customers do not maintain an adequate power factor?

ANSWER:

A reduction in customer power factor increases the volt-amp demand placed on the Manitoba Hydro system by customer loads, requiring Manitoba Hydro to provide additional reactive power (vars) for inductive loads (such as electric motors, lighting ballasts, etc) and voltage support. The costs for providing reactive power and voltage support are incurred at all levels in the system from generation, through transmission and distribution.

CAC/MH II-31

Subject: **Diesel Rates**
Reference: **CAC/MH I-93**

a) With respect to Appendix 11.2, please update Schedules 3, 4.1, 4.2, 4.3 and 4.4 based the rates actually approved for September 1, 2012.

ANSWER:

See attached schedules.

SCHEDULE 4.1

CALCULATION OF RESIDENTIAL CLASS REVENUE @ PROPOSED RATES
EFFECTIVE SEPTEMBER 1, 2012

Forecast Revenue Requirement and Revenue

Total Forecast kWh for 2012/13	7,954,819
Calculated Full Cost Rate	$0.5916
Gross Revenue Requirement	$4,706,071
Less: Residential Revenue (Below)	($598,014)
Unrecovered Revenue Requirement	$4,108,057

Block Rates as Follows:

Basic Monthly Charge	6.85 $/month	x	6,708	=	45,950
All kWh/month	6.940 ¢/kWh	x	7,954,819	=	552,064
Next 1,100 kWh/month	6.940 ¢/kWh	x		=	-
Balance of kWh/month	6.940 ¢/kWh	x		=	-
Revenue			7,954,819		598,014

Allocation of Subsidies

Manitoba Hydro RCC Subsidy (18% of Revenue Requirement)	$847,093
Difference between calc full cost & proposed tail rate	
Remaining deficiency to Government Surcharge	$3,260,964
Total Deficiency	$4,108,057

SCHEDULE 4.2

CALCULATION OF GENERAL SERVICE CLASS REVENUE @ PROPOSED RATES
EFFECTIVE SEPTEMBER 1, 2012

Forecast Revenue Requirement and Revenue

Total Forecast kWh for 2012/13	3,353,080
Calculated Full Cost Rate	$0.5916
Gross Revenue Requirement	$1,983,682
Less: General Service Revenue (Below)	($895,941)
Unrecovered Revenue Requirement	$1,087,741

Block Rates as Follows:

Basic Monthly Charge	18.55	$/month	x	1,348	=	25,005
First 2,000 kWh/month	7.290	¢/kWh	x	1,265,455	=	92,252
Balance of kWh/month	37.300	¢/kWh	x	2,087,625	=	778,684
Revenue				3,353,080		895,941

Allocation of Subsidies

Manitoba Hydro RCC Subsidy (11% of Revenue Requirement)	$218,205
Difference between calc full cost & proposed tail rate	
Remaining deficiency to Government Surcharge	$869,536
Total Deficiency	$1,087,741

SCHEDULE 4.3

CALCULATION OF GOVERNMENT SURCHARGE @ PROPOSED RATES
EFFECTIVE SEPTEMBER 1, 2012

Government Revenue Requirement

Total Forecast kWh for 2012/13		2,155,000
Calculated Full Cost Rate	$	0.5916
Government Revenue Requirement	$	1,274,898
Less: Revenue from Basic Charge		(14,692)
Revenue for Energy Rate		1,260,206
Energy Rate before Government Unit Sudsidy	$	0.5848

Calculation of Government Unit Subsidy

Unrecovered Residential Revenue Requirement (Schedule 1)	$	3,260,964
Unrecovered General Service Revenue Requirement (Schedule 2)	$	869,536
Total	$	4,130,500

Government Rate based on full cost

Full Cost Rate less Basic Monthly Charge		0.5850
Unit Subsidy		1.9170
Indicative Government Rate based on full cost	$	2.502

Government Surcharge Rate

Calculated Energy Rate plus Government Unit Subsidy at Full Cost	$	2.500
Proposed Government Rate (current + 6.5%)	$	2.270
Difference between indicative and proposed government rate	$	0.230
Total Government consumption (kWh)		2,155,000
Additional Deficit due to capped government rate	$	495,650

BILL COMPARISONS
FOR PROPOSED DIESEL RATES
EFFECTIVE SEPTEMBER 1, 2012

Residential (559 customers)

kWh	No. of Customers	Current April 1, 2012 $ / Month	Proposed September 1, 2012 $ / Month	Difference in $ / Month	Percent Change
250	28	$23.78	$24.20	$0.42	1.77%
750	119	$57.63	$58.90	$1.27	2.20%
1 000	92	$74.55	$76.25	$1.70	2.28%
2 000	277	$142.25	$145.65	$3.40	2.39%
5 000	53	$345.35	$353.85	$8.50	2.46%

General Service (112 Customers)

kWh	No. of Customers	Current April 1, 2012 $ / Month	Proposed September 1, 2012 $ / Month	Difference in $ / Month	Percent Change
750	48	$71.80	$73.23	$1.43	2.48%
2 000	21	$160.55	$164.35	$3.80	2.37%
5 000	12	$1,210.55	$1,283.35	$72.80	6.01%
10 000	9	$2,960.55	$3,148.35	$187.80	6.34%

Government and First Nation Education (66 Customers)

kWh	No. of Customers	Current April 1, 2012 $ / Month	Proposed September 1, 2012 $ / Month	Difference in $ / Month	Percent Change
750	20	$1,616.05	$1,721.05	$105.00	6.35%
2 000	11	$4,278.55	$4,558.55	$280.00	6.50%
5 000	8	$10,668.55	$11,368.55	$700.00	6.54%
10 000	4	$21,318.55	$22,718.55	$1,400.00	6.57%

Number of customers based on 2011 System Load Forecast for fiscal year 2012/13 and Bill Frequency Distributions for 2011/12.

CAC/MH II-31

Subject: **Diesel Rates**
Reference: **CAC/MH I-93**

b) Please update the response to part (e) based on rates actually approved for September 1, 2012.

ANSWER:

See attached table which shows the difference in annual revenue with corrected September interim approved rates.

Note that the original answer provided in CAC/MH I-93(e) did not include the basic monthly charge on government customers .The corrected version is also provided below.

CAC I-93(e) corrected	Revenue (in filing)	Revenue	Diff
Residential	$ 598,810	$ 593,325	$ (5,485)
General Service	896,362	878,267	(18,095)
Federal Government	4,036,246	3,942,023	(94,233)
Provincial Government	870,691	850,423	(20,268)
Total Revenue	$ 6,402,109	$6,264,038	$ (138,071)

CAC II-31(b)	Revenue (in filing)	Revenue	Diff
Residential	$ 598,810	$ 592,834	$ (5,976)
General Service	896,362	877,482	(18,880)
Federal Government	4,036,246	3,941,750	(94,496)
Provincial Government	870,691	850,300	(20,391)
Total Revenue	$ 6,402,109	$6,262,365	$ (139,744)

CAC/MH II-31

Subject: **Diesel Rates**
Reference: **CAC/MH I-93**

c) Please confirm that the table provided in response to part (c) is for rates effective September 1, 2012 and not 2013.

ANSWER:

Confirmed.

CAC/MH II-31

Subject: **Diesel Rates**
Reference: **CAC/MH I-93**

d) Please explain the reason for the difference in Net Income (Loss) shown in Schedule 4.4 of Appendix 11.2 and the Revenue Deficiency shown in the response to part (c).

ANSWER:

There are two reasons for the difference:

1) Schedule 4.4 assumes revised rates for the entire fiscal year; the response to CAC/MH I-93(c) assumes revised rates for the remainder of the fiscal year, from September 1, 2012 to March 31, 2013.

2) In Schedule 4.4, the rates used to calculate revenue were those originally filed in the September 1, 2012 application; the response to CAC/MH I-93(c) is based the interim approved rates in Order 117/12.

CAC/MH II-32

Subject: **Diesel Rates**
Reference: **CAC/MH I-94**

a) With respect to the response to part (a), please clarify which of the two references provides the "updated values".

ANSWER:

The column labeled as CAC12(a) in the response to CAC/MH I-94(a) contains the updated values.

CAC/MH II-32

Subject: **Diesel Rates**
Reference: **CAC/MH I-94**

b) Some of the updates shown in part (a) are significant. Please explain the basis for the change in the Engine Failure/Upgrades spending in each community.

ANSWER:

Changes in spending on Engine Failure/Upgrades are due to the following:

1) The originally forecasted amounts (as estimated in the 5 year capital plan) are based on adherence to the recommended manufacturers maintenance schedules, based on hours of operation (i.e. major and minor overhauls). When maintenance is actually performed it is not uncommon for additional repair work to be required.

2) Engine Failures/Upgrades also includes actual failures as well as scheduled major and minor overhauls. In part, as alluded to in 1) above, a failure may occur close to the scheduled maintenance interval or require many of the same tasks presenting an opportunity to reduce outage time.

3) In most cases forecasts are done assuming Manitoba Hydro personnel would perform the work, however, manufacturer's representatives are sometimes contracted to assist with the work.

CAC/MH II-32

Subject: **Diesel Rates**
Reference: **CAC/MH I-94**

c) With respect to the response to parts (a), (b), (d) and (i), please provide an updated version of Schedule 3 that:

- **Shows all capital spending up to March 31, 2011**
- **Shows any changes to contributions received and/or associated Depreciation and Interest Expense.**
- **Indicates with projects fall under items 2) and 3) as described in part (d) of the response.**

ANSWER:

All updates to capital spending, contributions, or depreciation and interest are reflected in the response to CAC/MH I-94(a) or (i).

Situations where the original amount was updated with actual data are noted as "updated values" in the response to CAC/MH I-94(a).

Amounts which were subsequently added are noted as "not originally included in AANDC discussions" in the response to CAC/MH I-94(a).

CAC/MH II-32

Subject: **Diesel Rates**
Reference: **CAC/MH I-94**

d) With respect to part (f), what response has Manitoba Hydro received to its August 10, 2012 letter?

ANSWER:

To date, Manitoba Hydro has received no Contribution from any of the other Government customers. Manitoba Hydro continues discussions with the affected customers and is attempting to make payment arrangements to accommodate individual customer circumstances.

CAC/MH II-32

Subject: **Diesel Rates**
Reference: **CAC/MH I-94**

e) With respect to part (g), contrary to the response, there are several projects where MH provides a share of the funding but there are no depreciation charges. Please reconcile.

ANSWER:

Manitoba Hydro has never asked the Government customers to assume all funding responsibility for capital expenditures. AANDC is asked for Contributions proportional to the usage of diesel generated energy by First Nation Residential, General Service and Government accounts. Other government customers are asked for Contributions proportional to their own usage. The notional share of usage by other customers, principally commercial General Service and non-First Nation Residential is borne by Manitoba Hydro. Over all four diesel communities, this share is approximately 21%.

Manitoba Hydro does not add depreciation or interest to diesel cost of service in respect of facilities where it has received or reasonably expects to receive Contributions from the government customers proportionate to their shares as described above. Manitoba Hydro has incorporated depreciation and interest into the diesel cost of service in respect of facilities for which no Contribution has been received or is reasonably expected to be received from Government customers.

Schedule 3 (Appendix 11.1 Attachment 3 of application) reflects this at the time of its preparation. Subsequently, with its April 2012 Contribution, AANDC did fund some of the items listed in the Schedule – these changes are reflected in the table attached to response to CAC/MH I-94(i).

CAC/MH II-33

Subject: **Diesel Rates**
Reference: **CAC/MH I-95 a) and c)**

a) **Please explain why the actual Diesel cost for 2011/12 are not available. If they are please provide.**

ANSWER:

The Diesel Zone actual costs are only accumulated and prepared in the course of compiling the next prospective diesel cost of service (DCOSS). This is done primarily to reflect: (1) any rate changes that may have occurred since the last DCOSS preparation and/or application, and (2) the most current accumulated deficit from one year to the next. As noted in CAC/MH I-88(a) a more recent PDCOSS has not yet been prepared.

CAC/MH II-33

Subject: **Diesel Rates**
Reference: **CAC/MH I-95 a) and c)**

b) **The referenced response (PUB/MH I-150 b)) does not provide annual revenues and costs at the same level of detail as either Schedule 2 or CAC/MSOS/MH I-7 b) from the DA2010. Also the 2009 actuals set out in PUB/MH I-150 b) do not match those from the DA2010 response. Please provide a response to CC/MH I-95 c) at the same level of detail as in the response provided in DA2010.such that the operating surplus/deficit for each year can be seen.**

ANSWER:

Page 39 of Appendix 11.1, Attachment 3, Schedule 2 provides actual revenues and costs for 2010 and 2011, and forecast revenues and costs for 2012. CAC/MSOS/MH I-7(b) from the 2010 Diesel Application provided actual revenue and cost information for 2005 through 2009.

The 2009 actual costs in the response to CAC/MH I-7(b) from 2010 should add up to the same total as the 2009 actual costs in the response to PUB/MH I-150(b). The column was incorrectly added in the response to CAC/MH I-7(b).

CAC/MH II-33

Subject: **Diesel Rates**
Reference: **CAC/MH I-95 a) and c)**

c) The response to PUB/MH I-150 b) and DA CAC/MSOS/MH I-7 b) included fixed costs (e.g. depreciation, interest and capital taxes). What is the basis for these values (e.g. Are they based on i) the total capital employed, ii) the capital that is not funded through contributions from 3rd parties such as AANDC, iii) the capital that is not funded through contributions from 3rd parties or notionally from MH, or iv) some other basis).

ANSWER:

The basis for the values shown in the two referenced responses is 'total capital employed' in the Diesel communities. Manitoba Hydro determines the fixed cost of providing diesel service even though most of the capital cost is intended to be recovered by customer Contributions. The total cost of service is prepared in order to estimate the ongoing total cost, and for purposes of allocating net export revenues to the Diesel Zone as per the Settlement Agreement. However for the purpose of determining the rates in the Diesel Zone, the fixed costs component is excluded, unless it is specifically included in revenue requirement.

CAC/MH II-33

Subject: **Diesel Rates**
Reference: **CAC/MH I-95 a) and c)**

d) The Consolidated Statement of Operations for Diesel as set out in Schedule 2 (Appendix 11.1, Attachment 3) does not include any "fixed costs" whereas the response to PUB/MH I-150 b) does. Please explain.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-33(c).

CAC/MH II-33

Subject: **Diesel Rates**
Reference: **CAC/MH I-95 a) and c)**

e) As per the original question, please provide the equivalent of Schedule 2 for 2007/08 through to 2011/12 if not already provided in response to part (b).

ANSWER:

Please see the following table. Please note, as indicated in Manitoba Hydro's response to CAC/MH II-33(b), the 2009 actual costs provided in the response to CAC/MH I-7(b) from 2010 Diesel Application contained an error. The corrected 2009 costs are included in the table below.

DIESEL COST OF SERVICE STUDY
CONSOLIDATED STATEMENT OF OPERATIONS
For Five Fiscal Years Ending March 31, 2005 - March 31, 2013

	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Actual
Revenue-Consumption	4,405,339	4,519,931	4,641,932	4,919,545	6,318,962
Less: Contribution Recovered thru Rate	(869)				
Total Revenue	4,404,470	4,519,931	4,641,932	4,919,545	6,318,962
Direct Costs:					
Generation Mtce	1,529,332	1,601,701	1,196,573	1,457,775	1,441,547
Fuel Hauling	4,179,361	4,453,766	3,870,610	3,924,786	4,423,916
Major/Minor Overhaul	497,097	254,353	132,569	1,907	74,924
Generation Support Stand by	24,207	101,176	30,849	49,172	65,226
Soil Remediation Costs	98,525	116,401	94,676	56,352	121,411
Dist Facility Mtce	106,417	125,432	132,115	189,710	102,937
Distribution Mtce	119,648	94,729	112,372	136,410	120,823
Customer Service	194,882	230,975	183,468	222,475	183,695
Consumer Support	38,900	55,109	29,642	52,076	176,461
Interest on Fuel Inventories*		293,978	324,789	324,789	393,154
Total Direct Costs	6,788,369	7,327,620	6,107,662	6,415,453	7,104,094
Total Region Direct Costs	6,788,369	7,327,620	6,107,662	6,415,453	7,104,094
Capital Tax	107,737	97,628			
Depreciation	4,343,196	4,143,582			
Interest	1,679,222	1,158,932			
Total Cost	12,918,524	12,727,762	6,107,662	6,415,453	7,104,094
* only reported in Sch with PDCOSS10					
Statistics:					
kW.h Consumption	11,914,237	12,651,000	13,000,702	13,046,523	13,272,038
Revenue Per kW.h	0.37	0.36	0.36	0.38	0.48
Cost Per kW.h	1.084	0.983	0.470	0.492	0.535
Revenue Cost Coverage	34%	36%	76%	77%	89%

CAC/MH II-34

Subject: **Diesel Rates**
Reference: **CAC/MH I-96 a)**

a) Are there any capital spending projects from the 2010/2011 fiscal year for which AANDC has not provided its share of the funding?

ANSWER:

As outlined in response to CAC/MH I-94(c), only the Tadoule Lake major overhaul has not yet been funded by AANDC. As noted this item was not in dispute, rather final costs were not determined at the time AANDC provided the funding.

CAC/MH II-34

Subject: **Diesel Rates**
Reference: **CAC/MH I-96 a)**

b) If yes, why haven't the depreciation and interest costs associated with these projects been included.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH I-94(c).

CAC/MH II-35

Subject: **Status of PUB Directives**
Reference: **CAC/MH I-102 a)**

a) **Please explain what types of short term decisions Manitoba Hydro makes with respect to wind procurement. In particular, does Manitoba Hydro procure wind power generation under short term or long term contracts? Is Manitoba Hydro able to vary the amount of wind power generation it takes delivery of on a short-term basis?**

ANSWER:

Manitoba Hydro has only procured wind power under long term contracts with Manitoba developers.

These contracts are generally take or pay unless curtailments are required for reliability reasons. As such Manitoba Hydro takes delivery of the wind energy as it is generated regardless of current needs.

In Manitoba Hydro's response to CAC/MH I-102, "shorter term procurement decisions" referred to responding to short term procurement opportunities such as distressed turbine prices which could be of significant advantage to Manitoba Hydro.

CAC/MH II-36

Subject: **Economic Outlook**
Reference: **CAC/MH I-120 c)**

a) Please confirm that Manitoba Hydro's Economic Outlook is based on forecasts produced by a variety of sources and is not a "statistically independent" forecast.

ANSWER:

Not confirmed. Manitoba Hydro's Economic Outlook is based on a consensus view of several independent sources that are statistically independent of each other.

CAC/MH II-36

Subject: **Economic Outlook**
Reference: **CAC/MH I-120 c)**

b) Does Manitoba Hydro subscribe to the Consensus Forecast and/or use it as a basis to judge the reasonableness of its own economic outlook?

ANSWER:

Manitoba Hydro does not subscribe to the Consensus Forecast or use it as part of the development of the Economic Outlook.

CAC/MH II-36

Subject: **Economic Outlook**
Reference: **CAC/MH I-120 c)**

c) If the response to part (b) is yes, please provide a copy of the most recent forecast for purposes of comparison with Manitoba Hydro's outlook.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-36(b).

CAC/MH II-37

Subject: **Corporate Overview**
Reference: **PUB/MH I-9 a)**

a) Please indicate which IFFs were the bases for the OM&A targets in the 2011/12 and the 2012/13 Corporate Strategic Plans.

ANSWER:

IFF10 and IFF11-2 were used for the OM&A targets in the 2011/12 and 2012/13 Corporate Strategic Plans respectively.

CAC/MH II-38

Subject: Integrated Financial Forecast
Reference: PUB/MH I-33

a) Please list the other risks that Manitoba Hydro is exposed to and for which the Corporation requires retained earnings in order ameliorate.

ANSWER:

The most significant risks facing the Corporation that could result in a deterioration of retained earnings and the need for significant additional debt financing are outlined in the Risk Management section of the Manitoba Hydro-Electric Board Annual Report for the year ended March 31, 2012 (Appendix 5.8, Page 52). In addition to a five year drought, these risks include a catastrophic infrastructure failure that could have a financial impact of over $2.0 billion, loss of the export market that could be greater than 30% of electricity revenue, and increased interest rates that would equal approximately $720 million for a 1% change over 10 years.

Other financial risks that could result in inadequate retained earnings levels and additional debt are described in the Risk Analysis section of IFFII-2 (Appendix 4.2, Page 16). The most significant risks include lower than expected export prices that could have an impact of approximately $700 million over ten years starting 2012/13. An annual increase of $100 million in capital costs due to potential major project cost overruns and/or increased spending due to the corporation's aging infrastructure would result in a financial impact of approximately $550 million over a 10 year period starting 2012/13.

CAC/MH II-38

Subject: **Integrated Financial Forecast**
Reference: **PUB/MH I-33**

b) Please quantify each of the risks noted in response to part (a).

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-38(a).

CAC/MH II-39

Subject: **Integrated Financial Forecast**
Reference: **PUB/MH I-34 g)**

a) Please explain why it is impractical to respond to this question as posed.

ANSWER:

As explained in the response to PUB/MH I-25(b), it is not practical to remove the impacts of Wuskwatim from the IFF as Wuskwatim is required to meet firm load commitments. The energy load requirements would need to be replaced with an alternative energy source (i.e. imports or thermal) if Wuskwatim is removed.

CAC/MH II-39

Subject: **Integrated Financial Forecast**
Reference: **PUB/MH I-34 g)**

b) What would be the impact on IFF11-2 if all of the capital expenditures on Keeyask, Conawapa and BP III after 2012/13 were increased by 20%?

ANSWER:

As noted in Manitoba Hydro's submission of July 20, 2012 (Interim Rates Effective September 1, 2012 and Response to Request for Additional Information), there are no Revenue Requirement Impacts for Keeyask, Conawapa or BiPole III in the test years under consideration, as none of these projects have been approved and any costs associated with maintaining the in-service dates are not incorporated into the Revenue Requirement for purposes of establishing rates.

With respect to the impact on retained earnings and related annual rate impacts associated with an increase of $100 million in capital expenditures, please see the sensitivity analysis shown in table in the Risk Analysis section at page 16 of IFF11-2.

CAC/MH II-40

Subject: **OM&A**
Reference: **PUB/MH I-37**

a) With respect to PUB/MH I-37 a), for each business unit with increases in EFTs for 2012/13 over 2011/12 please indicate what the activity drivers are that give rise to the increase.

ANSWER:

The increase in EFTs from 2011/12 actual results to the 2012/13 forecast is due to the following:

- 161 new positions primarily to meet in-service dates for capital projects including Bipole III, Keeyask and Pointe du Bois as well as operations support for various initiatives including the Wuskwatim Generating Station and the Meter Compliance Standards program. For a detailed analysis of increase in EFTs by Business Unit, please see PUB MHI-64 (e) i-iv.
- 42 filled vacant positions
- 26 overtime EFTs to meet schedule requirements and protect key in-service dates for various capital projects where economically justifiable and to maintain the safety and reliability of the energy supply system.

CAC/MH II-40

Subject: **OM&A**
Reference: **PUB/MH I-37**

b) With respect to PUB/MH I-37 b), please explain why the actual EFTs for the Power Supply BU are higher in 2011/12 than forecast.

ANSWER:

The actual EFTs for fiscal 2011/12 are higher than forecasted in IFF09 mainly due to the hiring of new positions and the filling of vacancies for operational related work and capital projects such as Keeyask, Conawapa and EAM (Enterprise Asset Management) as well as an increased number of trainees to address rising attrition for retirement eligibility and trade losses.

CAC/MH II-41

Subject: **Interest Capitalization**
Reference: **PUB/MH I-57 b) & c)**
PUB/MH I-28 c)
PUB/MH I-67 d)

a) Please explain why the interest capitalization rate is increasing from 6.7% in 2011/12 to 7% and more in subsequent years when: i) the cost of new borrowing is substantially lower (per PUB/MH I-28 c) and 67 d)) and ii) under IFRS the interest capitalization rate will be the weighted average cost of debt (per Appendix 5.5, page 28).

b) Please provide a schedule setting out the calculation of Manitoba Hydro's weighted average cost of debt for 2011/12 and 2013/14.

c) Please explain the basis for including "Interest on Winnipeg Hydro Obligation" in the numerator of the calculation per PUB/MH I-57 c). Also, if this amount is to be included why is there no corresponding "principal" amount included in the denominator?

ANSWER:

Response to CAC/MH II – 41 (a):

Even though the interest capitalization rate benefits from the lower cost of new borrowing in the near term, interest rates are projected to rise over the forecast, thereby increasing the interest capitalization rate over the longer term. In the early years of the forecast, the projected weighted average interest capitalization rate is also upwardly affected by forecasted increases in short term interest rates which lead to higher borrowing costs on the existing floating rate debt portfolio.

Response to CAC/MH II – 41 (b) & (c):

The interest on the Winnipeg Hydro Obligation reflects the interest portion of the payment to the City of Winnipeg and was included in the numerator of the interest capitalization calculation for each of the years shown in the PUB/MH I – 57(c) schedule. The "principal" amount of the Winnipeg Hydro Obligation, which represents the present value of the payments to the City of Winnipeg, was included in the denominator for the calculated $9,316

million average debt & obligations for the 2011/12 year. However, the Winnipeg Hydro Obligation was not included in the denominator of the subsequent calculation of forecasted interest capitalization rates. Note that this correction has been implemented with IFF12. The following table revises the schedule shown in the response to PUB/MH I – 57(c) to include the obligation in the denominator for 2012/13 and 2013/14.

IFF11-2 CALCULATION OF PROJECTED INTEREST CAPITALIZATION RATE

For year ending March 31: (millions)

	2012	2013	2014
Interest on Debt	511	547	606
Provincial Guarantee Fee	85	93	99
Amortization of Premiums and Discounts	1	2	2
Interest on Winnipeg Hydro Obligation	16	16	16
Total Interest Expense	614	657	723
Long Term Debt & Winnipeg Hydro Obligation	9,270	9,276	10,695
Current Portion of Long Term Debt	182	822	100
Short Term Debt	45	60	187
Total Debt & Obligations	9,497	10,158	10,982
Average Debt & Obligations	9,316	9,827	10,570
Average Semi-Annual Rate	6.6%	6.7%	6.8%
Effective Annual Rate	6.7%	6.8%	7.0%

CAC/MH II-42

Subject: **OM&A**
Reference: **PUB/MH I-62**
Appendix 5.6, pages 7 & 10

a) Please explain how the OM&A costs for each year as reported on page 7 of Appendix 5.6 reconcile with the total OM&A costs as shown in PUB/MH I-62 and page 10 of Appendix 5.6.

ANSWER:

The schedules provided in PUB/MH I-62 and page 10 of Appendix 5.6 report the total expenditures charged directly to individual Business Units net of amounts allocated to capital projects through activity charges.

OM&A costs reported for Electric Operations (per Annual Report) provided on page 7 of Appendix 5.6 includes expenditures not charged to specific Business Units (i.e. recorded at the corporation level), impacts of various charge out or re-allocation processes (e.g. motor vehicles, employee benefits) and OM&A costs of subsidiaries. In addition costs charged to Centra Gas and amounts capitalized through overhead are deducted. Please see schedule below for a reconciliation of OM&A costs.

MANITOBA HYDRO
OPERATING, MAINTENANCE AND ADMINISTRATIVE COSTS

(in thousands of $)	2007/08 Actual	2008/09 Actual	2009/10 Actual	2010/11 Actual	2011/12 Actual	2012/13 Forecast	2013/14 Forecast
President & CEO	$ 22,963	$ 24,230	$ 31,578	$ 28,835	$ 28,328	$ 28,692	$ 29,239
Corporate Relations	5,245	5,520	4,697	4,739	3,025	4,491	4,585
Finance & Administration	99,521	103,722	108,914	106,528	107,443	114,343	118,816
Power Supply	127,610	142,183	147,073	150,120	155,084	177,882	187,031
Transmission	83,171	91,088	92,302	90,493	89,261	104,662	107,265
Customer Services & Distribution	98,373	103,762	111,068	106,707	110,045	130,355	132,916
Customer Care & Marketing	38,472	38,942	42,395	41,446	43,703	52,249	95,922
Business Unit Total (per PUB I-62)	**475,354**	**509,446**	**538,027**	**528,867**	**536,889**	**612,673**	**675,774**
RECONCILING ITEMS							
Motor Vehicle Chargeout	(22,010)	(24,266)	(24,352)	(17,933)	(16,843)	(14,371)	(14,661)
Payroll Tax	(8,774)	(9,679)	(10,070)	(10,458)	(11,137)	(11,299)	(11,525)
Corporate Allocations & Adjustments	1,686	13,571	(4,952)	4,450	9,595	(3,303)	(3,369)
Capitalized Overhead	(67,289)	(65,743)	(60,151)	(47,336)	(53,084)	(69,434)	(70,823)
Operating & Administratin Charged to Centra	(56,270)	(59,042)	(60,951)	(60,644)	(62,117)	(67,300)	(68,646)
Subsidiaries	1,485	4,816	2,146	6,121	7,414	6,531	6,945
IFRS Changes							25,075
Subtotal Reconciling Items	(151,172)	(140,343)	(158,330)	(125,800)	(126,172)	(159,176)	(137,004)
OM&A Attributable to Electric Operations per Annual Report (per Appendix 5.6 pg 7)	**$ 324,182**	**$ 369,103**	**$ 379,697**	**$ 403,067**	**$ 410,717**	**$ 453,497**	**$ 538,770**

CAC/MH II-43

Subject: **Capital Expenditures**
Reference: **PUB/MH I-65 c)**
PUB/MH I-90 b)
Appendix 6.1, pages 3 - 5

a) Given the limited project description and justification provided in Appendix 6.1 for each capital project, please provide the CPJ documents for all Power Supply and Transmission projects noted in CEF11 with total costs of $100 M or more.

ANSWER:

There are no CPJs for Power Supply or Transmission identified in the CEF11-2 with total cost of $100M or more that impact the 2012/13 or 2013/14 forecast year. Please also see Manitoba Hydro's response to PUB/MH II-68.

CAC/MH II-44

Subject: **Capital Expenditures**
Reference: **PUB/MH I-68**

a) **Please identify the specific areas of increased capital spending on property, plant and equipment in 2012-2014 as between IFF09-1 and IFF11-2 and provide an explanation for the increase in each case.**

ANSWER:

Please see the following table for the changes in the electric capital spending between CEF09 and CEF11-2 for 2012-2014.

PP&E Increase (Decrease)	2012	2013	2014	Explanation
Wuskwatim Generation	76	53	6	Increased costs to reflect increases for general civil and electrical & mechanical system contracts and the first unit in-service deferral of six months from September 2011. Please see the response to MIPUG/MH I- 28(b) for a breakdown of the increase.
Wuskwatim Transmission	17	-	-	Due to deferral of Wuskwatim GS in-service date six months from September 2011.
Keeyask Generation	(80)	(35)	16	Estimate updated to reflect current market conditions and in-service date deferred 11 months from December 2018.
Conawapa Generation	29	(7)	(124)	Estimate updated to reflect current market conditions, and first power in-service deferred two years from May 2022.
Pointe du Bois Spillway Replacement	26	61	17	Project estimate increased to reflect updated design work and current market conditions. In-service date deferred one month from October 2014.
Kettle Improvements and Upgrades	7	3	2	Project scope changed to include stator replacements for units 1-3, along with outage related opportunity work for units 1-4; including rotor refurbishment, excitation upgrade replacements, control and protection system replacements, mechanical systems replacements, and intake gate and wicket gate work.
Kelsey Improvements	33	25	20	Reflects scope changes which include extensive rehabilitation of all intake gates and modifications to all draft tubes, an 8 000 hour inspection and increased costs associated with construction camp expansion, sewer and water improvements and supply contracts. In-service date deferred 20 months from March 2012.
Bipole III	70	165	381	To reflect higher costs resulting from an independent experts' review and a detailed re-assessment of all components of the project.
Riel 230/500kV Station	(5)	23	9	Cost flow revision.
Firm Import Upgrades	(2)	20	-	Scope revised to include upgrades to L20D and G37C lines with a one year in-service deferral from November 2010 to accommodate the additional work.
Demand Side Management	(11)	(5)	(34)	Change in expenditures in 2012 and 2013 due to revisions to energy saving and expenditures of a number of programs to reflect current market information. In CEF11-2 it was assumed that IFRS would be adopted in 2014 and that DSM programs would no longer be capitalized.
Pine Falls Rehabilitation	(13)	9	25	Increased estimate for addition of overhauls on Units 3 & 4, crane modernizations and increased scope on units 1 & 2. In-service date deferred from October 2015.

PP&E Increase (Decrease)	2012	2013	2014	Explanation
Dorsey 230 kV Relay Building Upgrade	(2)	(14)	(14)	Cash flow revised and in-service date on Phase II deferred five months from March 2016.
St. James New Station & 24 kV Conversion	(31)	(13)	4	Cost flow revision.
HVDC Smoothing Reactor Replacements	17	(4)	(7)	In-service date advanced 55 months from October 2018.
Halon Replacement Project	(7)	5	3	In-service date deferred 25 months from March 2011.
Great Falls Unit 4 Overhaul	4	22	1	Increase in scope to include, scrollcase wall upgrades, new upper head cover, stator frame and core and a new transformer blast wall. As well, cost increases to reflect current market conditions.
Mobile Radio System Modernization	(7)	(4)	(5)	Cost flow revision.
High Voltage Laboratory	14	0	-	Deferral of Hopewell Deveolpment caused delays and revisions for site access and site services. Increased costs for test equipment.
Pine Falls-Bloodvein 115kV Transmission	(1)	(4)	(21)	Item cancelled and replaced with Lake Winnipeg East System Improvements
Target Adjustment	(111)	(148)	(180)	Changes to target adjustments.
Other	57	71	(29)	Includes items approved subsequent to CEF09
Total	79	222	69	

CAC/MH II-45

Subject: **Capital Expenditures**
Reference: **PUB/MH I-79 g)**
Appendix 6.1

a) **In order to assist in parties understanding the impact of not capitalizing the cost of planning studies, please provide the cost for "planning studies" incorporated in the total cost of Wuskwatim (including associated capitalized interest) that would have been expensed under IFRS and express this as a percentage of Wuskwatim's total capital costs.**

ANSWER:

Planning studies were initiated for the Wuskwatim project beginning in 1983 and the unamortized balanced of $32.1 million was transferred to Construction Work in Progress in 2003 when commitment to construction was made. The costs were incorporated in the total cost of the project and represent approximately 2% of the total expenditures.

CAC/MH II-45

Subject: **Capital Expenditures**
Reference: **PUB/MH I-79 g)**
Appendix 6.1

b) Do the projected capital costs set out in Appendix 6.1 include the removal of the cost of "planning studies"? If so, please demonstrate by illustrating (with reference/comparison to previous CEFs) how the costs of specific projects have changed due to this element of IFRS.

ANSWER:

The total costs for new generation or transmission projects per CEF11 would include the unamortized balance of any planning studies incurred as a commitment to construction has been made. The accounting treatment prior to 2009 was to record these costs as an intangible asset and amortize these costs over a 15 year period. Once a commitment to construction was made the unamortized balance was transferred to Construction Work in Progress. This is consistent with the treatment of planning study costs incurred for the Wuskwatim project as discussed in part a.

In accordance with changes in Canadian Accounting Standards, planning studies currently underway for new generation and transmission (e.g. Gillam Island, Early Morning) are to be expensed in the year incurred as they do not meet the criteria for recognition as an asset. Once there is reasonable assurance that a commitment to construction will be made, any future expenditures would be capitalized as a cost of the project.

CAC/MH II-46

Subject: **Capital Expenditures**
Reference: **PUB/MH I-90 b)**

a) **Please confirm that CPJ's are project specific and do not rank/prioritize the project relative to other Manitoba Hydro capital projects. If not confirmed, please provide examples of CPJ's for major capital projects where the priority ranking of the project (relative to others) is described.**

ANSWER:

CPJ's are project specific and do not rank/prioritize the project relative to other Manitoba Hydro capital projects. The purpose of the CPJ is to provide senior management with information to review and evaluate the merits and justification for a project.

CAC/MH II-46

Subject: **Capital Expenditures**
Reference: **PUB/MH I-90 b)**

b) If part (a) is not confirmed, please explain more fully how the CJP framework is used to prioritize different capital projects.

ANSWER:

Please see Manitoba Hydro's response in CAC/MH II-46(a).

CAC/MH II-47

Subject: **Capital Expenditures**
Reference: **PUB/MH I-90 c)**

a) **The response to part (c) makes reference to a risk assessment associated with the consequences of a capital project's deferral. Is such an assessment undertaken for each project? If so, please provide risk assessment for each project in CEF11 with total costs of $100 M or more.**

ANSWER:

A risk assessment associated with the consequences of a capital project's deferral is not undertaken for each project. Please see Manitoba Hydro's response to CAC/MH II-47(b) for additional information.

CAC/MH II-47

Subject: **Capital Expenditures**
Reference: **PUB/MH I-90 c)**

b) Is there a formal process/framework for assessing the relative risks of various capital projects? If yes, please provide the assessment underlying the projects set out in CEF11.

ANSWER:

The Capital Project Justification ("CPJ") framework is used to summarize technical, economic and financial information for a project that is being proposed or revised for inclusion in the capital program. Information provided in the CPJ includes the business case, risk assessment, resourcing requirements and other pertinent details.

The Justification section of the CPJ provides the rationale for proceeding with the project, including the reasons why the selected option was recommended, the degree of urgency and how the project supports corporate and specific business unit goals and plans. This section also addresses efficiencies that may be lost or negatively impacted as a result of deferral.

The Risk Analysis section of the CPJ addresses any unusual or special risks associated with proceeding with the recommended alternative. Risks can include scheduling, resourcing, construction uncertainties, with or without financial impacts.

The Summary of Alternatives section summarizes the alternatives studied including the most significant criteria and why the recommended alternative was selected. It includes an economic comparison of the costs and benefits for each alternative.

The purpose of the CPJ is to provide management with information to review and evaluate the technical merits and economic justification for a project. Proposed CPJ's are reviewed and approved by Executive Committee and actions are taken where necessary to mitigate risks and address prioritization.

The prioritization of the overall capital portfolio considers safety, reliability, customer requirements, compliance with regulation, environmental and financial impacts including risk of deferral. Varying methods of prioritization are used by the business units to assist the Executive in making decisions for the allocation of capital dollars and resources including

the use of asset condition assessments and ranking tools to evaluate projects using common criteria.

CAC/MH II-47

Subject: **Capital Expenditures**
Reference: **PUB/MH I-90 c)**

c) If not, what process is used to prioritize capital projects and how are the risks associated with each project taken into account?

ANSWER

Please see Manitoba Hydro's response to CAC/MH II-47(b).

CAC/MH II-48

Subject: **DSM**
Reference: **PUB/MH I-107 b) & c)**
MIPUG/MH I-7 b)

a) The responses state that Manitoba Hydro revisits its DSM plan on an annual basis. Given the last DSM plan was completed in October 2011, will a new plan be completed in 2012 or not until 2013 as suggested by MIPUG/MH I-7 b).

ANSWER:

Manitoba Hydro revisits its DSM plan on an annual basis. The process for developing the Power Smart Plan has changed this year in accordance with the Bill 24, *The Energy Savings Act.* In accordance with the Act, the DSM plan will be submitted to the Minister by March 31, 2013. The Minister will subsequently file the DSM plan in the Legislative Assembly, at which time the DSM plan will be available to the general public.

CAC/MH II-49

Subject: **DSM**
Reference: **PUB/MH I-107 e)**

a) Does the levelized cost used in the 2011 Power Smart Plan reflect the lower marginal value/cost of energy as a result of the current projections for future export prices?

ANSWER:

The levelized marginal cost used in assessing the 2011 Power Smart Plan reflects the marginal values that were current at the time the 2011 Power Smart Plan was developed. Those values represent the best information available and reflect the projections of export prices at that time.

CAC/MH II-50

Subject: **Rates**
Reference: **PUB/MH I-114 b)**

a) **Is permitting customers to nominate different reference levels in the various time periods the only difference between the current and the proposed SEP Option #1?**

ANSWER:

Yes, it is the only change that specifically affects Option 1.

CAC/MH II-51

Subject: **Load Forecast**
Reference: **PUB/MH I-117 f)**

a) **Please confirm that the 2011 Load Forecast does not does not model/assume any fuel switching for existing customers and only models fuel choice for new construction. If not, please indicate how the fuel switching decisions for existing customers were modeled.**

ANSWER:

The 2011 Electric Load Forecast assumed no switching between natural gas and electric space heating in existing homes. The forecast did assume that approximately 30% of gas water heaters that failed were expected to be replaced with electric water heaters.

CAC/MH II-52

Subject: **Exports**
Reference: **PUB/MH I-126 a)**

a) Are these contracts included under Current or Proposed Exports in Attachment 3, pages 38-39?

ANSWER:

PUB/MH I-126(a) refers to signed contracts which are included under Current Exports with the exception of the NSP 125 MW System Power Sale which was not included due a shortfall in the supply demand balance at the time.

CAC/MH II-52

Subject: **Exports**
Reference: **PUB/MH I-126 a)**

b) Are any other contracts included in the same row(s)? If yes, please provide similar information (type, size and duration) for each.

ANSWER:

Please see Manitoba Hydro's responses to CAC/MH I-115(a) and CAC/MH I-17(b).

CAC/MH II-53

Subject: **Corporate Strategy**
Reference: **PUB/MH I-133 c)**

Preamble: **The response states that financial targets are currently under review.**

a) **Please describe the scope of the review and whether or not any external consultants/advisors have been retained to assist with the review.**

ANSWER:

Manitoba Hydro is reviewing the continuing applicability and composition of its existing financial targets during the period of major investment in generation and transmission. It is expected that updated financial targets will be presented to the MHEB in conjunction with IFF12. While no external consultant has been retained, external consultation has taken place.

CAC/MH II-54

Subject: **Directives**
Reference: **PUB/MH I-157 a)**
PUB/MH I-82 b)

a) Please file any reports that Manitoba Hydro has prepared/completed since January 2011 that deal with/set out the condition of its assets and were used as input/support for CEF11.

ANSWER:

Manitoba Hydro provides the following reports related to the condition of assets, prepared since January, 2011:

Appendix 39 – Report on Future Projects for HVDC Converter Stations, dated April 28, 2011.

Appendix 40 – Report on Distribution Asset Condition, dated August 14, 2012.

CAC/MH II-55

Subject: **Wuskwatim**
Reference: **MIPUG/MH I-4 a)**

a) Please confirm whether the 2011/12 date referred to in the first paragraph of the response is correct.

ANSWER:

Manitoba Hydro confirms that the 2011/12 date referred to in the response to MIPUG/MH I-4(a) is correct.

CAC/MH II-55

Subject: **Wuskwatim**
Reference: **MIPUG/MH I-4 a)**

b) What is the need date for new generation if both Wuskwatim and the firm export contract facilitated by the construction of Wuskwatim are both left out of the forecast supply/demand balance?

ANSWER:

Manitoba Hydro notes that the construction of Wuskwatim was not triggered by any specific export contract. Please see Manitoba Hydro's response to MIPUG/MH II-16(b) and MIPUG/MH II-3(c) which noted "based on the 2011/12 Power Resource Plan Page 34 of Attachment 3 and deducting both Wuskwatim and wind generation from system surplus, a persistent deficit occurs starting in the first year of the plan which is 2011/12."

CAC/MH II-56

Subject: **DSM**
Reference: **MIPUG/MH I-7 a)**

a) Please explain what is meant by "nominal dollars".

ANSWER:

The table presented in MIPUG/MH I-7(a) should not have been labeled "nominal dollars". The levelized marginal values are shown in the year's dollars of the associated Power Smart Plan. For example, the levelized marginal value used in the 2011 Power Smart Plan is in 2011 dollars, the levelized marginal value used in the 2010 Power Smart Plan is in 2010 dollars, etc.

CAC/MH II-57

Subject: **IFRS and Financial Targets**
Reference: **MIPUG/MH I-18 a)**

a) **Please provide a schedule that sets out all of the write-offs to retained earnings arising from the transition to IFRS and the indicate the resulting impact on the calculation of Manitoba Hydro's debt/equity ratio.**

ANSWER:

Please see the response to PUB/MH I-42, schedule B for the impacts to IFF11-2 electric operations associated with the IFRS write-off to retained earnings in 2013/14.

The impact to the debt to equity ratio is a deterioration of 3% in 2013/14.

CAC/MH II-58

Subject: **OM&A**
Reference: **MIPUG/MH I-29 h)**

a) If the external hiring freeze continues why wouldn't the vacancy rate increase in 2012/13 over 2011/12?

ANSWER:

Although Manitoba Hydro has experienced slightly higher actual vacancy rates, the vacancy factor for 2012/13 has been kept constant with the forecast for 2011/12. This would allow for the filling of necessary positions while continuing to exercise cost constraint through the review and justification of all external hires in the test years.

CAC/MH II-58

Subject: **OM&A**
Reference: **MIPUG/MH I-29 h)**

b) What vacancy rate was assumed for 2013/14?

ANSWER:

The vacancy rate assumed for 2013/14 was 6.2%.

CAC/MH II-59

Subject: **OM&A**
Reference: **CAC/MH I-34 a)**
GAC/MH I-17 c)

a) Please reconcile the $2.7 M for bad debt write-offs reported in CAC/MH I-34 a) for 2012/13 with the $4.3 M value reported in GAC/MH I-17 c).

ANSWER:

The information provided in GAC/MH I-17(c) represents the budget for electric and gas collection costs which includes bad debt expense, collection agency fees and court costs.

The response to GAC/MH I-17(c) includes the $2.7 million of electric bad debt expense that was referenced in CAC/MH I-34(a).

CAC/MH II-60

Reference: **CAC (MH) I - 5 (b)**

Preamble: **The above referenced IR requested the following:**

For each credit agency, please clarify the debt instruments on which the agency provides a credit rating, particularly noting whether the instrument is long term or short term, including a specific page and paragraph reference to the most recent rating report of each credit agency.

MH responded as follows:

The credit rating agencies consider Manitoba Hydro's entire portfolio of short and long term debt. Manitoba Hydro's rated short term debt consists of the promissory notes within the Corporation's $500 million commercial paper program. The credit rating agencies do not specifically identify individual short or long term debt instruments within their credit reports.

a) **Although credit rating agencies do not specifically identify individual short or long term debt instruments, please confirm the credit rating agencies identify whether they are rating short term debt (more generally than the individual instruments) or long term debt (more generally than the individual instruments).**

b) **Please confirm that no MH long term debt that is flowed through from the Province is rated by the credit rating agencies S&P or Moody's.**

c) **If the confirmation sought in (a) is not provided,**

- **i.** **please identify the credit rating agency (either S&P or Moodys) which provides a credit rating for MH long term debt flowed through from the Province.**
- **ii.** **Please provide the specific reference to the credit rating report (S&P or Moody's), currently on the record, that provides a credit rating agency which provides a credit rating for MH long term debt flowed through from the Province.**

iii. Please provide a copy of the credit rating report (S&P or Moody's), not currently on the record, that provides a credit rating agency which provides a credit rating for MH long term debt flowed through from the Province.

d) Please provide a table of long term debt of MH for each of the test years and for each of the 5 years preceding the test years showing the following columns: 1) MH long term debt flowed through by Province, 2) MH long term debt not flowed through by the Province, 3) the total together with the percentages for each column.

ANSWER:

Response to parts (a) to (c):

The credit rating agencies identify whether they are rating short term and/or long term debt.

As Manitoba Hydro issues short term debt under its own name, each of the credit rating agencies provides a Manitoba Hydro-Electric Board credit rating for this short term debt.

All long term debt that is issued by the Province of Manitoba and advanced to Manitoba Hydro is rated by the credit rating agencies. For DBRS, both the short and long term debt is explicitly included within the credit rating for the Manitoba Hydro-Electric Board. For Moody's Investors Service and Standard & Poor's, the long term debt advanced to Manitoba Hydro is rated as part of the Province of Manitoba's credit rating. Please see Appendix 20 for the credit rating agency reports for the Manitoba Hydro-Electric Board and the Province of Manitoba.

Response to part (d):

Please see the following schedule:

At March 31 (in CAD millions)	Actuals					Forecast	
	2008	2009	2010	2011	2012	2013	2014
MH Long Term Debt flowed through by Province	7,141	7,835	8,289	8,468	9,095	10,052	10,949
MH Long Term Debt not flowed through by Province	449	374	325	236	327	296	240
Total MH Long Term Debt	**7,590**	**8,209**	**8,614**	**8,704**	**9,422**	**10,348**	**11,189**
MH Long Term Debt flowed through by Province %	94%	95%	96%	97%	97%	97%	98%
MH Long Term Debt not flowed through by Province %	6%	5%	4%	3%	3%	3%	2%
Total MH Long Term Debt %	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

CAC/MH II-61

Reference: **CAC (MH) I - 5 (h) & (i)**

Preamble: **The above referenced IR requested the following:**

h) Please provide copies of all presentations made by MH to each credit rating agency in each of the most recent 5 years.

i) Provide copies of all correspondence from credit rating agencies.

MH responded as follows:

Manitoba Hydro's communications with credit rating agencies are largely in the form of face-to-face meetings or teleconferences in which Manitoba Hydro's current financial status and future development plans are extensively discussed. [emphasis added]

a) Given that MH its reference to communications with credit rating agencies, as highlighted above, please provide copies of all communications that are exclusive to the qualification of " in the form of face-to-face meetings or teleconferences".

b) Please indicate whether MH representatives, who conduct "face-to-face meetings or teleconferences" with credit rating agencies, use or rely on any sort of briefing documents in the course of those meetings or teleconferences.

c) Please provide copies of all briefing documents noted in (a) above that were used or relied on by MH in the last 24 months.

d) Please provide a summary of all of MH's representations (during the past 24 months) to credit agencies regarding future export prices (levels, trends, favourable, unfavourable).

e) Please provide copies of all communications and briefing documents regarding all of MH's representations (during the past 24 months) to credit agencies regarding future export prices (levels, trends, favourable, unfavourable, etc.).

f) Please provide a summary of all of MH's representations (during the past 24 months) to credit agencies regarding MH's best expectations of future construction for its generation and transmission projects.

g) Please provide copies of all communications and briefing documents regarding all of MH's representations (during the past 24 months) to credit agencies regarding MH's best expectations of future construction for its generation and transmission projects.

ANSWER:

Response to parts (a) to (g):

Due to the analytics performed by the credit rating agencies on a large number of entities across a broad array of industry and governmental sectors, the credit rating agencies have accumulated a significant amount of base information regarding industry trends, energy prices and U.S. economic conditions.

Complementing this broad industry information, it is Manitoba Hydro's understanding that the credit rating agencies take the initiative to independently access company-specific information from sources such as Manitoba Hydro's publically available financial reports, forecasts, and regulatory proceedings. In addition, to provide a framework for supplemental verbal discussion at the review meetings, Manitoba Hydro provides an overview presentation document to the credit rating agencies. Please see Appendix 34 for the most recent presentations provided to each of:

- Moody's (May 11, 2012),
- S&P (May 30, 2012), and
- DBRS (August 22, 2012).

Verbal discussions that may occur regarding future export prices are on a summary basis consistent with publically available information.

Verbal discussions regarding Manitoba Hydro's future construction for its generation and transmission projects are in keeping with Manitoba Hydro's publically available Capital Expenditure Forecasts (CEF).

CAC/MH II-62

Reference: CAC (MH) I - 6 (a) - (n)

Preamble: Preamble: Manitoba Hydro states:

A loss position would be a negative credit rating factor, as the resultant low levels of cash flow reduce an entity's ability to manage its financial risks and service its debt. [emphasis added]

a) Please confirm that if an entity that obtains credit ratings, is not properly managed, then the consequences arising from financial results could place that entity at risk of a negative credit rating.

b) If the confirmation in (a) (as specifically stated) is not provided, please clarify how an improperly managed entity which obtains credit ratings can avoid the negative credit rating.

c) In respect of MH, apart from "a loss position", is MH aware of any other negative credit rating factors.

d) In respect of MH, apart from "a loss position", provide a list of all negative credit rating factors MH is aware of.

ANSWER:

Response to parts (a) to (d):

The quality of management may be taken into consideration in the determination of a credit rating. None of the credit rating agencies have identified this matter as a concern for the Manitoba Hydro-Electric Board or the Province of Manitoba.

The credit rating agencies identify numerous rating considerations and factors within their reports. For the credit rating reports for the Manitoba Hydro-Electric Board and the Province of Manitoba Please, please see Appendix 20.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

a) Please confirm that MH has relied extensively on the reports of the five export price consultants referenced in the preamble above and throughout CAC (MH) I - 19, "to compile the electricity price forecast used for IFF11-2".

ANSWER:

Manitoba Hydro confirms that it relied extensively on the information contained in the reports of five independent price forecasters to compile the electricity price forecast used for IFF11-2.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

b) If the confirmation sought in (a) is not provide, please provide a complete list of reports, apart from the reports from the five electricity (export) price consultants.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-63(a).

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

c) Provide a copy of each report itemized in (b) above.

ANSWER:

Please see Manitoba Hydro responses to CAC/MH II-63(a) and (b).

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

d) Please provide the names of each of the five (5) consultants referred to in the above preamble.

ANSWER:

Please see Manitoba Hydro's response to PUB/MH II-10(a).

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

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In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

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i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

e) Please provide a copy of each the reports referred to in the above noted CAC (MH) I - 19 (a), together non disclosure agreements, if, to allow parties to review any confidential reports.

ANSWER:

Manitoba Hydro's view of future export prices is commercially sensitive and confidential information. Manitoba Hydro is not prepared to release this information under non-disclosure agreements as requested.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

f) Please indicate the level of management received the reports of the five (5) consultants referred to in the above preamble.

ANSWER:

Use of the five electricity export price forecasts has been adopted by Manitoba Hydro based on a recommendation by the Power Planning Division to the Executive.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

g) Please indicate the level of management that received a summary or other internal report that used or relied on the reports of the five (5) consultants referred to in the above preamble.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-63(f).

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

h) Please indicate the MH Board of Directors received a summary or other internal report which used or relied on the reports of the five (5) consultants referred to in the above preamble.

ANSWER:

The only report approved by the Manitoba Hydro-Electric Board which relies on the consensus electricity price forecast is Manitoba Hydro's Integrated Financial Forecast.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

i) Apart from IFFs, please provide a list of all internal reports, including those provided to the MH Board of Directors, that used or relied on the reports of the five (5) consultants referred to in the above preamble.

ANSWER:

Information from the five price forecast consultants is directly compiled into the consensus electricity price forecast. Consensus electricity price forecast information is used as an input into Manitoba Hydro's production costing model SPLASH which, as reviewed in detail at the 2010/11, 2011/12 GRA is used in generation expansion studies. Reports relying on SPLASH data are the IFF, the Power Resource Plan and the Power Smart Plan.

Manitoba Hydro's confidential consensus forecast of long-term fuel prices (natural gas, oil, and coal) also relies on information provided by some of these consultants.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

j) Please indicate whether any internal report summarized or included or otherwise combined the results from the five (5) consultants referred to in the above preamble.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-63(i).

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

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i. thermal fuel forecasts (coal and natural gas),
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iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

k) Please provide a copy of each report itemized in (j) above.

ANSWER:

As discussed in PUB/MH I-16(b) and CAC/MH I-19(g), Manitoba Hydro respectfully declines to provide the requested information as it is commercially sensitive and therefore confidential since public release could harm the corporation in negotiation of contracts for export sales. This commercial sensitivity includes detailed reports and analysis derived from the electricity price forecast as it would be possible to back calculate the price forecasts, and determine Manitoba Hydro's variables costs and expected operations to serve the export sales. Summary level results of this analysis is contained in Tab 4, Appendix 4.2 of this application.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

l) Please confirm that MH did not request a sensitivity analysis with respect to the individual factors listed (i) through (vii), in the preamble above.

ANSWER:

It is confirmed that Manitoba Hydro did not request a broad sensitivity analysis with respect to all of the individual factors listed (i) through (vii), in the preamble above. Instead, Manitoba Hydro requested that each price forecast consultant provide, in addition to an Expected case, a High forecast case and a Low forecast case. The "High" case represents a plausible scenario reflecting the upper limit of prolonged pricing, which could be the results of a combination of factors such as high load growth, high commodity prices, and stringent environmental regulation, while the "Low" case represents a plausible scenario reflecting the lower limit of prolonged pricing, which could be the result of low load growth, depressed commodity prices, and lax environmental regulation.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

m) If the confirmation sought in (l) is not provided, please explain why the request was not fulfilled by the five consultants.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-63(l).

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

n) In understanding and providing a reasonable export forecast for the PUB, if MH did not request a sensitivity analysis with respect to the individual factors listed (i) through (vii), in the preamble above, explain why MH did not wish to receive such a sensitivity analysis.

ANSWER:

As noted in the response to CAC/MH II-63(l), Manitoba Hydro does not request a broad sensitivity analysis with respect to all of the individual factors listed (i) through (vii), in the preamble above. Instead, Manitoba Hydro requested that each price forecast consultant provide, in addition to an expected case, a high forecast case and a low forecast case.

The use of a high forecast case and a low forecast case allows a range of plausible outcomes to be developed based on the consideration of a broad range of pricing factors, rather than the use of an arbitrary adjustment to individual pricing factors studied one at a time. There are many combinations of interactions between the various pricing factors that a sensitivity analysis may not capture.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

o) Please confirm that MH did not request a sensitivity analysis with respect to the individual factors of reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices), that were noted in MH's IFF (Appendix 4.2, pages 3 - 4).

ANSWER:

It is confirmed that Manitoba Hydro did not explicitly request a sensitivity analysis respect to the reduced value of capacity, carbon pricing or natural gas prices.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

p) If the confirmation sought in (o) is not provided, please explain why the request was not fulfilled by the five consultants.

ANSWER:

Please see Manitoba Hydro's responses to CAC/MH II-63(n) and CAC/MH II-63(o). All requested work was fulfilled by the five consultants.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

q) In understanding and providing a reasonable export forecast for the PUB, if MH did not request a a sensitivity analysis with respect to the individual factors of reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices), that were noted in MH's IFF (Appendix 4.2, pages 3 - 4).

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-63(n).

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

r) In respect of MH's general comment regarding "lower natural gas prices would be the largest factor", if MH did not obtain a sensitivity analysis of individual factors, please explain how MH would be able to conclude that lower natural gas prices would be the largest factor.

ANSWER:

Manitoba Hydro notes that a sensitivity analysis of a forecast for a particular year cannot, by itself, explain the drivers behind year to year changes in a forecast.

Manitoba Hydro made the general comment “lower natural gas prices would be the largest factor in the decline in extra provincial revenues” on the basis of two sources of information year on year comparison of price forecast input data and monitoring of industry sources.

As part of the price forecast process, the independent price forecast consultants provide their outlook for key inputs to their electricity price forecast models, including their natural gas and coal price outlooks. By comparing the year on year outlook for key inputs, one can determine which pricing factors had the largest changes. The individual price forecast consultants typically do such an analysis and make such commentary themselves. In additional, Manitoba Hydro can draw its own conclusions by reviewing the individual consultant and consensus views of the key input data.

While Manitoba Hydro relies on the external/independent price forecast consultants to develop the long-term electricity price outlook used its resource planning and long term financial planning processes, it also reviews energy market information provided under contract and public sources.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

s) In respect of MH's response to (r) above, please indicate whether MH relied on any external analysis, reports, work papers or similar documents to arrive at the conclusion that "lower natural gas prices would be the largest factor".

ANSWER:

Manitoba Hydro monitors numerous external energy information sources which are used to maintain a current understanding of energy markets and how they operate. Manitoba Hydro cannot point to any single external report that can be used to reach any particular conclusion.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

t) If the response to (s) is to the affirmative, please provide a copy of each external analysis, report, work paper or similar document to arrive at the conclusion that "lower natural gas prices would be the largest factor" (redacted, if necessary for commercially sensitive information).

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II 63(s).

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

u) In respect of MH's response to (r) above, please indicate whether MH relied on any internal analysis, reports, work papers or similar documents to arrive at the conclusion that "lower natural gas prices would be the largest factor".

ANSWER:

As discussed in Manitoba Hydro's response to CAC/MH II-63(r), Manitoba Hydro reviews the individual consultant and consensus views of the key input data, and in addition also reviews numerous other sources of energy market information.

CAC/MH II-63

Reference: **CAC (MH) I - 19 (a)**

Preamble: **In IFF 11-2, in its application, MH mainly attributed a $1.1 billion decrease in forecast extraprovincial revenue to lower export prices. In turn the lower export prices were due to reduced value of capacity (from economic recession in the MISO market area, carbon pricing and natural gas prices. (see preamble in CAC (MH) I - 19 (a)).**

In that IR, CAC requested the dollar amounts of the total $1.1 billion decrease that is attributable to each of the three factors articulated by MH, itself.

In CAC (MH) I - 19 (a), CAC requested that MH provide the underlying assumptions in making the above noted statements. Those assumptions were not provided.

In its response to CAC (MH) I - 19 (a), MH indicated it does not have such a breakdown, but gets its overall input on export forecasts from five (5) export price consultants), none of which apparently provide a sensitivity analysis on the individual price factors.

Further, MH indicates the reports from the five (5) export price consultants are confidential.

MH states:

In preparing their forecasts, the consultants prepare their own internal estimates for a number of pricing factors.

According to MH, these pricing factors include, but are not limited to:

i. thermal fuel forecasts (coal and natural gas),
ii. future load growth forecasts,
iii. capital costs and required rates of return,
iv. generation retirements and additions,
v. power market rules,

vi. future legislative regulations including greenhouse gases, SOx, NOx, and mercury and renewable portfolio standard requirements, and

vii. characteristics of the existing generation fleet.

MH also states:

As a general comment, lower natural gas prices would be the largest factor in the decline of extraprovincial revenues, and natural gas prices were down fairly uniformly across the entire forecast horizon. [emphasis added]

v) If the response to (u) is to the affirmative, please provide a copy of each external analysis, report, work paper or similar document to arrive at the conclusion that "lower natural gas prices would be the largest factor"(redacted, if necessary for commercially sensitive information).

ANSWER:

Manitoba Hydro notes that CAC/MH II-63(u) refers to reliance on “internal analysis, reports, work papers or similar documents”. As noted in response to CAC/MH II-63(k), Manitoba Hydro’s export price forecast report is commercially sensitive information and is therefore confidential since public release could harm the Corporation in negotiations of contacts for export sales.

CAC/MH II-64

Reference: CAC (MH) I - 19 (a)

Preamble: MH states:

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

a) Provide the years in which carbon pricing was assumed to begin in IFF 11-2.

ANSWER:

The specific details of Manitoba Hydro's electricity price forecast, including details on specific pricing factors such as the assumptions regarding CO2 premiums, are commercially sensitive information and therefore are confidential since public release could harm the Corporation in negotiation of contracts for export sales.

For general information on the timing of CO2 premiums in IFF11-2 please see Manitoba Hydro's response to CAC/MH II-9(a).

CAC/MH II-64

Reference: CAC (MH) I - 19 (a)

Preamble: MH states:

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

b) Provide the year(s) in which carbon pricing was assumed to begin in each subsequent IFF.

ANSWER:

The IFF supporting this GRA application is IFF11-2 as provided in Appendix 4.2 of this application, there are no subsequent IFFs. Please also see Manitoba Hydro's response to CAC/MH II-64(a).

CAC/MH II-64

Reference: **CAC (MH) I - 19 (a)**

Preamble: **MH states:**

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

c) Confirm that carbon pricing policy tool, as described by MH above, is a policy tool created and determined by elected policy makers.

ANSWER:

It is confirmed that the reference to "carbon pricing" refers to mechanisms such as a carbon tax or cap and trade program that would be legislated by elected policy makers.

CAC/MH II-64

Reference: CAC (MH) I - 19 (a)

Preamble: MH states:

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

d) Confirm that the carbon pricing tool most significant to MH's export pricing is the carbon pricing tool that may or may not be established in the United States.

ANSWER:

It is confirmed that carbon pricing established in the United States is more significant to export revenues than a Canadian regional or national program.

It should be noted that this policy could be in the form of a regional program covering just the states in the MISO footprint (as was initially envisioned in the Midwest Greenhouse Gas Accord) or a national program enacted at the federal level.

CAC/MH II-64

Reference: CAC (MH) I - 19 (a)

Preamble: MH states:

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

e) Provide the rationale, including political insights and economic bases, for including the value of carbon pricing in the particular year MH did in (a) above.

ANSWER:

Manitoba Hydro's rationale for including some value of carbon within its export price forecast is based on the independent analysis provided it by the five price forecast consultants. Please see Manitoba Hydro's response to CAC/MH I-19(f) for more information on the timing of carbon pricing.

CAC/MH II-64

Reference: CAC (MH) I - 19 (a)

Preamble: MH states:

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

f) Provide names of each external report that MH relied (entirely or partially) on to including the value of carbon pricing in the year MH did in (a) above.

ANSWER:

Please see Manitoba Hydro's responses to CAC/MH II-63(k) and PUB/MH II-10(a).

CAC/MH II-64

Reference: **CAC (MH) I - 19 (a)**

Preamble: **MH states:**

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

g) Please provide the names of the authors of each external report that MH relied (entirely or partially) on to including the value of carbon pricing in the year MH did in (a) above.

ANSWER:

Please see Manitoba Hydro's responses to CAC/MH II-63(k) and PUB/MH II-10(a).

CAC/MH II-64

Reference: CAC (MH) I - 19 (a)

Preamble: MH states:

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

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h) Provide specific passages from each external report that MH relied (entirely or partially) on to including the value of carbon pricing in the year MH did in (a) above, together with non disclosure agreements, if necessary, to allow parties to review any confidential reports.

ANSWER:

As noted in the response to CAC/MH II 63(e), Manitoba Hydro's view of future export prices is commercially sensitive and confidential information. Manitoba Hydro is not prepared to release this information under non-disclosure agreement as requested.

CAC/MH II-64

Reference: **CAC (MH) I - 19 (a)**

Preamble: **MH states:**

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

i) Provide the rationale, including political insights and economic bases, for including the value of carbon pricing in the year MH did in (b) above.

ANSWER:

Please see Manitoba Hydro's responses to CAC/MH II-64(b) and (e).

CAC/MH II-64

Reference: CAC (MH) I - 19 (a)

Preamble: MH states:

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

j) Provide names of each external report that MH relied (entirely or partially) on to including the value of carbon pricing in the year MH did in (b) above.

ANSWER:

Please see Manitoba Hydro's responses to CAC/MH II-63(k) and PUB/MH II-10(a).

CAC/MH II-64

Reference: CAC (MH) I - 19 (a)

Preamble: MH states:

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

k) Provide specific passages from each external report that MH relied (entirely or partially) on to including the value of carbon pricing in the year MH did in (b) above, together non disclosure agreements, if necessary, to allow parties to review any confidential reports..

ANSWER:

As noted in the response to CAC-MH II 63(e), Manitoba Hydro's view of future export prices is commercially sensitive and confidential information. Manitoba Hydro is not prepared to release this information under non-disclosure agreement as requested.

CAC/MH II-64

Reference: **CAC (MH) I - 19 (a)**

Preamble: **MH states:**

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

l) Provide names of each internal report that MH relied (entirely or partially) on to including the value of carbon pricing in the year MH did in (a) above.

ANSWER:

There are no internal reports or publications that provide input into determining in which year carbon pricing was assumed to begin in IFF11-2.

CAC/MH II-64

Reference: CAC (MH) I - 19 (a)

Preamble: MH states:

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

m) Provide specific passages from each internal report that MH relied (entirely or partially) on to including the value of carbon pricing in the year MH did in (a) above.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-64(l).

CAC/MH II-64

Reference: CAC (MH) I - 19 (a)

Preamble: MH states:

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

n) Provide names of each internal report that MH relied (entirely or partially) on to including the value of carbon pricing in the year MH did in (b) above.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-64(l).

CAC/MH II-64

Reference: **CAC (MH) I - 19 (a)**

Preamble: **MH states:**

Delays in the implementation and the value of carbon pricing have minimal impacts in the first few years of IFF11-2 as carbon pricing was not assumed to begin for several years, but the impact of the delay in carbon pricing increases toward the end of the forecast horizon.

MH also states:

Carbon pricing is utilized as an environmental policy tool to meet regional greenhouse gas reduction objectives in support of climate change goals. Specifically, carbon pricing refers to an 'environmental tariff' that is applied to fuels or processes that emit carbon dioxide. Carbon pricing mechanisms range from a simple carbon tax (consumptive tax applied directly to downstream consumers) to a more complex cap and trade based program.

MH further states:

Manitoba Hydro has a consultant services agreement with each of the electricity export price forecast consultants, and the services agreement has confidentiality requirements that prevent Manitoba Hydro from publically [sic] releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public as this would impair their ability to sell similar reports to other clients.

o) Provide specific passages from each internal report that MH relied (entirely or partially) on to including the value of carbon pricing in the year MH did in (b) above.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-64(l).

CAC/MH II-65

Reference: **CAC (MH) I - 19 (a) & (d)**

Preamble: **MH states:**

The value of capacity is forecasted to return to a long-term equilibrium value over the next five years as the capacity supply and demand conditions in the market are forecasted to come back into equilibrium. [emphasis added]

MH also states:

In a market that is at equilibrium relative to peak demand and supply, the market price for capacity is typically equal to the carrying costs of a peaking gas generation unit. Under this assumption, the annual carrying costs of this peaking generation unit (interest, depreciation, and annually fixed operation and maintenance costs minus any operational profit) determine the annual value of a pure capacity product.

At the present time, there is a slight over supply of generation capacity in the MISO market footprint due to reduced load growth over the last several years. The current over supply of generation capacity in the MISO market footprint has resulted in a short term reduction in the value of generation capacity. This over supply is expected to disappear over the next few years as the load resumes growth and aging coal fired stations are retired due to poor economics and/ or environmental regulations.

a) With respect to the second set of paragraphs in the preamble above, please clarify whether MH intends to convey that it is expecting the market to be "at equilibrium relative to peak demand and supply"..."over the next few years".

ANSWER:

Based on the price forecast assumption used for IFF11-2, the value of capacity is forecasted to return to a long-term equilibrium value over the next five years.

CAC/MH II-65

Reference: CAC (MH) I - 19 (a) & (d)

Preamble: MH states:

The value of capacity is forecasted to return to a long-term equilibrium value over the next five years as the capacity supply and demand conditions in the market are forecasted to come back into equilibrium. [emphasis added]

MH also states:

In a market that is at equilibrium relative to peak demand and supply, the market price for capacity is typically equal to the carrying costs of a peaking gas generation unit. Under this assumption, the annual carrying costs of this peaking generation unit (interest, depreciation, and annually fixed operation and maintenance costs minus any operational profit) determine the annual value of a pure capacity product.

At the present time, there is a slight over supply of generation capacity in the MISO market footprint due to reduced load growth over the last several years. The current over supply of generation capacity in the MISO market footprint has resulted in a short term reduction in the value of generation capacity. This over supply is expected to disappear over the next few years as the load resumes growth and aging coal fired stations are retired due to poor economics and/ or environmental regulations.

b) Please clarify what future years MH expects the market to be "at equilibrium relative to peak demand and supply".

ANSWER:

As stated in the response to CAC/MH I-19(a) and the preamble to this question "The value of capacity is forecasted to return to a long-term equilibrium value over the next five years as the capacity supply and demand conditions in the market are forecasted to come back into equilibrium." Noting that each of the five price forecast consultants would have made their

own determination as each pricing factor, including the value of capacity, adding five years to the base forecast year of 2011 yields a time period around 2016, give or take a few years.

Any further and specific details of Manitoba Hydro's electricity price forecast, including details on specific pricing factors such as the assumptions the timing of peak demand and supply, are commercially sensitive information and therefore are confidential since public release could harm the Corporation in negotiation of contracts for export sales.

CAC/MH II-65

Reference: **CAC (MH) I - 19 (a) & (d)**

Preamble: **MH states:**

> **The value of capacity is forecasted to return to a long-term equilibrium value over the next five years as the capacity supply and demand conditions in the market are forecasted to come back into equilibrium. [emphasis added]**
>
> **MH also states:**
>
> **In a market that is at equilibrium relative to peak demand and supply, the market price for capacity is typically equal to the carrying costs of a peaking gas generation unit. Under this assumption, the annual carrying costs of this peaking generation unit (interest, depreciation, and annually fixed operation and maintenance costs minus any operational profit) determine the annual value of a pure capacity product.**
>
> **At the present time, there is a slight over supply of generation capacity in the MISO market footprint due to reduced load growth over the last several years. The current over supply of generation capacity in the MISO market footprint has resulted in a short term reduction in the value of generation capacity. This over supply is expected to disappear over the next few years as the load resumes growth and aging coal fired stations are retired due to poor economics and/ or environmental regulations.**

c) For the purposes of IFF11-2, what years did MH assume the market to be "at equilibrium relative to peak demand and supply".

ANSWER:

Manitoba Hydro notes that the context of the quote “at equilibrium relative to peak demand and supply” is specific to the value of generation capacity. Please see Manitoba Hydro’s response to CAC/MH II-65(b).

CAC/MH II-65

Reference: CAC (MH) I - 19 (a) & (d)

Preamble: MH states:

The value of capacity is forecasted to return to a long-term equilibrium value over the next five years as the capacity supply and demand conditions in the market are forecasted to come back into equilibrium. [emphasis added]

MH also states:

In a market that is at equilibrium relative to peak demand and supply, the market price for capacity is typically equal to the carrying costs of a peaking gas generation unit. Under this assumption, the annual carrying costs of this peaking generation unit (interest, depreciation, and annually fixed operation and maintenance costs minus any operational profit) determine the annual value of a pure capacity product.

At the present time, there is a slight over supply of generation capacity in the MISO market footprint due to reduced load growth over the last several years. The current over supply of generation capacity in the MISO market footprint has resulted in a short term reduction in the value of generation capacity. This over supply is expected to disappear over the next few years as the load resumes growth and aging coal fired stations are retired due to poor economics and/ or environmental regulations.

d) For the purposes of each subsequent IFF, what years did MH assume the market to be "at equilibrium relative to peak demand and supply".

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-64(b).

CAC/MH II-65

Reference: CAC (MH) I - 19 (a) & (d)

Preamble: MH states:

The value of capacity is forecasted to return to a long-term equilibrium value over the next five years as the capacity supply and demand conditions in the market are forecasted to come back into equilibrium. [emphasis added]

MH also states:

In a market that is at equilibrium relative to peak demand and supply, the market price for capacity is typically equal to the carrying costs of a peaking gas generation unit. Under this assumption, the annual carrying costs of this peaking generation unit (interest, depreciation, and annually fixed operation and maintenance costs minus any operational profit) determine the annual value of a pure capacity product.

At the present time, there is a slight over supply of generation capacity in the MISO market footprint due to reduced load growth over the last several years. The current over supply of generation capacity in the MISO market footprint has resulted in a short term reduction in the value of generation capacity. This over supply is expected to disappear over the next few years as the load resumes growth and aging coal fired stations are retired due to poor economics and/ or environmental regulations.

e) With respect to the 20 years preceding the current test periods, please indicate the periods that MH considers the market has been at equilibrium relative to peak demand and supply.

ANSWER:

Manitoba Hydro notes that the context of the quote "at equilibrium relative to peak demand and supply" is specific to the value of generation capacity. On an historical basis Manitoba Hydro would consider the capacity supply and demand to be in equilibrium if the capacity

revenue obtained by a generator provides a reasonable compensation for fixed costs of representative new generating unit.

The view of Manitoba Hydro is that during the 1992 (when the original capacity and energy sales contract associated with the Limestone Generating Station came into effect) to 2008 time period, the value of generation capacity reflected long term capacity supply and demand equilibrium. During the 2009 to 2012 period, the value of generation capacity was somewhat depressed from that reflected by long term capacity supply and demand equilibrium. The current outlook for the value of generation capacity is provided in Manitoba Hydro's response to CAC/MH II-65(b).

CAC/MH II-65

Reference: **CAC (MH) I - 19 (a) & (d)**

Preamble: **MH states:**

> **The value of capacity is forecasted to return to a long-term equilibrium value over the next five years as the capacity supply and demand conditions in the market are forecasted to come back into equilibrium. [emphasis added]**
>
> **MH also states:**
>
> **In a market that is at equilibrium relative to peak demand and supply, the market price for capacity is typically equal to the carrying costs of a peaking gas generation unit. Under this assumption, the annual carrying costs of this peaking generation unit (interest, depreciation, and annually fixed operation and maintenance costs minus any operational profit) determine the annual value of a pure capacity product.**
>
> **At the present time, there is a slight over supply of generation capacity in the MISO market footprint due to reduced load growth over the last several years. The current over supply of generation capacity in the MISO market footprint has resulted in a short term reduction in the value of generation capacity. This over supply is expected to disappear over the next few years as the load resumes growth and aging coal fired stations are retired due to poor economics and/ or environmental regulations.**

f) Please provide the data MH relies on to demonstrate whether the market has been at equilibrium relative to peak demand and supply.

ANSWER:

Please refer to Manitoba Hydro's response to CAC/MH II-65(g). In addition, Manitoba Hydro reviews the value of capacity contained within each of the five export forecasters work, noting when it reaches a constant or equilibrium value.

CAC/MH II-65

Reference: CAC (MH) I - 19 (a) & (d)

Preamble: MH states:

The value of capacity is forecasted to return to a long-term equilibrium value over the next five years as the capacity supply and demand conditions in the market are forecasted to come back into equilibrium. [emphasis added]

MH also states:

In a market that is at equilibrium relative to peak demand and supply, the market price for capacity is typically equal to the carrying costs of a peaking gas generation unit. Under this assumption, the annual carrying costs of this peaking generation unit (interest, depreciation, and annually fixed operation and maintenance costs minus any operational profit) determine the annual value of a pure capacity product.

At the present time, there is a slight over supply of generation capacity in the MISO market footprint due to reduced load growth over the last several years. The current over supply of generation capacity in the MISO market footprint has resulted in a short term reduction in the value of generation capacity. This over supply is expected to disappear over the next few years as the load resumes growth and aging coal fired stations are retired due to poor economics and/ or environmental regulations.

g) Provide names of each external report that MH relied (entirely or partially) on to provide the above comments regarding market equilibrium and that.

ANSWER:

As stated in Manitoba Hydro's response to CAC/MH II-63(s), Manitoba Hydro monitors numerous external energy information sources which are used to maintain a current understanding of energy markets and how they operate. Manitoba Hydro cannot point to any single external report that can be used to reach any particular conclusion. Please also see Manitoba Hydro's response PUB/MH II-10(a).

CAC/MH II-65

Reference: **CAC (MH) I - 19 (a) & (d)**

Preamble: **MH states:**

> **The value of capacity is forecasted to return to a long-term equilibrium value over the next five years as the capacity supply and demand conditions in the market are forecasted to come back into equilibrium. [emphasis added]**
>
> **MH also states:**
>
> **In a market that is at equilibrium relative to peak demand and supply, the market price for capacity is typically equal to the carrying costs of a peaking gas generation unit. Under this assumption, the annual carrying costs of this peaking generation unit (interest, depreciation, and annually fixed operation and maintenance costs minus any operational profit) determine the annual value of a pure capacity product.**
>
> **At the present time, there is a slight over supply of generation capacity in the MISO market footprint due to reduced load growth over the last several years. The current over supply of generation capacity in the MISO market footprint has resulted in a short term reduction in the value of generation capacity. This over supply is expected to disappear over the next few years as the load resumes growth and aging coal fired stations are retired due to poor economics and/ or environmental regulations.**

h) Provide specific passages from each external report that MH relied (entirely or partially) on to including the value of carbon pricing in the year MH did in (a) above.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-65(g).

CAC/MH II-66

Reference: **CAC (MH) I - 22 (a)**

Preamble: **MH originally filed its application with the assumption that it will be required to transition to IFRS effective April 1, 2013 and its IFF11-2 reflects the net income and retained earning impacts of that transition. (See CAC (MH) I - 22 (a)). Based on more recent information, MH has acknowledged that it does not need to transition to IFRS until its 2014/15 fiscal year and stated that it will take advantage of the further one year deferal of IFRS and reflect that deferral in IFF12.**

In its original application, MH indicated that it expected a reduction of retained earnings of $236 million in 2011/12 and $5 million in 2012/13 for a total of $241 million, over the two test years.

a) **Please confirm MH will revise its application to effect the transition to IFRS that is after the test years rather than the assumption it used at the time of its GRA filing.**

ANSWER:

Not confirmed. Please see Manitoba Hydro's response to PUB/MH II-37(a).

CAC/MH II-66

Reference: CAC (MH) I - 22 (a)

Preamble: MH originally filed its application with the assumption that it will be required to transition to IFRS effective April 1, 2013 and its IFF11-2 reflects the net income and retained earning impacts of that transition. (See CAC (MH) I - 22 (a)). Based on more recent information, MH has acknowledged that it does not need to transition to IFRS until its 2014/15 fiscal year and stated that it will take advantage of the further one year deferal of IFRS and reflect that deferral in IFF12.

In its original application, MH indicated that it expected a reduction of retained earnings of $236 million in 2011/12 and $5 million in 2012/13 for a total of $241 million, over the two test years.

b) If the confirmation sought in (a) is not provided, please explain why MH will continue to use assumptions that no longer have any grounding in accounting pronouncements and updates.

ANSWER:

Please see Manitoba Hydro's response to PUB/MH II-37(a).

CAC/MH II-66

Reference: CAC (MH) I - 22 (a)

Preamble: MH originally filed its application with the assumption that it will be required to transition to IFRS effective April 1, 2013 and its IFF11-2 reflects the net income and retained earning impacts of that transition. (See CAC (MH) I - 22 (a)). Based on more recent information, MH has acknowledged that it does not need to transition to IFRS until its 2014/15 fiscal year and stated that it will take advantage of the further one year deferal of IFRS and reflect that deferral in IFF12.

In its original application, MH indicated that it expected a reduction of retained earnings of $236 million in 2011/12 and $5 million in 2012/13 for a total of $241 million, over the two test years.

c) Please provide a summary of the impact on each of the current test years for each of the amounts MH indicated were previously impacted by the transition to IFRS, including net income and retained earnings.

ANSWER:

Please see the response to PUB/MH I-42 (schedules C & D) for the IFRS related impacts assuming a 2013/14 transition date to IFRS. In reference to schedules C & D, the following summarizes the impact on 2012/13 and 2013/14 of deferring the transition to IFRS to fiscal 2014/15:

- The results for the 2012/13 test year will not change from the additional one year deferral as all changes for this fiscal year were made in accordance with CGAAP.

- The IFRS accounting changes as presented for 2013/14 will now occur in fiscal 2014/15. Please see the response to PUB/MH II-18(a) for the expected impact on fiscal 2013/14 of delaying the IFRS adjustments to 2014/15.

CAC/MH II-66

Reference: CAC (MH) I - 22 (a)

Preamble: MH originally filed its application with the assumption that it will be required to transition to IFRS effective April 1, 2013 and its IFF11-2 reflects the net income and retained earning impacts of that transition. (See CAC (MH) I - 22 (a)). Based on more recent information, MH has acknowledged that it does not need to transition to IFRS until its 2014/15 fiscal year and stated that it will take advantage of the further one year deferal of IFRS and reflect that deferral in IFF12.

In its original application, MH indicated that it expected a reduction of retained earnings of $236 million in 2011/12 and $5 million in 2012/13 for a total of $241 million, over the two test years.

d) Please confirm the amounts in Table 3.1.1 on page 17 of 48 in Appendix 5.5 is no longer applicable.

ANSWER:

The impacts upon transition to IFRS as identified in Table 3.1.1 on page 17 of 48 in Appendix 5.5 continue to be applicable as IFRS does not currently contain a standard that permits rate-regulated accounting. The one year deferral of IFRS to 2014/15 will impact the amounts to be written-off against retained earnings that will occur in that year. This will be reflected in IFF12, which is expected to be presented to the Manitoba Hydro-Electric Board in November 2012.

CAC/MH II-66

Reference: CAC (MH) I - 22 (a)

Preamble: MH originally filed its application with the assumption that it will be required to transition to IFRS effective April 1, 2013 and its IFF11-2 reflects the net income and retained earning impacts of that transition. (See CAC (MH) I - 22 (a)). Based on more recent information, MH has acknowledged that it does not need to transition to IFRS until its 2014/15 fiscal year and stated that it will take advantage of the further one year deferal of IFRS and reflect that deferral in IFF12.

In its original application, MH indicated that it expected a reduction of retained earnings of $236 million in 2011/12 and $5 million in 2012/13 for a total of $241 million, over the two test years.

e) If the confirmation sought in (d) is not provided, please explain why MH will continue to use assumptions that no longer have any grounding in accounting pronouncements and updates.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-66(d).

CAC/MH II-66

Reference: CAC (MH) I - 22 (a)

Preamble: MH originally filed its application with the assumption that it will be required to transition to IFRS effective April 1, 2013 and its IFF11-2 reflects the net income and retained earning impacts of that transition. (See CAC (MH) I - 22 (a)). Based on more recent information, MH has acknowledged that it does not need to transition to IFRS until its 2014/15 fiscal year and stated that it will take advantage of the further one year deferal of IFRS and reflect that deferral in IFF12.

In its original application, MH indicated that it expected a reduction of retained earnings of $236 million in 2011/12 and $5 million in 2012/13 for a total of $241 million, over the two test years.

f) Please confirm the amounts in Table 3.1.2 on page 18 of 48 in Appendix 5.5 is no longer applicable.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-66(d).

CAC/MH II-66

Reference: CAC (MH) I - 22 (a)

Preamble: MH originally filed its application with the assumption that it will be required to transition to IFRS effective April 1, 2013 and its IFF11-2 reflects the net income and retained earning impacts of that transition. (See CAC (MH) I - 22 (a)). Based on more recent information, MH has acknowledged that it does not need to transition to IFRS until its 2014/15 fiscal year and stated that it will take advantage of the further one year deferal of IFRS and reflect that deferral in IFF12.

In its original application, MH indicated that it expected a reduction of retained earnings of $236 million in 2011/12 and $5 million in 2012/13 for a total of $241 million, over the two test years.

g) If the confirmation sought in (f) is not provided, please explain why MH will continue to use assumptions that no longer have any grounding in accounting pronouncements and updates.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-66(d).

CAC/MH II-66

Reference: CAC (MH) I - 22 (a)

Preamble: MH originally filed its application with the assumption that it will be required to transition to IFRS effective April 1, 2013 and its IFF11-2 reflects the net income and retained earning impacts of that transition. (See CAC (MH) I - 22 (a)). Based on more recent information, MH has acknowledged that it does not need to transition to IFRS until its 2014/15 fiscal year and stated that it will take advantage of the further one year deferal of IFRS and reflect that deferral in IFF12.

In its original application, MH indicated that it expected a reduction of retained earnings of $236 million in 2011/12 and $5 million in 2012/13 for a total of $241 million, over the two test years.

h) Based on the delayed transition requirements for IFRS, please provide a revised Table 1 in Tab 2.

ANSWER:

Please see the following table for the requested information. Please note that the 2013/14 information is contained in the response to PUB/MH II-18(a).

Net Income - Electricity Operations

(in millions of $)	Actual 2010	2011	2012	Forecast 2013	2014
Revenue					
General Consumers Revenue					
- at approved rates	$ 1,145	$ 1,200	$ 1,214	$ 1,281	$ 1,308
- 1% rate deferral			(23)		
Extraprovincial Revenue	427	398	363	341	363
Other Revenue	6	6	6	16	16
Total Revenue	1,578	1,605	1,560	1,638	1,687
Expenses					
Operating, Maintenance and Administrative	378	397	403	447	460
Finance Expense	373	388	385	440	449
Depreciation and Amortization	358	365	353	401	415
Water Rentals and Assessments	121	120	119	106	112
Fuel and Power Purchased	104	106	146	182	158
Capital and Other Taxes	76	81	83	87	94
Corporate Allocation	8	9	9	9	8
Total Expenses	1,418	1,466	1,498	1,672	1,697
Non-controlling Interest	-	-	-	(1)	(1)
Net Income (loss) before proposed rate increases	$ 160	$ 139	$ 62	$ (35)	$ (11)
Proposed rate increases	n/a	n/a	-	20	80
Rate rollback reinstatement				35	12
Net Income after proposed rate increases & rate rollback reinstatement	$ 160	$ 139	$ 62	$ 20	$ 81

Retained Earnings and Financial Ratios (after proposed rate increases & rate rollback reinstatement - revised for IFRS deferral)

Retained Earnings (electric operations)	$ 2,190	$ 2,328	$ 2,390	2,411	2,491
Debt to Equity Ratio (electric operations)	0.72	0.72	0.74	76:24	78:22
Interest Coverage Ratio (electric operations)	1.33	1.26	1.11	1.03	1.13
Capital Coverage Ratio (electric operations)	1.28	1.22	1.10	1.07	1.20

Retained Earnings and Financial Ratios (after proposed rate increases & rate rollback reinstatement - as originally filed)

Retained Earnings (electric operations)	$ 2,190	$ 2,328	$ 2,390	2,411	2,203
Debt to Equity Ratio (electric operations)	0.72	0.72	0.74	76:24	81:19
Interest Coverage Ratio (electric operations)	1.33	1.26	1.11	1.03	1.11
Capital Coverage Ratio (electric operations)	1.28	1.22	1.10	1.07	1.13

CAC/MH II-66

Reference: CAC (MH) I - 22 (a)

Preamble: MH originally filed its application with the assumption that it will be required to transition to IFRS effective April 1, 2013 and its IFF11-2 reflects the net income and retained earning impacts of that transition. (See CAC (MH) I - 22 (a)). Based on more recent information, MH has acknowledged that it does not need to transition to IFRS until its 2014/15 fiscal year and stated that it will take advantage of the further one year deferal of IFRS and reflect that deferral in IFF12.

In its original application, MH indicated that it expected a reduction of retained earnings of $236 million in 2011/12 and $5 million in 2012/13 for a total of $241 million, over the two test years.

i) Please provide a table showing the debt equity ratios for the test years, as originally filed, together with the debt equity ratios, after revising the application for the delayed transition requirements for IFRS.

ANSWER:

Please see Manitoba Hydro's response to CAC/MH II-66(h).

CAC/MH II-66

Reference: CAC (MH) I - 22 (a)

Preamble: MH originally filed its application with the assumption that it will be required to transition to IFRS effective April 1, 2013 and its IFF11-2 reflects the net income and retained earning impacts of that transition. (See CAC (MH) I - 22 (a)). Based on more recent information, MH has acknowledged that it does not need to transition to IFRS until its 2014/15 fiscal year and stated that it will take advantage of the further one year deferal of IFRS and reflect that deferral in IFF12.

In its original application, MH indicated that it expected a reduction of retained earnings of $236 million in 2011/12 and $5 million in 2012/13 for a total of $241 million, over the two test years.

j) Based on the delayed transition requirements for IFRS, please provide a revised tables and schedules currently on the record in the GRA filing and IR responses to show revised retained earnings and revised debt equity ratios.

ANSWER:

Please see Manitoba Hydro's responses to PUB/MH II-37(a) and CAC/MH II-66(h).

CAC/MH II-67

Reference: Appendix 20,.pdf page 179 of 234, S&P Report, September 14, 2012

Preamble: S&P states:

> **Preliminary results for fiscal 2013 indicate that depressed export prices and lower net income will put pressure on the utility's interest coverage ratios.**

a) Please provide MH's understanding how S&P obtained the information that "Preliminary results for fiscal 2013 indicate that depressed export prices and lower net income". Was such information conveyed by MH to S&P?

b) Please provide a summary of all of MH's representations to credit rating agencies (including S&P that "Preliminary results for fiscal 2013 indicate that depressed export prices and lower net income)..."

c) Please provide copies of all communications and briefing documents regarding all of MH's representations to credit rating agencies (including S&P) that "Preliminary results for fiscal 2013 indicate that depressed export prices and lower net income...)

ANSWER:

Response to parts (a) to (c):

It is Manitoba Hydro's understanding that credit rating agencies such as S&P take the initiative to independently access company-specific information from sources such as Manitoba Hydro's publically available financial reports, forecasts, and regulatory proceedings. The S&P report was dated September 14, 2012 and was issued after the public release of the Manitoba Hydro-Electric Board's quarterly report for the three months ended June 30, 2012. As stated in the Financial Overview of Manitoba Hydro's first quarter report:

> "Manitoba Hydro incurred a net loss on consolidated electricity and natural gas operations of $24 million for the first three months of the 2012-13 fiscal year compared to net income of $6 million for the same period last year. …

Manitoba Hydro continues to experience low export market prices as a result of low natural gas prices and lower demand for electricity due to economic conditions in the U.S. Low export prices are projected to result in continuing downward pressure on net income in 2012-13."

CAC/MH II-68

Reference: Appendix 20, pdf page 29 of 234, S&P Report, November 10, 2010

Preamble: DBRS states:

> **The lower export prices are directly tied to lower demand due to poor economic conditions and the current low natural gas prices.**

a) Please provide MH's understanding how DBRS obtained the information that "The lower export prices are directly tied to lower demand due to poor economic conditions and the current low natural gas prices ". Was such information conveyed by MH to DBRS? If not, is it MH's understanding that DBRS came to this conclusion independently?

b) Please provide a summary of all of MH's representations to credit rating agencies (including DBRS) that "The lower export prices are directly tied to lower demand due to poor economic conditions and the current low natural gas prices ".

c) Please provide copies of all communications and briefing documents regarding all of MH's representations to credit rating agencies (including DBRS) that "The lower export prices are directly tied to lower demand due to poor economic conditions and the current low natural gas prices ".

d) Please provide a summary of all of MH's representations (during the past 24 months) to credit agencies regarding MH's best expectations of future economic conditions in the US.

e) Please provide copies of all communications and briefing documents regarding all of MH's representations (during the past 24 months) to credit agencies regarding MH's best expectations of future economic conditions in the US.

f) Please provide a summary of all of MH's representations (during the past 24 months) to credit agencies regarding MH's best expectations of natural gas prices.

g) Please provide copies of all communications and briefing documents regarding all of MH's representations (during the past 24 months) to credit agencies regarding MH's best expectations of natural gas prices.

ANSWER:

Response to parts (a) to (g):

Due to the analytics performed by the credit rating agencies on a large number of entities across a broad array of industry and governmental sectors, the credit rating agencies have accumulated a significant amount of base information regarding industry trends, energy prices and U.S. economic conditions.

Complementing this broad industry information, it is Manitoba Hydro's understanding that the credit rating agencies take the initiative to independently access company-specific information from sources such as Manitoba Hydro's publically available financial reports, forecasts, and regulatory proceedings. This would include information contained in the Annual Reports for the Manitoba Hydro-Electric Board. For example, at the November 10, 2010 publication date for the cited credit rating report, Manitoba Hydro assumes that DBRS would have had access to the Manitoba Hydro-Electric Board 59th Annual Report for the year ended March 31, 2010 wherein it stated on page 50 that:

> "Low export prices reflect reduced power demand due to poor economic conditions and the current low price for competing energy sources."

Any verbal discussion that may have occurred regarding expectations of future economic conditions in the U.S. and natural gas prices would have been on a summary basis and consistent with publically available information.