

CAC/MSOS/MH II-1

Subject: Reasons for Application

**Reference: CAC/MSOS/MH I-3 a) & PUB/MH I-1 a)
2008 GRA COALITION/MH II- 18 a)**

- a) **Please reconcile the actual Net Income figures for Electric Operations reported for 2005 through 2007 as between the two GRAs.**

ANSWER:

Please see the following table for the requested information.

	2005 Actuals (2008 GRA)	2005 Actuals (2010/11 GRA)	Difference	Reason
Revenue				
General Consumers	939.0	939.0	-	
Extraprovincial	553.7	553.7	-	
Other	15.5	4.3	(11.2)	Removal of Subsidiary revenue
Total Revenue	1,508.2	1,496.9	(11.2)	
Operating, Maintenance and Administrative	307.8	298.6	(9.2)	Removal of Subsidiary OM&A
Finance Expense	467.9	467.9	-	
Depreciation and Amortization	289.6	289.3	(0.3)	Removal of Subsidiary Depreciation
Water Rentals and Assessments	111.5	111.5	-	
Fuel and Power Purchased	135.5	135.5	-	
Capital and Other Taxes	51.5	51.0	(0.5)	Removal of Subsidiary Taxes
Corporate Allocation	6.5	6.5	-	
Total Expenses	1,370.2	1,360.2	(10.0)	
Net Income	138.0	136.7	(1.3)	

	2006 Actuals (2008 GRA)	2006 Actuals (2010/11 GRA)	Difference	Reason
Revenue				
General Consumers	983.7	983.7	-	
Extraprovincial	826.8	826.8	-	
Other	17.8	5.5	(12.3)	Removal of Subsidiary revenue
Total Revenue	1,828.2	1,815.9	(12.3)	
Operating, Maintenance and Administrative	322.0	310.7	(11.4)	Removal of Subsidiary OM&A
Finance Expense	468.4	468.4	-	
Depreciation and Amortization	301.5	301.2	(0.3)	Removal of Subsidiary Depreciation
Water Rentals and Assessments	131.0	131.0	-	
Fuel and Power Purchased	124.8	124.8	-	
Capital and Other Taxes	53.7	53.4	(0.3)	Removal of Subsidiary Taxes
Corporate Allocation	6.5	6.5	-	
Total Expenses	1,407.9	1,396.0	(11.9)	
Net Income	420.3	419.9	(0.4)	

	2007 Actuals (2008 GRA)	2007 Actuals (2010/11 GRA)	Difference	Reason
Revenue				
General Consumers	1,023.6	1,023.6	-	
Extraprovincial	592.2	592.2	-	
Other	16.3	5.5	(10.8)	Removal of Subsidiary revenue
Total Revenue	1,632.2	1,621.3	(10.8)	
Operating, Maintenance and Administrative	332.1	323.5	(8.6)	Removal of Subsidiary OM&A
Finance Expense	467.1	467.1	-	
Depreciation and Amortization	311.2	310.9	(0.3)	Removal of Subsidiary Depreciation
Water Rentals and Assessments	112.5	112.5	-	
Fuel and Power Purchased	226.2	226.2	-	
Capital and Other Taxes	55.1	54.9	(0.3)	Removal of Subsidiary Taxes
Corporate Allocation	6.7	6.7	-	
Total Expenses	1,510.9	1,501.7	(9.2)	
Net Income	121.3	119.6	(1.7)	

CAC/MSOS/MH II-1

Subject: Reasons for Application

**Reference: CAC/MSOS/MH I-3 a) & PUB/MH I-1 a)
2008 GRA COALITION/MH II- 18 a)**

b) Please reconcile the actual Other Revenue figures for Electric Operations reported for 2005-2007 as between the two GRAs.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-1(a).

CAC/MSOS/MH II-1

Subject: Reasons for Application

**Reference: CAC/MSOS/MH I-3 a) & PUB/MH I-1 a)
2008 GRA COALITION/MH II- 18 a)**

- c) **With respect to PUB/MH I-1 a), why was the D/E ratio only restated for 2008 and 2009?**

ANSWER:

The debt equity ratio was restated in 2008 and 2009 to include accumulated other comprehensive income (AOCI) as a component of equity in the calculation. Fiscal year 2008 was the first fiscal year that Manitoba Hydro's financial statements included AOCI, so there were no restatements required for prior years.

CAC/MSOS/MH II-2

Subject: Reasons for Application

Reference: CAC/MSOS/MH I-4 a)

- a) **The primary difference appears to be that the Electricity Segment in the Annual Report includes subsidiaries. Were the depreciation and financial expenses associated with the subsidiaries in 2008 and 2009 not included in the Annual Report values or were the values so small that the difference effectively rounded to zero?**

ANSWER:

Depreciation and finance expense were included in the Electricity Segment in the Annual Report but the values were small and the difference rounded to zero. The response to CAC/MSOS/MH I-14(b) demonstrates this.

CAC/MSOS/MH II-3

Subject: Reasons for Application
Reference: CAC/MSOS/MH I-5 a)
CAC/MSOS/MH I-13 j)
2008 GRA, Appendix 22, page 38

- a) **The IFF07-1 Export Revenues reported in the response to 5 a) for 2008 and 2009 do not match those filed in the 2008 GRA (e.g. for 2008 the GRA value was \$582 M vs. the \$525 M value referenced in the current response). Please reconcile and correct the response as required.**

ANSWER:

Please see Manitoba Hydro's revised response to CAC/MSOS/MH I-5(a).

CAC/MSOS/MH II-3

Subject: Reasons for Application

**Reference: CAC/MSOS/MH I-5 a)
CAC/MSOS/MH I-13 j)
2008 GRA, Appendix 22, page 38**

- b) The actual values for 2008 and 2009 Export GWh reported in 5 a) do not match those reported in 13 i). Please reconcile and correct the responses as required.**

ANSWER:

Please see Manitoba Hydro's revised response to CAC/MSOS/MH I-5(a).

CAC/MSOS/MH II-3

Subject: Reasons for Application
Reference: CAC/MSOS/MH I-5 a)
CAC/MSOS/MH I-13 j)
2008 GRA, Appendix 22, page 38

- c) **The actual values for 2008 and 2009 Export Revenues in 5 a) do not match those reported in Tab 4, Schedule 4.1.0 of the current Application. Please reconcile and correct the response as required.**

ANSWER:

Please see Manitoba Hydro's revised response to CAC/MSOS/MH I-5(a).

CAC/MSOS/MH II-3

Subject: Reasons for Application
Reference: CAC/MSOS/MH I-5 a)
CAC/MSOS/MH I-13 j)
2008 GRA, Appendix 22, page 38

- d) **The actual values for 2008 and 2009 Net Export Revenues in 5 a) do not match those reported in CAC/MSOS/MH I-6 a). Please reconcile and correct the responses as required.**

ANSWER:

Please see Manitoba Hydro's revised response to CAC/MSOS/MH I-5(a).

Net Export Revenues as calculated in CAC/MSOS/MH I-5(a) represents Export Revenue less Power Purchases and Transmission costs as indicated below. This calculation excluded fuel costs or water rentals.

CAC/MSOS/MH I-5(a)

	2007/08	2008/09
Export Revenue	624,971	622,646
LESS:		
Power Purchases	95,043	133,208
Transmission Charges	21,100	24,385
Net Export Revenue	508,828	465,053

CAC/MSOS/MH I-6(a) requested a calculation of extraprovincial revenues (net of fuel and power purchased and water rentals) using numbers from the Annual Report as follows. Note Extraprovincial Revenues have been rounded to the nearest \$M as in the annual report.

CAC/MSOS/MH I-6(a)

	2007/08	2008/09
Extraprovincial Revenue (includes Transmission Credits)	625,000	623,000
LESS:		
Fuel and Power Purchased (includes Power Purchased, Fuel Purchased, and Transmission charges)	134,000	176,000
Water Rentals	125,000	124,000
	<u>366,000</u>	<u>323,000</u>

CAC/MSOS/MH II-3

Subject: Reasons for Application
Reference: CAC/MSOS/MH I-5 a)
CAC/MSOS/MH I-13 j)
2008 GRA, Appendix 22, page 38

- e) **With respect to 5 a), please confirm that the difference between Sales (Exports & Domestic) and Available (Hydraulic/Thermal/Purchases) is all due to losses. If not, please explain.**

ANSWER:

Please see Manitoba Hydro's revised response to CAC/MSOS/MH I-5(a).

The imbalance between supply and demand in the response to CAC/MSOS/MH I-5(a) can be attributed to transmission losses and, to a lesser extent, inadvertent energy.

CAC/MSOS/MH II-4

Subject: Reasons for Application

Reference: CAC/MSOS/MH I-5 b) & d) and 13 f)

- a) **The original 5 b) requested a comparison of actual market conditions with those forecast in IFF07-1 for 2008 and 2009. The response provided in 13 f) does not include such a comparison. Please respond to the original question as posed and contrast the actual 2008 and 2009 market experience with that expected when IFF07 was prepared.**

ANSWER:

A table comparing the actual and forecasted (IFF07) weighted average prices associated with short term and spot market sales for the 2007/08 market year follows. The positive difference can be attributed to entering into short term contracts, realizing higher prices than what were forecast.

	2007/08		Difference
	Actual	IFF07	
Opportunity Sales Export Price (CDN\$/ GWh)	47.05	43.78	3.27

A table comparing the actual and forecasted (IFF07) weighted average prices associated with short term and spot market sales for the 2008/09 market year follows. The negative difference can largely be attributed to falling spot market prices in the U.S. due to the economic recession that was not predicted when IFF07-1 was prepared.

	2008/09		Difference
	Actual	IFF07	
Opportunity Sales Export Price (CDN\$/ GWh)	48.17	55.74	-7.57

CAC/MSOS/MH II-4

Subject: Reasons for Application

Reference: CAC/MSOS/MH I-5 b) & d) and 13 f)

- b) The original 5 d) requested a comparison of actual market conditions with those forecast in IFF08-1 for 2009. The response provided in 13 f) does not include such a comparison. Please respond to the original question as posed and contrast the actual 2009 market experience with that expected when IFF08 was prepared.

ANSWER:

A table comparing the actual and forecasted (IFF08) weighted average prices associated with short term and spot market sales for the 2008/09 market year follows. The negative difference can largely be attributed to falling spot market prices in the U.S. due to the economic recession, offset somewhat by an increase in the volume of short term contract sales negotiated before the recession.

	2008/09		Difference
	Actual	IFF08	
Opportunity Sales Export Price (CDN\$/ GWh)	48.17	49.21	-1.04

CAC/MSOS/MH II-5

Subject: Reasons for Application

**Reference: CAC/MSOS/MH I-5 c)
Appendix 21, page 32**

- a) **The IFF08-1 Export Revenues reported in the response to 5 c) for 2009 do not match the value included in IFF08-1. Please reconcile and correct the response as required.**

ANSWER:

Please see Manitoba Hydro's revised response to CAC/MSOS/MH I-5(c).

CAC/MSOS/MH II-6

Subject: Reasons for Application

Reference: CAC/MSOS/MH I-6 c) – e)

- a) **Please explain the \$6 M increase in OM&A in 2012 as between IFF08-1 and IFF09-1 that is attributable to Wuskwatim.**

ANSWER:

CAC/MSOS/MH I-6(e) incorrectly showed the \$6.0 million for Wuskwatim as an increase between IFF08-1 and IFF09-1 for the 2011/12 fiscal year. The \$6.0 had been included in IFF08-1 in 2010/11 and was deferred in IFF09-1 to 2011/12.

The \$6.0 million reflects a preliminary estimate of the costs to operate and maintain the Wuskwatim Generating Station following in-service.

Please see the revised table:

	(\$ millions)	
OM&A Per IFF08		379
CICA & IFRS Accounting Changes		
Reduction in Stores Overhead Capitalized	5	
Reduction in Capitalization of Intangible Assets	4	
Reduced A&G Overhead Capitalized	2	
Provision for IFRS	15	
		26
Accounting Classification Adjustments & Transfers		
Transfer of Gillam & Frontier School Division Payments	-5	
Transfer of Waterways Management to Operating	5	
Transfer of Wire & Telecom Services to MHI	3	
		3
Business Changes		
Other Operating Changes, Net of Capitalization & Cost Savings	-5	
		-5
OM&A Per IFF09		<u><u>403</u></u>

CAC/MSOS/MH II-6

Subject: Reasons for Application

Reference: CAC/MSOS/MH I-6 c) – e)

- b) **Is any additional information now available that would permit Manitoba Hydro to refine the \$15 M annual provision has made for IFRS starting in 2011/12? If yes, please provide.**

ANSWER:

At the current time, there is no additional information that would enable Manitoba Hydro to refine the \$15 million annual provision made in IFF09-1, especially in the absence of a determination by the IASB on the continuance of rate regulated accounting.

CAC/MSOS/MH II-6

Subject: Reasons for Application

Reference: CAC/MSOS/MH I-6 c) – e)

- c) **In terms of the forecasts for 2009/10 and 2010/11, what are the key changes in operating conditions as between IFF08 and IFF09 that led to increases of \$5 M and \$6 M respectively?**

ANSWER:

Key changes in operating conditions include impacts of recent wage settlements, trainee requirements to address current and expected attrition levels, environmental and regulatory requirements including costs associated with NERC compliance and maintenance requirements at northern generating and convertor stations due to aging infrastructure. The additional costs associated with these initiatives are partially offset by various cost saving measures.

CAC/MSOS/MH II-6

Subject: Reasons for Application

Reference: CAC/MSOS/MH I-6 c) – e)

- d) **In term of the forecast for 2011/12, what are the key changes in operating conditions that led to a \$11 M reduction in OM&A as between IFF08 and IFF09?**

ANSWER:

The forecast for fiscal year 2011/12 reflects the expected impact of numerous cost savings measures and productivity improvements including the following:

- Centralization of facilities including reductions in facility lease costs, property and business taxes as well as significant energy savings in the new building;
- Leveraging technology including the implementation of Mobile Workforce Management and Enterprise Asset Management systems;
- Expansion of customer self service initiatives;
- Selective reduction of staff positions through attrition;
- Rationalization of vehicle fleet and equipment;
- Restrictions on all out-of-province travel;
- Reductions to the number of summer student hires;
- Extensions to lives of computers and other computing equipment;
- Reductions to memberships in external associations and organizations;
- Reductions to sponsorships, donations and grants; and
- Reductions to staffing at selective generating stations during peak hours.

CAC/MSOS/MH II-6

Subject: Reasons for Application

Reference: CAC/MSOS/MH I-6 c) – e)

- e) **Please confirm that the OM&A values reported in the Electric IFF08 for Electric Operations excluded OM&A for subsidiaries; whereas IFF07 included such OM&A. If this is not the case please provide a schedule that sets out the subsidiary OM&A included in IFF08's Electric Operations projection (for 2009-2019 inclusive).**

ANSWER:

Confirmed.

CAC/MSOS/MH II-7

Subject: Corporate Overview
Reference: CAC/MSOS/MH I-9 c) & d)
PUB/MH I-8 a)

- a) **The CSPs referenced make specific mention of “business unit performance measures”. As requested in the original question, please describe the progress to date in developing performance measures for individual business units as opposed to the corporate performance measures.**

ANSWER:

Within the context of the Corporate Strategic Plan (CSP), performance measures have been developed for the corporation as a whole.

For Business Units with a corporate focus (Corporate Relations, Corporate Planning and Strategic Review, and Finance and Administration), please refer to CSP measures previously provided in Appendix 3.1 (2009-10 CSP) to this GRA filing.

In addition to these corporate measures, performance measures tailored to individual business units have been developed for the following business units:

- Power Supply
- Transmission
- Customer Service and Distribution
- Customer Care and Marketing

Refinement of measures is a dynamic ongoing process, with measures being added, deleted or modified in response to changes in the CSP and business and operating environment.

CAC/MSOS/MH II-7

Subject: Corporate Overview
Reference: CAC/MSOS/MH I-9 c) & d)
PUB/MH I-8 a)

- b) **If they exist, please provide the 2008/09 performance measures developed at the business unit level, the related targets established for 2008/09 and the actual results for 2008/09.**

ANSWER:

The performance measures developed at the Business Unit level for 2008/09 reflecting the BU structure at that time and related targets and results are as follows: (see attached tables)

Power Supply
Transmission & Distribution
Customer Service & Marketing

Note: This performance information was developed by the respective Business Unit for internal reporting purposes.

Power Supply 2008/09 Business Unit Performance Measures

GOAL	MEASURE	TARGET	PERFORMANCE
Continuously improve safety, health and wellness in the work environment.	Accident Severity rate	12.78 + 5%	23.05
	Number of days lost	Tracking only	353
	Accident frequency rate	.91% + 5%	1.50
	Number of accidents	Tracking only	23
	Number of high risk incidents and accidents	0	0
	Investigations completed	100% Tracking only	
	SMS site visits by leaders (%)	100% (eight of eight divisions meet their target)	
	Number of sick days per employee per year for individual usage >0 and <6	Tracking only	1.31
	Number of sick days per employee per year for individual usage ≥6 and <25	Tracking only	3.05
	Number of sick days per employee per year for individual usage ≥25	Tracking only	2.21
Provide a reliable and dependable supply of power to meet all customers' requirements	Weighted hydraulic plant availability factor	>96%	96.7%
	Brandon Unit 5 availability factor	>82.5%	86.1%
	Gas Turbine (GT) availability factor	>88.7%	78.3%
	HVDC availability factor	Bipole I: 95.8% Bipole II: 96.1%	96.69% 96.35%
	FOR Hydraulic	<1%	0.9%
	FOR Brandon Unit 5	<7%	4.3%
	Starting reliability for GT and Selkirk	>95%	91.3%
	FOR HVDC	>1%	.80%
	Compliance to approved NERC standards	100% Tracking only	
	Number of emergency calls >501 MW due to Power Supply	Tracking only	

GOAL	MEASURE	TARGET	PERFORMANCE
Have harmonious relations with Aboriginal peoples	Number of Aboriginal employees in PS (% of total)	PS Overall 18.5% by 2009	20.7%
	Number of Aboriginal employees in PS (% of total)	PS North 38.5 by 2009	40.6%
	Number of Aboriginal employees in PS (% of total)	PS Management 2-4% by 2012	3.8%
	Number of Aboriginal employees in PS (% of total)	PS Professional 3-5 % by 2009	4.2%
	Value of goods/services purchased from aboriginal businesses and communities (total excludes major equipment)	Tracking only 3yr cumulative average All of PS: \$5M Including partner negotiations: \$10M	2008/09 Q4 - \$6.06M 3 year average PS - \$55.9M Include partner negotiations - 3 year average PS \$72.4M
Manage budget performance and financial risk to improve corporate financial strength	Cost of operations	97 to 103% (of approved target)	108.4 %
	Capital expenditures	95 to 102% (of approved target)	73.2%
	Capital expenditures - Major Generation	Tracking only	85.6%
Optimize operations, exports and development to minimize net cost to Manitoba Customers	Lost revenue due to outages (\$M) (forced and planned)	Tracking only	\$52.4M
	Net revenue from export market	>95% Expected cumulative Tracking only	-

GOAL	MEASURE	TARGET	PERFORMANCE
Have highly skilled, effective, innovative employees and a diverse workforce that reflects the demographics of Manitoba.	Non-northern staff recruited to northern (non-entry level) jobs.	Tracking only	
	Designated group members in MH workforce.	Women 16-18%	16.9%
		Women in Mgmt 13 - 16%	13.2%
		Women Professionals 19 - 21%	20.2%
		Persons with Disabilities 4 - 6%	5.3%
		Visible Minorities 4 - 6%	5.9%
	Personal Development Plans completed (including employees not interested)	>90%	74%
Non-entry jobs filled by external applicants	Tracking only (%)	12.6%	
Continue to make Power Supply a great place to work	Employee Survey 'Workplace Atmosphere Index'	Target to be determined when survey is reinstated	

GOAL	MEASURE	TARGET	PERFORMANCE
Be proactive in enhancing and protecting the environment and contribute to Manitoba Hydro being the leading utility in promoting sustainable energy supply.	Greenhouse gas emissions	Tracking only <0.461 Mt for electric operations	0.1718 Mt
	Greenhouse gas emissions avoided due to net exports	Tracking only 4.52 Mt of CO2e	8.86 Mt
	Energy generated from renewable resources	>98.5%	Not reported
	Receipt of notice, warning, order, injunction, or prosecution	Tracking only	0
	Receipt of notice, warning, order, injunction, or prosecution - Wuskwatim	Tracking only	0
	Conviction of a regulatory offence	0	0
	Priority releases - petroleum threshold (>500L)	Tracking only	1
	Priority releases - petroleum to water	0	1
	Root cause identified for all releases	100%	100%
	Mercury limits to the atmosphere	20 Kg max	7.16 kg
	# of Wastewater Non-Compliances Fecal Coliform Total Coliform BOD	Tracking only	196
	# of Drinking Water Non-compliances (E coli exceeding 1 CFU/100ml Total Coliform exceeding 1 CFU/100 ml)	Tracking only	13
	Be an outstanding member of our communities and be recognized as such		
Support agencies responsible for business development in Manitoba	Industrial Offset Policy Implementation	100%	100%
Be in a position to supply alternative energy options where economic or directed	Alternative capacity installed (Manitoba Hydro or NUG owned)	400 MW by 2011	128 MW

Transmission & Distribution 2008/09 Business Unit Performance Measures

GOAL	MEASURE	TARGET	PERFORMANCE
Foster a work environment where employees are safe, valued and engaged	1.1 Accident Severity Rate (Days lost per 200,000 hours worked)	20	33.5
	1.2 12 month average Sick Leave per Employee	Not Established	6.49
	1.3 % of Employees with a Development Plan	80%	43%
	1.4. Equitable Employment		
	1.4.1. Aboriginal Ancestry:		
	1.4.1.1. Percentage of Employees Who Are of Aboriginal Ancestry (Overall)	13.3%	12.3%
	1.4.1.2. Percentage of Employees Who Are of Aboriginal Ancestry (Northern)	35.8%	34.0%
	1.4.1.3. Percentage of Employees Who Are of Aboriginal Ancestry (Management)	1.8%	3.2%
	1.4.1.4. Percentage of Employees Who Are of Aboriginal Ancestry (Professional)	3.6%	2.8%
	1.4.2. Percentage of Employees Who Are Women	11.6%	11.4%
	1.4.3. Percentage of Management Employees Who Are Women	1.8%	1.6%
	1.4.4. Percentage of Professional Employees Who Are Women	18.5%	16.7%
	1.4.5. Percentage of Employees Who Are Visible Minorities	4.1%	4.6%
	1.4.6. Percentage of Employees Who Are Disabled	5.7%	5.1%
	1.5. High Risk Accidents	0	0
1.6. Motor Vehicle Accidents	60	61	
Be respectful of the public and the environment	2.1. # of Reportable Spills (Uncontained)	<6	7
Lay the foundation to meet the energy delivery requirements of the future	No measures developed.		

GOAL	MEASURE	TARGET	PERFORMANCE
Maintain and operate the system efficiently	4.1. OM&A Cost per Customer - Gas	\$26	(projected)\$27
	4.2. OM&A Cost per Customer - Electric	\$212	Not Available
	4.3. Transmission OM&A Cost/Circuit Km	Not Established	\$3,568
	4.4. Distribution OM&A Cost/MWhr	Not Established	\$3.162
Deliver reliable, quality energy	5.1. # of MH planned System Outages that trigger a reduction in transfer capability in US, ON or SK	≤ 1 per line per year	Not Available
	5.2. % of time that the maximum transfer capability on the US interface is maintained	Export - 80-95% Import - 80-95%	Not Available
	5.3. Number of Delivery Point Interruptions (TSAIDI TSAIFI)	Not Established	Not Available
	5.4. Number of non-compliances for NERC Standards	Not Established	Not Available
	5.5. Power Quality Transmission - SARFI	Not Established	Not Available

Customer Service & Marketing 2008/09 Business Unit Performance Measures

GOAL	MEASURE	TARGET	PERFORMANCE
Continuously improve safety in the work environment	Accident Frequency Rate	1.63	Not reported due to reorganization
	Accident Severity Rate	15	Not reported due to reorganization
	High Risk Accidents	0	Not reported due to reorganization
	Score on Safety Perception Survey	80%	Not reported due to reorganization
	Average Sick Leave Days of Work per Employee	10% less than 7.45	Not reported due to reorganization
	> 0 to less than <6	≤1.05	Not reported due to reorganization
	6 & less than <25 days	≤3.17	Not reported due to reorganization
	25 days and greater	≤2.03	Not reported due to reorganization
Provide customers with exceptional value (rates, service, public safety, reliability, and power quality)	Average customer outage time (CAIDI)	<1.03 hrs	Not reported due to reorganization
	Average customer outage frequency (SAIFI)	1.30	Not reported due to reorganization
	Manitoba Hydro Customer Satisfaction Survey	>8.4	8.25
	Industrial Customer Satisfaction	≥8.5	8.2
	Public contacts - natural gas and electric injuries	20% injury reduction from 06/07 = 15	23
	Lagging detailed customer satisfaction measure	% commitments kept overall	N/A

GOAL	MEASURE	TARGET	PERFORMANCE
To be a leader in strengthening working relationships with Aboriginal Peoples	% of Aboriginal new hires in CS&M	32%	Not reported due to reorganization
	% of Aboriginal employees in CS&M	North - >50% Total - 15%	Not reported due to reorganization
	Aboriginal Satisfaction Index	Under development	Not reported due to reorganization
	% of Aboriginals that take on fulltime employment with MH after working as a summer student	Establish baseline	Not reported due to reorganization
Improve corporate financial strength	Cost per customer (electric)	\$230 Approved Budget	Not reported due to reorganization
	Cost per customer (gas)	\$178 Approved Budget	Not reported due to reorganization
	Operating & maintenance dollars spent as a % of domestic revenue	10.06%	Not reported due to reorganization
	Outstanding collectable accounts > 60 Days as a % of domestic revenue	TBD	1.81%
	Overtime % of wages & salaries	9.0%	Not reported due to reorganization
	First Nations Reserves Collections	> 2007/08	2.9%
Be a leader in implementing cost effective energy conservation and alternative energy programs	Incremental Electric Energy Savings - GW.h Saved	EE Prgm - 129 GW.h Total 180 GW.h	83 GW.h 134 GW.h
	Cumulative Electric Energy Savings - GW.h Saved	EE Prgm - 1020 GW.h Total 1530 GW.h	1127 GW.h 1550 GW.h
	Incremental Electric Demand Savings @ Winter Peak - MW Saved	EE Prgm - 28 MW Total 37 MW	19.3 MW 28.3 MW
	Cumulative Electric Demand Savings @ Winter Peak - MW Saved	EE Prgm - 479 MW Total 601 MW	422 MW 522 MW
	Incremental Natural Gas Savings (including interactive effects) - M ³ Millions	Total 8.2 M ³ Million	11.6 M ³ Million
	Cumulative Natural Gas Savings (including interactive effects) - M ³ Millions	Total 36.1 M ³ Million	38.5 M ³ Million

GOAL	MEASURE	TARGET	PERFORMANCE
Have highly skilled, effective, innovative employees and a diverse workforce that represents the demographics of Manitoba	Employee Survey - average overall score (Survey currently under review)	68.0	N/A
Be proactive in protecting the environment and be the leading utility in promoting sustainable energy supply and service	Public Attitude Index (environment component)	>8.4	7.8
	Reduce Litres per kilometer	<06/07	Not reported
Be an outstanding corporate citizen	Corporate Citizenship Index	8.2	7.7
Proactively support agencies responsible for business development in Manitoba			

CAC/MSOS/MH II-7

Subject: Corporate Overview
Reference: CAC/MSOS/MH I-9 c) & d)
PUB/MH I-8 a)

- c) **If they exist, please provide any 2009/10 performance measures at the business unit level and the targets established for 2009/10 for each.**

ANSWER:

The performance measures and targets developed at the Business Unit level for 2009/10 which reflect the current Business Unit structure are as follows: (see attached tables)

Power Supply
Transmission
Customer Care & Marketing
Customer Service & Distribution

Note: This performance information was developed by the respective Business Unit for internal reporting purposes.

Power Supply 2009/2010 Business Unit Measures & Targets

GOAL	MEASURE	TARGET
Continuously improve safety in the work environment	Accident Severity Rate	12.78 +5%
	Number of Days Lost	Tracking Only
	Accident Frequency Rate	.91% + 5%
	Number of Accidents	Tracking Only
	Number of High Risk Accidents	0
	High Risk Incident Investigations completed	100%
	SMS Site Visits by Leaders (%)	100% (Eight of eight divisions meet their site visit target)
	Number of Sick Days per Employee per Year for Individual Usage >0 and <6	Tracking Only
	Number of Sick Days per Employee per Year for Individual Usage >=6 and <=25	Tracking Only
	Number of Sick Days per Employee per Year for Individual Usage <=25	Tracking Only
	Fitness Subsidy take up	Tracking Only
	Provide a reliable and dependable supply of power to meet all customers' requirements	Weighted Hydraulic Plant Availability Factor
Brandon Unit 5 Availability Factor		>82.2%*
Gas Turbine (GT) Availability Factor		>84.0%*
HVDC Availability Factor		Bipole 1: 96.89% Bipole 2: 96.53%
Forced Outage Rate (FOR) Hydraulic		<1.3%
FOR Brandon Unit 5		<10.8%
Starting Reliability for GT and Selkirk		>95%
FOR HDVC		<1%
Compliance to approved NERC Standards		Tracking only
# of Emergency Calls > 501 MW due to Power Supply	Tracking only	

GOAL	MEASURE	TARGET
Have harmonious relations with Aboriginal peoples	Number of Aboriginal Employees in PS (% of total)	PS Overall - 21%
		PS North - 41%
		PS Management - 3-5%
		PS Professional - 4-6%
	Percent of Aboriginals in Supervisory Training Programs	Tracking Only
	Percent of Aboriginals in Management Training Programs	Tracking Only
	Value of Goods/Services Purchased from Aboriginal Businesses and Communities (total excludes major equipment)	Tracking Only (see 1 below) (10% reduction in the gap between current performance and 5.0) (See 2 below)
<p>Note: (1) The dollar value and the \$ of total value of Aboriginal purchasing may vary considerably from year to year depending on the nature of the major projects being undertaken. The Aboriginal purchasing measures are stated, both excluding and including consulting costs associated with partner negotiations. Power Supply will continue to track and to report on these measures, in recognition of their importance. Further trend analysis will be conducted prior to establishing targets.</p> <p>(2) Power Supply Community Attitude Index scale is as follows: 1 - Poor, 2 - Fair, 3 - Satisfactory, 4 - Very Good, 5 - Excellent</p>		
Manage budget performance and financial risk to improve corporate financial strength	Cost of Operations	97 - 103% (of approved target) Higher risk of over spending in the future (see 1 below)
	Capital Expenditures	95 to 102% (of approved target) (See 2 below)
	Capital Expenditures - Major Generation	Tracking only
<p>Note: (1) The cost of operations as a % of forecast measure, allows for a range of +/-3% recognizing the impracticalities of being exactly 100%. (2) The 2% upper range on the capital spending as a % of forecast, also allows for uncertainties in predicting annual cash flows for capital projects. The lower limit for capital remains at 95%, because of Manitoba Hydro's approach to capital budgeting. This approach assumes that spending is cash flowed for projects at the optimistically earliest points of time.</p>		

GOAL	MEASURE	TARGET
Optimize operations, exports and development to minimize net cost to Manitoba Customers	Lost Revenue due to Outages (\$M) (forced and planned)	Tracking only
	Firm Energy Available for Export	2900 GWh/yr by 2011/12 5800 GWh/yr by 2019/20 10700 GWh/yr by 2023/24
	On Peak Generation HVDC Transmission	Tracking only
	Net Export Revenue	Tracking only
Have highly skilled, effective, innovative employees and a diverse workforce that reflects the demographics of Manitoba	Non-northern Staff Recruited to Northern (Non-entry level) jobs HVDC and GN and NGC and PSO	Tracking only
	Designated Group Members and MH Workforce	Women - 17/19% Women in Mgmt - 14-17% Women Professionals - 20-22% Persons with disabilities - 5-7% Visible Minorities - 5-7%
	Percent of Women in Trades	Tracking Only - 5-7%
	Personal Development Plans Completed (including employees not interested)	>90%
	Non-entry Jobs Filled by External Applicants	Tracking only (%)
Continue to make Power Supply a great place to work	Employee Survey "Workplace Atmosphere Index" depending on future of the survey	Target will be reviewed when the survey is re-established (Note: a world class score in the industry is 70% or greater)

GOAL	MEASURE	TARGET
Be proactive in enhancing and protecting the environment and contribute to Manitoba Hydro being the leading utility in promoting sustainable energy supply	Greenhouse Gas Emissions	Tracking only - to be reviewed after Clean Air Act >0.520 MT for electric operations (See (1) below)
	Greenhouse Gas Emissions Avoided due to Net Exports	Tracking only - 4.52MT of CO ₂ e (See (2) below)
	Energy generated in Manitoba from renewable resources	>98.5%
	Receipt of notice, warning, order, injunction, or prosecution (including Wuskwatim)	Contractor - MH - 0
	Conviction of a Regulatory Offence	0
	Priority Releases - Petroleum Threshold (>500L)	Tracking only
	Externally Reported Releases to Water	15
	Root Cause Identified for all Releases (95% within 2 weeks and 100% within 6 weeks)	100%
	# of Wastewater Exceedences	Tracking only
	# of Domestic Water Exceedences	Tracking only
Notes: (1) Cumulative net annual average emissions from fossil-fueled generation over the period 1991-2007 to be 6% below the 1990 levels. (E.g. average annual emissions =0.4907Mt - 6%=0.461). This information obtained from the draft 2003 Greenhouse (GHG) Report. (2) Target based pm 2003 Voluntary Challenge and Registry Program (VCR) Report.		
Be an outstanding member of our communities and be recognized as such	PS Community Attitude Index	(10% reduction in the gap between current performance and 5.0) (See (1) below)
Note: (1) Power Supply Community Attitude Index scale as follows: 1 - Poor, 2-Fair, 3-Satisfactory, 4-Very Good, 5-Excellent		
Support agencies responsible for business development in Manitoba	Industrial Offset Policy Implementation	100%
Be in a position to supply alternative energy options where economic or directed	Alternative Capacity Installed (Manitoba Hydro or Non-Utility Generator owned)	400MW by 2011

Transmission 2009/2010 Business Unit Measures & Targets

GOAL	MEASURE	TARGET
Safety	Accident Frequency Rate	<1 injury/200k hours
	Accident Severity Rate	<20 days lost/200k hours
	Number of High Risk Incidents	0
	Preventable Motor Vehicle Accidents	0
	Site Visits	100%
	% Safe Work Procedures (documented) Completed	100%
Quality Service & Operations	Number of MH planned system outages that trigger a reduction in transfer capability of US, Ontario (IESO) or SK (SPC) interfaces	≤ One planned outage/year to each interfaced line
	% of time that the maximum transfer capability on the US interface is maintained	95% ex A/May/0/N 805 75% variability over April - November 80% over
	Number of delivery point interruptions (TSAIFI/TSAIDI)	TSAIFI < 1.14 & TSAIDI < 178 min.
	Number of non-compliances of NERC Standards	0 non compliances
	Intentional forced outages	0 outages
	Outages due to human error by Transmission personnel (inadvertent outages)	0 outages
	Percent of automatic outages caused by failed protection system equipment	0%
Be a leader in strengthening working relationships with Aboriginal peoples	Number of aboriginal people in contract positions	Tracking Only
	Number of aboriginal people in Transmission Business Unit	Tracking Only
	Percent Aboriginal Employment	Corporate Overall - 16%
		Northern - 45%
		Management - 6%
	Professional - 6%	

GOAL	MEASURE	TARGET
Maintain, operate and expand the system efficiently and cost effectively	Capital Actual Major Projects/New Generation & Transmission Projects	Within 5% of plan
	Operating Actual	Within 5% of plan
Have highly skilled, effective, innovative employees and a diverse workforce that reflects the demographics of Manitoba	Completion of field staff refresher course & new hire training	100%
	Percentage of designated group members in Manitoba Hydro workforce	Women - 16%
		Women in Mgmt - 17%
		Women Professionals - 34%
		Persons with a disability - 6%
Visible Minorities - 6%		
Be respectful of the public and the environment	Dollars spent on Environmental Research	
	Fuel Efficiencies of vehicles	
	Number of Stations Assessed	
	Oil Containment Completed	
	Reportable Spills	
	Non Reportable Spills	
	% of Employees receiving EMS Training	
Corporate Citizenship	Recognition in communities, province and our industry.	

Customer Care & Marketing 2009/2010 Business Unit Measures & Targets

GOAL	MEASURE	TARGET
Continuously improve safety in the work environment	Score on Safety Perception Survey	80%
	Average sick leave days of work per employee	10% less than 6.80 = 6.12
	>0 to <6	≤1.02
	6 & <25 days	≤3.09
	25 days and greater	≤2.13
Provide customers with exceptional value (rates, service, public safety, reliability and power quality)	Manitoba Hydro Customer Satisfaction Survey	>8.4
	Industrial Customer Satisfaction	≥8.5
	Public contacts - natural gas and electric injuries	20% injury reduction from 06/07 = 15
	Lagging detailed customer satisfaction measure	% commitments kept overall
To be a leader in strengthening working relationships with Aboriginal peoples	Percent of Aboriginal new hires in CC&M	13%
	Percent of Aboriginal employees in CC&M	Total - 8.9%
	Aboriginal Satisfaction Index	TBD
	Percent of Aboriginals that take on fulltime employment with MH after working as summer students	Establish baseline
Improve corporate financial strength	Cost per customer (electric)	71
	Cost per customer (gas)	80
	Operating & maintenance dollars spent as a % of domestic revenue	3.27%
	Outstanding collectible accounts >60 days as a % of domestic revenue	TBD
	Overtime % of wages & salaries (Driven by CSO)	1.3%
	First Nations Reserves Collections	>2008/09

GOAL	MEASURE	TARGET
Be a leader in implementing cost effective energy conservation and alternative energy programs	Incremental Electric Energy Savings - GW.h Saved	EE Prgm - 141 GW.h Total - 108 GW.h
	Cumulative Electric Energy Savings - GW.h Saved	EE Prgm - 1334 GW.h Total - 1753 GW.h
	Incremental Electric Demand Savings @ Winter Peak - MW Saved	EE Prgm - 31 MW Total - 43 MW
	Cumulative Electric Demand Savings @ Winter Peak - MW Saved	EE Prgm - 450 MW Total - 551 MW
	Incremental Natural Gas Savings (Including Interactive Effects) - M ³ Millions	Total - 7.9 M ³ million
	Cumulative Natural Gas Savings (Including Interactive Effects) - M ³ Millions	Total - 46 M ³ million
Have highly skilled, effective, innovative employees and a diverse workforce that represents the demographics of Manitoba	Employee Survey - average overall score (Survey currently under review)	68.0
Be proactive in protecting the environment and be the leading utility in promoting sustainable energy supply and service	Public Attitude Index (environment component)	>8.4
Be an outstanding corporate citizen	Corporate Citizenship Index	>8.2
Proactively support agencies responsible for business development in Manitoba		

Customer Service and Distribution 2009/2010 Business Unit Measures & Targets

GOAL	MEASURE	TARGET
Improve Safety in the Work Environment	Accident Severity Rate	<32.79 days lost per 200,000 hours
	Accident Frequency Rate	<1.68 accidents per 200,000 hours worked
	Lost Time Injuries	Tracking only
	High Risk Incidents	0
	Avg. Days Sick Leave per Employee by Category	6.3
	Preventable Vehicle Accidents	63
	% Safety Site Visits Completed	100%
	% Safety Site Visits with Corrective Actions Identified	100%
	# of Safety Improvement Orders	0
Provide Customer Service Excellence	# of Injuries from Public Contacts	15
	# of Public Contacts with Plant (Electric & Gas)	<362
	CAIDI Elect. (customer avg interruption duration index) (Hours)	<1.35 hrs
	CAIDI Gas (customer avg interruption duration index) (minutes)	Under Development
	SAIFI	<1.3 customer interruptions
	SAIDI	<1.53 hrs
	CEMI 4 (Cust. Experiencing Long Interruption Durations)	<10% of total customers
	CELID 8 (Cust. Experiencing Long Interruption Durations)	<2% of total customers
	Manitoba Hydro Customer Transaction Survey	9.0
Attract, develop and retain a highly motivated workforce that reflects the demographics of Manitoba	Employee Equity Index	9 of 13 measures achieved
	% of Employees with a development plan	100%
	% of Employee Appraisals Completed	100%

GOAL	MEASURE	TARGET
Improve Corporate Financial Strength	Cost of Operations (% Over/Under- Combined Electric and Gas)	98-100%
	Capital Expenditures (% Over/Under)	98-100%
	Capital Expenditures Outlook (% Over/Under)	98-100%
	Overtime (as a % of wages & salaries)	<12%
	O&M Cost per Customer (Measure annually only) - Electric & Gas	Gas - \$138 Consolidated - \$198
	Customer Contributions Received vs. Expected (%)	100%
	Fleet Costs (fuel, maintenance, unit rate costs, etc.)	Tracking only
Strengthen Working Relationships with Aboriginal Peoples	Aboriginal Employee Index (BU Overall, Northern, Mgmt, & Prof.)	Meet 3 of 4 targets
	% of Pre-employment Candidates Hired (pre-placement programs)	100%
	% of Aboriginal Summer Students Hired	20%
	# of New Aboriginal Hires	17
Be Proactive in Protecting the Environment	Litres per 100kw	<27
	Total Amount of Fuel Utilized	Tracking only
	# of Reportable Spills	<10
	# of Non-Reportable Spills	<44
	% of Employees that have Received EMS Awareness Training	100%
	# of Environmental Improvement Orders	0
Develop and deliver sustainable energy distribution systems for future generations		

CAC/MSOS/MH II-8

Subject: Corporate Overview

Reference: CAC/MSOS/MH I-9 e)

- a) **Precisely how does the new Corporate Planning and Strategic Planning Business Unit “help address competing BU priorities”?**

ANSWER:

Corporate Planning and Strategic Analysis brings a corporate perspective to the process of priority-setting. By becoming involved in the planning and discussion of major projects at an early stage, and by participating in the critical review of projects and initiatives within other business units, the Corporate Planning and Strategic Analysis Business Unit can:

- Help invite an exploration of new possibilities, or a combination/rearrangement of ideas to arrive at solutions that considers Manitoba Hydro’s overall objectives as well as the objectives of the individual departments or business unit ;
- Foster the consideration of a larger vision for each initiative that incorporates multiple perspectives within the context of limited resources; and,
- Provide an independent peer evaluation to determine if the project is in line with the corporation’s goals and strategies.

CAC/MSOS/MH II-8

Subject: Corporate Overview

Reference: CAC/MSOS/MH I-9 e)

- b) Please provide a description and supporting documentation of the process used by Manitoba Hydro to evaluate and prioritize capital investments.**

ANSWER:

Each business unit within Manitoba Hydro coordinates the development and review of capital projects that relate to the line of business that falls within the BU's responsibility. Within each business unit, management teams make an assessment of the priority in which the capital projects will be advanced for approval and inclusion in the corporation's capital expenditure forecast. Executive Committee reviews these proposed capital expenditures and decides which to approve for inclusion in the forecast.

When prioritizing capital investment decisions, consideration is given to the urgency, cost and benefit of each project, as well as its alignment with the goals and objectives set out in Manitoba Hydro's corporate strategic plan.

CAC/MSOS/MH II-8

Subject: Corporate Overview

Reference: CAC/MSOS/MH I-9 e)

- c) **Please describe what changes have been introduced recently to the process as per the CSP.**

ANSWER:

The Corporate Strategic Review (CSR) Division reviews major projects and proposals in terms of the strength of the business case being advanced as well as strategic implications. CSR is currently developing enhancements to the internal business case course to continue to improve the level of analysis conducted on new projects and to incorporate new NERC reliability compliance requirements.

CAC/MSOS/MH II-9

Subject: Corporate Overview
Reference: CAC/MSOS/MH I-9 g)
Appendix 3.1, page 10

- a) **The target OM&A/customer for 2007 (\$639) does not match the value provided in GRA 2008 PUB/MH II-7 d) of \$612. Please reconcile. Also, what is the source of the OM&A and customer count values used to determine the \$639?**

ANSWER:

The 2007 OM&A/customer of \$639 represents the forecasted OM&A and customers for 2006/07 from IFF06 (see CAC/MSOS/MH I-111(b)). The OM&A/customer of \$612 represents the value from the 2006/07 CSP, which was prepared at an earlier date and represented information available at that time.

CAC/MSOS/MH II-9

Subject: Corporate Overview
Reference: CAC/MSOS/MH I-9 g)
Appendix 3.1, page 10

- b) **The target OM&A/customer value for 2008 (\$654) provided in the response do not match the 2008 CSP target value of \$619 – per the response to CAC/MSOS/MH 9 a). Please reconcile. Also, what is the source of the OM&A and customer count values used to determine the \$654 value.**

ANSWER:

The 2008 OM&A/customer of \$654 represents the forecasted OM&A and customers for 2007/08 from IFF07 (see CAC/MSOS/MH I-111(b)). The OM&A/customer \$619 referred to in this question represents the actual performance for 2007/08 as shown in CAC/MSOS/MH I-9(a) and not the CSP target of \$640. The OM&A/customer of \$640 represents the value from the 2007/08 CSP, which was prepared at an earlier date and represented information available at that time.

CAC/MSOS/MH II-10

Subject: Corporate Overview

**Reference: CAC/MSOS/MH I-11 a)
Appendix 5.2, page 32**

- a) **Please reconcile the referenced adjustments in 11 a) of \$144 M in 2010 and \$42 M in 2011 with the Target Adjustments shown in Appendix 5.2 (\$188 M and \$119 M).**

ANSWER:

These amounts are not reconcilable because they represent different information. The \$144M and \$42M amounts shown in CAC/MSOS/MH I-11(a) is the difference in the total capital spending approved in CEF08 compared to CEF09. The \$188M and \$119M amounts shown in Appendix 5.2 represent the target adjustment required to achieve the approved capital spending for 2010 and 2011 in CEF09.

CAC/MSOS/MH II-10

Subject: Corporate Overview
Reference: CAC/MSOS/MH I-11 a)
Appendix 5.2, page 32

- b) **Has Manitoba Hydro determined yet how the 2009/10 targeted adjustment will be achieved? If yes, please outline.**

ANSWER:

Manitoba Hydro is in the process of finalizing its year end results and expects that the Capital Expenditure totals will be in line with the forecast shown on page 32 of Appendix 5.2.

CAC/MSOS/MH II-11

Subject: Other Revenue

Reference: CAC/MSOS/MH I-14 d)

a) How many tenants (i.e., separate tenant agreements) are there for the new head office?

ANSWER:

There are currently five (5) separate tenant agreements for Manitoba Hydro Place:

- Royal Bank
- Marcello's Market and Deli
- Green Leaf Healthy Café (former Café Fresh)
- MDS Restaurant Group
- Dental Design

There remain three (3) vacancies for potential tenant use.

CAC/MSOS/MH II-11

Subject: Other Revenue

Reference: CAC/MSOS/MH I-14 d)

- b) If the response to part (a) is more than 2, please provide the expected aggregate revenue for each year of the IFF09.**

ANSWER:

The expected total lease revenue included in IFF09 is \$600,000 to \$700,000 each year starting in 2010/11.

CAC/MSOS/MH II-12

Subject: OM&A Expense

Reference: CAC/MSOS/MH I-15 a)

a) Please provide the equivalent response to 15 a) for March 31, 2007.

ANSWER:

The budgeted EFT complement at March 31, 2007 was 5,831 as compared to the actual EFT level of 5,552 resulting in a vacancy factor of 279 EFTs.

Please note that the budgeted EFT amount at March 31, 2008 shown in CAC/MSOS/MH I-15a) was misstated. The corrected budget EFT complement at March 31, 2008 was 5,876 resulting in a vacancy factor of 188 EFTs.

CAC/MSOS/MH II-13

Subject: OM&A Expense

Reference: CAC/MSOS/MH I-16 a) & b)

- a) **Does Manitoba Hydro expect to meet its OM&A target for 2009/10 as set out in the current CSP?**

ANSWER:

Largely due to a number of non-forecasted costs in 2009/10 (IBEW strike, storm restoration, risk review, accounting changes) it is not expected that Manitoba Hydro will meet its OM&A target for 2009/10.

CAC/MSOS/MH II-14

Subject: OM&A Expense

Reference: CAC/MSOS/MH I-17 a)

- a) **The transfer of Wire & Telecom services to MHI increases OM&A for Electric Operations by \$3 M. Is there an offset elsewhere in the Electric Operations operating statement or capital spending? If yes, where and how much? If no, please explain fully why costs go up as a result of the transfer.**

ANSWER:

There is no offset in the Electric Operations operating statement or capital spending as a result of the transfer of costs and revenues associated with Wire Services and Telecom to MHI (subsidiary of Manitoba Hydro). However, MHI's revenues and expenses are included in the consolidated statements for Manitoba Hydro such that on overall basis the transfer does not negatively impact consolidated net income and retained earnings.

CAC/MSOS/MH II-15

Subject: OM&A Expense

Reference: CAC/MSOS/MH I-18 a)

- a) **Given that the cost is more than twice the benefit, what are the other reasons for proceeding with the Transmission GIS project?**

ANSWER:

Additional Productivity Gain Benefits include:

- Improved information for Line Maintenance Staff: 2000 hours/year (~1.5 EFTs)
- More efficient information searches: 700 hours/year (~0.5 EFT)
- More efficient maintenance planning: 700 hours/year (~0.5 EFT)
- More efficient NERC reporting: 350 hours/year (~0.25 EFT)

The benefits stated above are comprised of a combination of process and data quality improvements that can be summarized as:

- Increase productivity through process improvement
 - More effective use of transmission line maintenance field resources.
 - Reduction in the administrative and organizational burden associated with transmission line maintenance and inspection activities.
 - Streamlining access to property records, both self-service and reduction in Property Department turn-around times.
- Improve quality and timeliness of data
 - Being able to meet NERC Reliability Standards reporting requirements without adding additional staff.

CAC/MSOS/MH II-15

Subject: OM&A Expense

Reference: CAC/MSOS/MH I-18 a)

- b) Please provide a schedule that sets out the spending by MH-Electric Operations (Capital and OM&A) in 2008/09 through 2011/12 for: a) AMI and b) EAM.**

ANSWER:

Please see schedule below (in thousands).

Spending for MH Electric (Actual spending to 2009/10)					
Project		2008/09	2009/10	2010/11	2011/12
a)	AMI - Capital	218	0	3,976	5,342
b)	EAM - Capital	1,373	853	0	0

The operating costs for these projects have not been specifically forecasted and are expected to be absorbed within existing budgets.

CAC/MSOS/MH II-16

Subject: Fuel and Power Purchased

Reference: CAC/MSOS/MH I-24 h)

CAC/MSOS/MH I-5 a)

CAC/MSOS/MH I-4 a)

CAC/MSOS/MH I-13 i)

- a) Why does Manitoba Hydro not make any provision for Net Revenues from merchant arbitrage export sales in its financial forecast after the year 2011/12?**

ANSWER:

Manitoba Hydro does not include merchant arbitrage net revenues in its financial forecast after the year 2011/12 because it does not own any rights to the required transmission past the year 2012. Should Manitoba Hydro commit to purchase transmission rights beyond 2012, it will include net revenues in the IFF for the period in which it owns transmission rights at that time.

CAC/MSOS/MH II-16

Subject: Fuel and Power Purchased

Reference: CAC/MSOS/MH I-24 h)

CAC/MSOS/MH I-5 a)

CAC/MSOS/MH I-4 a)

CAC/MSOS/MH I-13 i)

- b) Do the actual GWh of Exports and Purchases reported in 5 a) include or exclude the GWh associated with arbitrage merchant transactions? Similarly, do the Export Revenues reported in 5 a) include either the net or gross revenues from arbitrage merchant transactions?**

ANSWER:

Please refer to revised response to CAC/MSOS/MH I-5(a)

The actual GWh of Exports and Purchases reported in 5(a) do not include the GWh associated with merchant transactions.

The Export Revenues reported in 5(a) include the gross revenues from the merchant transactions.

CAC/MSOS/MH II-16

Subject: Fuel and Power Purchased

Reference: CAC/MSOS/MH I-24 h)

CAC/MSOS/MH I-5 a)

CAC/MSOS/MH I-4 a)

CAC/MSOS/MH I-13 i)

- c) Do the Fuel and Purchased Power costs reported in 4 a) for 2008 and 2009 include purchases for arbitrage merchant transactions? Similarly, the Total Revenues reported in 4 a) include either the net or gross revenues from arbitrage merchant transactions?**

ANSWER:

Yes, the Fuel and Power Purchased costs reported in 4 a) for 2008 and 2009 do include the costs for the merchant transactions.

Yes, the Total Revenues reported in 4 a) do include the gross revenues from merchant transactions.

CAC/MSOS/MH II-16

Subject: Fuel and Power Purchased

Reference: CAC/MSOS/MH I-24 h)

CAC/MSOS/MH I-5 a)

CAC/MSOS/MH I-4 a)

CAC/MSOS/MH I-13 i)

- d) Are the revenues from arbitrage merchant transactions included in the sales reported in CAC/MSOS/MH 13 i) under Spot Market?**

ANSWER:

No, merchant transactions are not included in the response for CAC/MSOS/MH I-13(j).

CAC/MSOS/MH II-17

Subject: Fuel and Power Purchased

Reference: CAC/MSOS/MH I-26 b)

- a) **Please provide an explanation for each of the elimination entries and explain why the “eliminations” don’t net out to zero.**

ANSWER:

Due to the Nisichawayasihk Cree Nation’s (NCN) forecasted 33% minority interest in the Wuskwatim Power Limited Partnership (WPLP), Manitoba Hydro consolidates the partnership on a non-controlling interest basis. This means all the revenue and expense items attribute to Manitoba Hydro with the portion of net income attributable to NCN subtracted as a single line item (Non-controlling interest) on the operating statement.

The \$3 million loss recorded by Manitoba Hydro under Investment Income prior to consolidation/elimination represents Manitoba Hydro’s 67% share of the \$4 million projected loss for WPLP in fiscal year 2011/12. The Investment Income is eliminated upon consolidation when Manitoba Hydro’s investment in WPLP is eliminated against its equity share in WPLP. The remaining \$1 million dollar projected loss for WPLP attributable to NCN is included in the Non-controlling interest line item.

Prior to consolidation/elimination, Manitoba Hydro records all inter-company transactions on a line-by-line basis. Manitoba Hydro bills WPLP for the portion of its O&A that is projected to be inter-company (\$5 million under Other Revenue) and purchases all the output from WPLP (\$44 million under Fuel and Power Purchased). From WPLP’s perspective, all revenue (\$44 million) and \$5 million of its O&A expense is inter-company and will be eliminated on consolidation.

The response to CAC/MSOS/MH I-26(b) did not include the eliminating entries that transfer net income/net loss to the balance sheet. Please see the revised table which includes these entries.

Impact of WPLP Non-controlling Interest on Manitoba Hydro Net Income
For the year ended March 31, 2012

	Manitoba Hydro Electric Excluding WPLP	WPLP	Eliminations	Manitoba Hydro Consolidated Electric
REVENUES				
General Consumers				
at approved rates	1,177		-	1,177
additional *	69		-	69
Extraprovincial	554		-	554
Investment Income	(3)		3	-
Other	13	44	(49)	8
	<u>1,810</u>	<u>44</u>	<u>(47)</u>	<u>1,808</u>
EXPENSES				
Operating and Administrative	402	6	(5)	403
Finance Expense	442	26	-	468
Depreciation and Amortization	392	14	-	407
Water Rentals and Assessments	109	2	-	111
Fuel and Power Purchased	293	-	(44)	248
Capital and Other Taxes	77	-	-	77
Corporate Allocation	9	-	-	9
	<u>1,723</u>	<u>49</u>	<u>(49)</u>	<u>1,723</u>
Non-controlling Interest	-	-	(1)	(1)
Net Income	<u>87</u>	<u>(4)</u>	<u>4</u>	<u>87</u>
BALANCE SHEET ACCOUNTS				
MH's Capital Account (WPLP)		3	(3)	-
NCN's Capital Account (WPLP)		1	(1)	-
		<u>-</u>	<u>-</u>	

CAC/MSOS/MH II-18

Subject: Fuel and Power Purchased

Reference: CAC/MSOS/MH I-30 c)

- a) **Please explain further what is meant by the comment that the forecasts by Consensus Forecasts, the Province of Ontario and Federal Finance are “not considered to be statistically independent” and why that led to their exclusion.**

ANSWER:

It is assumed that the question intended to refer to the forecast of the Province of BC rather than the Province of Ontario.

Please see Manitoba Hydro’s response to CAC/MSOS/MH I-141(b).

The forecast of the Province of B.C. included forecasts of five forecasters that Manitoba Hydro also reviews. The forecasts of Consensus Economics and Federal Finance are based on surveys of private forecasters. They do not reveal their source of private forecasters; however, they may include some of the private forecasters that Manitoba Hydro reviews. Therefore, the inclusion of those forecasts that are consensus of other forecasts (i.e. not independent) may lead to a minor overweighting to the extent that Manitoba Hydro is including a forecast that was also included in the outlooks of Consensus Economics, Province of B.C. or Federal Finance.

The term “statistically independent” was used in the PUB Order 128/09, September 16, 2009, Section 6.0, 9e) and as noted in the response to PUB/MH I-46(a), the inclusion of only statistically independent forecasts is an enhancement incorporated in the forecast of interest rates for the 2009/10 - 2012/13 period embedded in the IFF.

CAC/MSOS/MH II-19

Subject: OM&A

Reference: CAC/MSOS/MH I-38 a)

- a) Please provide a similar calculation but for Electric Operations OM&A and add a column for 2006/07.

ANSWER:

The following table, based on Electric OM&A, provides the details requested. Data for 2007/08 has been provided.

<u>Reconciliation of OM&A Costs - Electric Operations</u>	<u>2007/08</u>	<u>2008/09</u>	<u>2009/10</u>	<u>2010/11</u>	<u>2011/12</u>
Actual/Approved OM&A costs	\$ 323	\$ 360	\$ 372	\$ 380	\$ 403
<u>Adjustments:</u>					
CICA adjustment reducing stores overhead capitalized					<i>Changed in 2008/09</i>
CICA adjustment reducing capitalization of intangibles			(4)	(4)	(4)
CICA adjustment reducing A&G capitalized			(2)	(2)	(2)
Waterways mgmt program reclassify to operating					(5)
Funding agreement reclassify to capital & other taxes			5	5	5
Accounting change re transfer of wire & telecom to subsidiaries					<i>Changed in 2008/09</i>
Provision for IFRS					(15)
Other - Allocation to Gas Operations			1	1	1
Adjusted OM&A costs	\$ 323	\$ 360	\$ 372	\$ 380	\$ 383
% Increase		11.5%	3.2%	2.2%	0.8%

In IFF09 adjustments for accounting changes and reclassifications were applied to the OM&A target on a consolidated basis with an allocation of \$1.0 million to Gas OM&A as a general provision for accounting changes and other business requirements.

CAC/MSOS/MH II-20

Subject: OM&A

**Reference: CAC/MSOS/MH I-38 b) and d)
CAC/MSOS/MH I-103 f)**

- a) **With respect to 38 b), the \$10 M noted at Appendix 4.4, page 3 is ascribed to “Other Operating Changes, net of cost savings & change to capital activity”. As noted in the accompanying text (lines 8-9) the \$10 M reduction is also due increased capitalization of costs. As a result, the reference does not respond to the original questions (38 b) and 103 f)). Please provide the requested information.**

ANSWER:

CAC/MSOS/MH I-103(f) requests the dollar cost reductions for each cost saving measure noted on pages 11 and 12 of Appendix 5.2 (IFF09-1):

Manitoba Hydro has not specifically forecasted the impacts of the individual measures shown on these pages and therefore cannot respond in the detail requested. The response provided in the response to CAC/MSOS/MH I-38 b) indicates that MH has committed to achieving \$10 million of operational savings in 2011/12, net of cost savings and change in capital activity. Other than the impacts of escalation in 2011/12, Manitoba Hydro did not forecast a change in capital activity for the year 2011/12 and therefore the \$10 million saving amount referenced relates only to operational and cost savings.

CAC/MSOS/MH II-20

Subject: OM&A

**Reference: CAC/MSOS/MH I-38 b) and d)
CAC/MSOS/MH I-103 f)**

**b) With respect to 38 d), please provide the values for 2008/09 based on MH08-1
(and not actual results).**

ANSWER:

Please see the following table for the requested information.

(in millions of dollars)	Actual	Forecast - IFF08										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
OM&A expense electric & subsidiary operations	335	360	369	376	391	398	406	414	423	431	453	463
OM&A expense for subsidiaries	12	11	11	11	12	12	12	12	13	13	13	13
OM&A expense 'electric only'	323	349	358	365	379	386	394	402	410	418	439	450
# of Customers	521,599	525,964	532,391	534,772	539,125	543,453	547,752	552,022	556,265	560,476	564,661	568,817
OM&A (electric only) per customer (in dollars)	619	664	673	683	703	711	719	728	737	746	778	791

CAC/MSOS/MH II-21

Subject: Financial Forecast – Capital Spending

Reference: CAC/MSOS/MH I- 46 a)

a) Please clarify whether the values reported represent solely the value for generation or whether they also include allowances for transmission and/or distribution.

- If the former, please provide the values for transmission and distribution.**
- If the later, please provide a breakdown by component.**

ANSWER:

The values provided in Manitoba Hydro’s response to CAC/MSOS/MH I - 46 (a) represent solely the marginal values at the point of generation. The generation value provided in Manitoba Hydro’s response to CAC/MSOS/MH I - 46 (a) for the 2007 Power Smart Plan of 5.59 cents was in 2008 dollars. In 2009 dollars it is 5.70 cents.

The levelized values for all components assigned to peak period kW.h of DSM savings based on the ten year period 2009/10 to 2018/19 in 2009 dollars are as follows.

2009 Power Smart Plan (CEF09-1)

Generation Value	-	5.53 cents per kilowatt hour
Transmission Value	-	0.85 cents per kilowatt hour
Distribution Value	-	0.51 cents per kilowatt hour

2007 Power Smart Plan (CEF07-1)

Generation Value	-	5.70 cents per kilowatt hour
Transmission Value	-	0.86 cents per kilowatt hour
Distribution Value	-	0.52 cents per kilowatt hour

CAC/MSOS/MH II-22

Subject: Capital Expenditures

Reference: CAC/MSOS/MH I-48 a)

- a) What is the rationale for separating the switchyard into three zones and incurring over \$60 M in additional costs?**

ANSWER:

By dividing the control and protection of the switchyard into three zones and housing them in three separate hardened relay buildings, the risk of losing the entire Bipole 1 and Bipole 2 transmission capacity (approximately 3,600 MWs) due to fire or extreme weather will be reduced by approximately two-thirds.

The existing relay building will be hardened by adding a concrete shell over the entire existing relay building, and two new hardened (concrete) relay buildings will be constructed. The design wind load for the hardened (concrete) buildings will be representative of an F3 class tornado.

CAC/MSOS/MH II-23

Subject: Risk Analysis

Reference: CAC/MSOS/MH I-62 a)

a) The question asked for details regarding Manitoba Hydro' low and high export price forecast. The referenced Appendix 14 does not provide details regarding the export price forecast.

- Please provide details regarding Manitoba Hydro low and high export price forecast (e.g., \$/MWh over the forecast period) and indicate the export product associated with the price forecast.**
- Please also provide the 2007/08 and 2008/09 prices for the same export products.**

ANSWER:

Please refer to the response to PUB/MH I-209 for a summary of average export prices that apply to the blend of all export products for each year to 2029/30. Similar information for 2007/08 and 2008/09 is not available.

CAC/MSOS/MH II-24

Subject: Cost of Service

Reference: CAC/MSOS/MH I-72 a) & b)

- a) **When will the appropriateness of the COSA changes included in the Settlement Agreement be subject to review by the PUB?**

ANSWER:

The PUB reviewed Manitoba Hydro's proposed Cost of Service treatment of the Diesel communities which flowed from the Settlement Agreement during the Cost of Service review in 2005/06. In Order 117/06, on page 67, the PUB indicated as follows:

“The proposal by MH to credit a portion of net export revenue to the Diesel Class needs to be examined further and finalized, in conjunction with a rate review of this class. The overall impact of MH's Recommended Methodology together with the final terms of any tentative Settlement Agreement, needs to be further examined and reviewed to allow the Board to reach a final determination as to the appropriate allocation of net export revenue to the Diesel Class.”

On the basis of the foregoing, Manitoba Hydro expects that the PUB will review the allocation of net export revenues to Diesel communities, along with other relevant Cost of Service issues, once the Agreement has been executed and Manitoba Hydro applies for final confirmation of Diesel rate orders issued since May 1, 2004.

Manitoba Hydro filed a Diesel Cost of Service April 29, 2010 which proposes increased rates in the Diesel Zone. It is possible that the PUB may choose to examine some of the broader Cost of Service issues as part of its review of that Application.

CAC/MSOS/MH II-24

Subject: Cost of Service

Reference: CAC/MSOS/MH I-72 a) & b)

- b) The response provided to 72 b) does not address the question as posed. Is there any recognition in the COSA of the Diesel community net capital value assumed by Manitoba Hydro or is it effectively treated the same as the 3rd party capital contributions and not included in the PCOSS?**

ANSWER:

The “net capital value assumed by Manitoba Hydro” is effectively treated the same as the third party capital contributions.

CAC/MSOS/MH II-24

Subject: Cost of Service

Reference: CAC/MSOS/MH I-72 a) & b)

c) How is the contributed capital received from 3rd parties treated in IFF09 (and IFF07 and IFF08)?

ANSWER:

The contributions are treated as either a receivable or as cash received. The non-refundable contributions in aid of construction are amortized over the same period of the associated asset.

Balance Sheet Presentation (in \$millions)

	IFF07	IFF08	IFF 09
	as at March 2007	as at March 2008	as at March 2010
Accounts Receivable	\$14.9	\$9.9	\$0.0
Bank/Cash	7.8	12.8	22.7
Non Refundable Contribution in Aid of Construction - original cost	-22.7	-22.7	-22.7
Accumulated Amortization	4.0	6.6	9.3
NBV Contributions on Balance Sheet	-\$18.7	-\$16.1	-\$13.4

CAC/MSOS/MH II-25

Subject: Diesel

Reference: CAC/MSOS/MH I-89 b)

a) With respect to Appendix 19, please update Schedules 10 and 12.

ANSWER:

Schedule 10, as consistent with application submitted April 29, 2010, is herewith provided.

DIESEL COST OF SERVICE
GOVERNMENT SURCHARGE RECONCILIATION
March 31, 2010

Fiscal Year	Required Revenue	Received Revenue from Gov't			(Surplus)/ Deficit	
		kW.h	Rate / kW.h	Revenue		
2000/01	\$3,312,683	2,440,870	\$0.448	1,093,510	\$5,318,130	
Full Cost Rate Variance	\$665,569					
2001/02	\$3,187,695	2,619,360	\$0.448	1,173,473	\$8,003,714	
Full Cost Rate Variance	\$671,362					
2002/03	\$4,510,756	2,554,992	\$0.448	1,144,636	\$12,283,473	
Full Cost Rate Variance	\$913,640					
2003/04	\$4,805,643	2,805,553	\$0.448	1,256,888	\$16,934,901	
Full Cost Rate Variance	\$1,102,672					
Total	<u>\$58,780,735</u>			<u>\$41,845,834</u>		
Shortfall/(Surplus) negotiated in Settlement					<u>\$16,934,901</u>	<u>Annual</u>
2004/05	\$1,184,626	2,251,712	\$0.692	\$1,558,860	(\$366,280)	
Full Cost Rate Variance	\$7,954					
2005/06	\$2,268,521	2,228,290	\$0.692	\$1,542,645	\$517,804	\$884,085
Full Cost Rate Variance	\$158,209					
2006/07	\$2,827,800	2,399,101	\$0.971	\$2,329,359	\$1,313,973	\$796,169
Full Cost Rate Variance	\$297,728					
2007/08	\$ 3,473,078	2,222,478	\$0.971	\$2,157,871	\$3,021,671	\$1,707,697
Full Cost Rate Variance	\$392,490					
2008/09	\$ 3,614,875	2,201,226	\$0.971	\$2,137,236	\$4,865,814	\$1,844,143
Full Cost Rate Variance	\$366,504					
2009/10 Forecast	\$ 3,678,298	2,204,200	\$0.971	\$2,140,124	\$6,731,986	\$1,866,172
Full Cost Rate Variance	\$327,999					

Schedule 12 - is as reported on November 16 with the exception that all customers have paid their outstanding obligation, including INAC payment of \$19,871,870 plus interest by April 25, 2008..

CAC/MSOS/MH II-25

Subject: Diesel

Reference: CAC/MSOS/MH I-89 b)

- b) **With respect to Schedule 10, is the 2008/09 (Surplus)/Deficit shown the full amount (i.e., including that portion to be underwritten by Manitoba Hydro) or just that portion that the Diesel Communities are responsible for? If the former, what is the actual deficit balance as of March 31, 2009 (and the forecast for March 31, 2010) that the Diesel Communities are considered to be responsible for?**

ANSWER:

The amount of deficit forecast for 2008/09 in Schedule 10 is the portion for which the Diesel Communities are responsible.

Please see Manitoba Hydro's response to CAC/MSOS/MH II-25(a) for balances as at March 31, 2009, and March 31, 2010.

CAC/MSOS/MH II-26

Subject: OM&A

Reference: CAC/MSOS/MH I-111 b)

- a) Please provide a table that, for the same years, sets out the OM&A target as per the relevant CSP.

ANSWER:

Please see the following table.

Forecasted OM&A Cost per Customer - CSP Years 2004/05 - 2008/09				
	OM&A cost per Customer	Source	Filing Name	Exhibit Number
2004/05	\$584	2004/05 CSP	-	-
2005/06	\$600	2005/06 CSP	08/09 GRA	Appendix 31
2006/07	\$612	2006/07 CSP	08/09 GRA	Appendix 32
2007/08	\$640	2007/08 CSP	2010/11 & 2011/12 GRA	Appendix 33
2008/09	\$665	2008/09 CSP	2010/11 & 2011/12 GRA	Appendix 34

CAC/MSOS/MH II-27

Subject: Risk

**Reference: CAC/MSOS/MH I-116 b) & c)
Tab 2, page 1**

- a) **The response to 116 c) states that while the inclusion of AOCI is effective 2009/10, the change was retroactively applied to the historic values. However, the debt ratios reported in Tab 2 do not match those in 116 c) and appear to be based on the previous calculation/definition. Please reconcile.**

ANSWER:

The 2008/09 debt ratio in Tab 2 was based on the calculation used for the 2008/09 financial statements. The debt ratio for 2008/09 will be restated in the 2009/10 financial statements.

CAC/MSOS/MH II-27

Subject: Risk

Reference: CAC/MSOS/MH I-116 b) & c)

Tab 2, page 1

- b) Please provide a schedule that sets both the Consolidated and MH-Electric Operations Debt ratios for the years 2006/07 to 2008/09 using the previous and the modified calculation for the debt ratio. Please also provide the AOCI value for each year.

ANSWER:

The following table provides the information requested.

Debt Ratio

	Current Calculation		Previous Calculation		AOCI
	Consolidated	MH Electric Operations	Consolidated	MH Electric Operations	(\$ millions)
2007	0.80	0.80	0.80	0.80	-
2008	0.73	0.73	0.76	0.76	305
2009	0.77	0.77	0.75	0.76	(169)

CAC/MSOS/MH II-28

Subject: OM&A

**Reference: CAC/MSOS/MH I-124 b) and c)
PUB/MH I-26**

Preamble: The response to #124 b) suggests that the 1% productivity improvement factor is based on the factor required to offset the expected increase in wages and salaries so as to yield a rate increase in-line with inflation as opposed to being based on the expected savings from planned productivity improvements.

The response to #26 suggests that the 1% factor is over and above any cost reductions incorporated in the cost increases anticipated by the individual business units.

a) Please confirm if the interpretation of the response to PUB/MH I-26 as outlined above is correct.

ANSWER:

In its target setting process, Manitoba Hydro allows for an escalation factor that is approximately 1% lower than the expected increase to salaries, wages and external costs that would occur with no other business changes. At the same time, the Corporation is experiencing an increase in business demands and requirements. Cost and business drivers are outlined in Appendix 4.4 of this Application.

Business Units are expected to implement productivity enhancements and make appropriate business adjustments such that all business requirements are met in an appropriate and efficient manner. Where substantial business or cost drivers create a situation where this cannot be achieved, operating funds justifications are submitted and considered for target adjustments.

CAC/MSOS/MH II-28

Subject: OM&A

**Reference: CAC/MSOS/MH I-124 b) and c)
PUB/MH I-26**

Preamble: The response to #124 b) suggests that the 1% productivity improvement factor is based on the factor required to offset the expected increase in wages and salaries so as to yield a rate increase in-line with inflation as opposed to being based on the expected savings from planned productivity improvements.

The response to #26 suggests that the 1% factor is over and above any cost reductions incorporated in the cost increases anticipated by the individual business units.

b) What specific productivity initiatives were included for the 2010/11 and 2011/21 years in the individual business unit budgets?

ANSWER:

The business unit OM&A targets for 2010/11 and 2011/12 incorporate approximately 1% productivity improvement factor. Business Unit budgets consider a number of process efficiency improvements including automation, utilization & coordination of resources, review of work procedures including standardization of work practices and other cost reduction opportunities.

Individual quantification of business unit productivity improvements is not available as the measurement of achievement is the respective department's attainment of necessary business requirements within target budget levels.

Some examples of productively improvement initiatives are as follows.

Customer Service Reorganization - Twenty customer service centres were established for managing the district operations. Each of these work locations became the central planning, estimating and scheduling hubs for rural and Winnipeg operations. The centralized work planning provides significant benefits including enhanced response

and restoration time, improved safety oversight, less duplication of administrative effort and consistency in providing services and the application of customer policy.

Transmission GIS - This information technology project is intended to establish a comprehensive transmission line database in order to effectively manage the transmission line assets. The system will also provide estimating, cost tracking and analysis functions for transmission line maintenance. Complete and comprehensive asset data allows more effective use of transmission line maintenance field resources, improves maintenance planning, reduces administration associated with transmission line maintenance and inspection activities, streamlines access to property records reducing turn-around time, helps to meet regulatory (NERC) reporting requirements and enhances decision making by tracking deficiencies and deficiency patterns.

Replacement of Converter Transformers - Manitoba Hydro has established an ongoing program for the replacement of the “Marshalling Kiosks” for the converter transformers at HVDC stations. The kiosks form the electrical connection point for the monitoring, control and protection wiring between the transformers and the station building. A new design concept has been implemented providing for a simpler “plug and play” format, making the process for replacing old converter transformers simple and efficient by eliminating the tedious and time consuming process of making individual wiring connections.

Autodialing Initiative - Implementation of an outbound dialer initiative using telephone software has replaced the very manual customer appointment business process. Examples of appointments scheduled by Manitoba Hydro include provincially mandated inspections of newly installed natural gas appliances such as furnaces or water heaters or the replacement of natural gas meters. The number of work orders scheduled is approximately 50,000 per year which can result in over 100,000 mailed letters and phone call attempts. Customer information stored in the Customer Service system now is used to generate telephone lists. By utilizing new phone technology the software automatically calls MH’s customers with pre-scripted appointments requests. This process provides timelier customer contact and allows staff to concentrate on handling exceptions and special circumstances.

Customer Metering - A process redesign on the repair, calibration and final test activities was undertaken. Previously these activities were completed at three separate stations. By combining the activities into one work cell, meter movement

has been reduced and staff receive immediate feedback on any problems as the calibrate activity is completed immediately after repair.

CAC/MSOS/MH II-28

Subject: OM&A

**Reference: CAC/MSOS/MH I-124 b) and c)
PUB/MH I-26**

Preamble: The response to #124 b) suggests that the 1% productivity improvement factor is based on the factor required to offset the expected increase in wages and salaries so as to yield a rate increase in-line with inflation as opposed to being based on the expected savings from planned productivity improvements.

The response to #26 suggests that the 1% factor is over and above any cost reductions incorporated in the cost increases anticipated by the individual business units.

c) Please check the reference made in response to 124 c) as CAC/MSOS/MH I-24 a) does not deal with productivity.

ANSWER:

The corrected reference to this response is CAC/MSOS/MH I-124(a).

CAC/MSOS/MH II-29

Subject: Surplus Energy Program

Reference: CAC/MSOS/MH I-187 a)

Appendix 10.9

Appendix 13.2

- a) **With respect to the original question, please confirm that the Net Revenue would be zero if the “Value of Spot Market Energy To Manitoba” was based on the forecast value when the SEP rates were set. If not, please provide the November 1, 2007 to October 31, 2008 value.**

ANSWER:

Confirmed.

CAC/MSOS/MH II-29

Subject: Surplus Energy Program

Reference: CAC/MSOS/MH I-187 a)

Appendix 10.9

Appendix 13.2

- b) Please confirm that Manitoba Hydro does not construct new distribution, subtransmission or regional transmission facilities to serve sales under the Surplus Energy Program.

ANSWER:

Confirmed.

CAC/MSOS/MH II-29

Subject: Surplus Energy Program
Reference: CAC/MSOS/MH I-187 a)
Appendix 10.9
Appendix 13.2

- c) **What, in the terms and conditions of service, prevents the circumstance whereby Manitoba Hydro pays for a service upgrade to supply incremental firm load and the customer, shortly thereafter, applies for the load to be served under the SEP?**

ANSWER:

Although the SEP Terms and Conditions don't explicitly state that service upgrades are to serve firm sales and not Surplus Energy sales, the section of the SEP Terms and Conditions entitled "Contract Requirements" states:

A customer will be required to enter into a formal agreement with Manitoba Hydro. The agreement will document the above Terms and Conditions as well as any others considered necessary due to the nature of a specific service."

Manitoba Hydro's electrical service agreement, which customers must sign prior to a service upgrade, would fall under "*others considered necessary*" and would bind the customer to revenue at firm rates for a minimum of three years.

CAC/MSOS/MH II-29

Subject: Surplus Energy Program

Reference: CAC/MSOS/MH I-187 a)

Appendix 10.9

Appendix 13.2

- d) **With respect to Appendix 10.9 (page 7), please provide a calculation showing that the distribution charges for each class of service equal approximately 1/3 of embedded distribution, subtransmission and regional transmission costs.**

ANSWER:

Please see the response originally provided in CAC/MSOS/MH I-186(b) which outlines the calculation.

CAC/MSOS/MH II-29

Subject: Surplus Energy Program

Reference: CAC/MSOS/MH I-187 a)

Appendix 10.9

Appendix 13.2

- e) **With respect to Appendix 13.2 (page 15), please provide a similar breakdown but by customer class. Also, for each class.**

ANSWER:

The table below provides a breakdown by rate class of the corresponding table shown on page 15 of Appendix 13.2. All SEP customers are General Service Medium with the exception of those customers in the Paper and Allied Products Industry and Quarry and Sand Pit Industry, which are all Large 750-30 kV customers.

Industry	No. of Custs	MWh	SEP Revenue	Rev/ kWh	Firm Service	Rev/ kWh	Difference
Agricultural	4	1,137	\$65,699	5.78	\$106,787	9.40	(\$41,088)
Educational	11	8,142	\$466,008	5.72	\$666,869	8.19	(\$200,861)
Local Govt	4	9,971	\$575,114	5.77	\$494,500	4.96	\$80,614
Retail Food	1	518	\$30,446	5.88	\$34,092	6.58	(\$3,646)
Total Medium	20	19,767	\$1,137,267	5.75	\$1,302,248	6.59	(\$164,981)
Paper& Allied	2	979	\$62,837	6.42	\$109,780	11.22	(\$46,942)
Quarry& Sand	3	1,601	\$97,585	6.10	\$159,098	9.94	(\$61,513)
Total Large	5	2,580	160,422	6.22	\$268,877	10.42	(\$108,455)

Note: The table on page 15 of Appendix 13.2 had a slight misprint in that the number of customers related to the Paper and Allied Products Industry should be 2 (not 1 as shown in the original table), and the number of customers in the Retail Food, Beverage and Drug Industry should be 1 (not 2 as shown).

CAC/MSOS/MH II-30

Subject: Surplus Energy Program

Reference: CAC/MSOS/MH I-188 a)

- a) **The response suggests that proactive actions are available to Manitoba Hydro to “keep SEP revenue neutral relative to the export market”. Please outline what these are.**

ANSWER:

To clarify, Manitoba Hydro takes no specific action to keep the SEP revenue neutral relative to the export market. Manitoba Hydro uses all available information to predict the spot market prices and marginal value for the following week and doesn't deliberately adjust the prices to achieve revenue neutrality.

In general, there is a low overall variation of revenue from SEP customers and the comparable export market revenues, as shown in the annual SEP reports. Manitoba Hydro acknowledges that at any given moment the volatility in the export market prices or a change in system conditions (e.g. export transmission capability) may create a variation from the forecast prices. The effects of these variations cancel out over time.

CAC/MSOS/MH II-31

Subject: General Service Rates
Reference: CAC/MSOS/MH I-190 a)
MIPUG/MH I-18 a) & c)

- a) **The CAC/MSOS response did not address the potential application of TOU rates to regular GS-Large customers (i.e., non-EIIR customers). The MIPUG response just mentions “additional TOU proposals”. Please outline specifically what classes/subclasses will be targeted by the additional TOU proposals and when the proposal will be brought forward to the PUB.**

ANSWER:

Time-of-use rates, if implemented, would initially apply to all General Service Large >30 kV customers, with further application to the General Service Large 750-30 kV customers once interval metering is available to all customers in this class.

As noted in responses to MIPUG/MH I-18(a) and (c) Manitoba Hydro intends to develop and review TOU proposals once the current GRA review is completed. This will require approximately 6-8 months to finalize, consult with customers and prepare an Application.

CAC/MSOS/MH II-32

Subject: Financial Results
Reference: MIPUG/MH I-4 a)
MIPUG/MH I-11 b) & d)
MIPUG/MH I-20 a) & b)

- a) **With respect to 4 a), 11 b) and 20 a), there is no separate EIIR class shown. Where are the loads and revenues for the EIIR class incorporated.**

ANSWER:

With respect to:

MIPUG/MH I-4(a) - the EIIR class is shown as a separate line item after the Large >100 kV class, as provided on both tables on Page 2 of 2 of the response. There are no EIIR values shown on Page 1 of 2 because the figures reported on that page pertain to actual data (not forecast) for which there is no EIIR revenue to report as there was no EIIR approved rate.

MIPUG/MH I-11(b) - the loads associated with EIIR are incorporated in their respective rate class (i.e. Large 30-100 kV and Large >100 kV). The System Load Forecast does not differentiate the load of these rate classes into “below baseline” load and “above baseline” load. This split is only done when determining General Consumers Revenue.

MIPUG/MH I-11(d) - the question to this interrogatory pertain to new, large industrial loads. It did not request a breakdown of that load into EIIR / non-EIIR load.

MIPUG/MH I-20(a) - the response to this interrogatory stated “*Assumptions related to the Energy Intensive revenues are discussed in response to MIPUG/MH I-20(b).*” The loads associated with the revenue reported in response to MIPUG/MH I-20 b) are included under the respective rate class (i.e. Large 30-100 kV and Large >100 kV).

MIPUG/MH I-20(b) - the response provides the preliminary revenue estimates related to the EIIR.

CAC/MSOS/MH II-32

Subject: Financial Results
Reference: MIPUG/MH I-4 a)
MIPUG/MH I-11 b) & d)
MIPUG/MH I-20 a) & b)

b) With respect to 20 b), what are the load and revenue values incorporated in the GRA (i.e., the IFF and Proof of Revenue) and what are the new revised values?

ANSWER:

The following table provides the EIIR loads and incremental revenues included in IFF09 and the Proof of Revenues filed as part of the General Rate Application. These figures were derived based on the 2009 System Load Forecast and EIIR methodology consistent with what had been previously filed with the PUB. Manitoba Hydro had not yet completed its revised EIIR program design at the time figures were needed for input into the IFF and General Rate Application, therefore the old methodology was used as an interim estimate.

		\$000's	GWh
Large >100 kV:	2010/11	\$4,921	216.8
	2011/12	\$7,509	330.8
Large 30-100 kV:	2010/11	\$0	0.0
	2011/12	\$0	0.0

The revised EIIR program design was presented to some customers in January 2010. It was at this time that customers indicated that the recession had had a greater impact on their operations than initially thought. The 2009 System Load Forecast energy estimates therefore were revised to reflect more current load estimates. The result of 1) change in rate design and 2) change in load forecast energy estimates resulted in the following figures being filed as part of the February 12, 2010 EIIR Application.

		\$000's	GWh
Large >100 kV:	2010/11	\$2,747	123.2
	2011/12	\$4,993	210.4
Large 30-100 kV:	2010/11	\$0	0.0
	2011/12	\$1	0.1

CAC/MSOS/MH II-32

Subject: Financial Results
Reference: MIPUG/MH I-4 a)
MIPUG/MH I-11 b) & d)
MIPUG/MH I-20 a) & b)

- c) **The breakdown provided in 11 b) does not include the Potential Large Loads classification noted in Appendix 7.1, page 24. Where are these loads reflected in the response and are these loads equivalent to those assumed for the EIIR class?**

ANSWER:

The breakdown provided in response to MIPUG/MH I-11(b) is by rate class. Potential Large Loads are not considered a rate class, but rather a potential customer(s). It is assumed that the energy used by this “customer(s)” would be billed at the Large >100 kV rate and therefore included under the “Large >100 kV (ex LUBD)” column.

Potential Large Loads are included in the EIIR revenue calculation and are treated as a new customer(s). Since there is no historical data, determination of the on-peak / off-peak energy split is based on the on-peak / off-peak ratio of the total Large >100 kV class.

As noted in response to MIPUG/MH I-11(d) there is no load associated with Potential Large Loads for the first two years of the forecast therefore the EIIR revenues don’t impact the Proof of Revenues included in the Application.

CAC/MSOS/MH II-33

Subject: Financial Results

Reference: MIPUG/MH I-8 b))

<http://gazette.gc.ca/rp-pr/p1/2009/2009-08-08/html/reg5-eng.html>

- a) **Does the forecast NEB Assessments reflect recent proposals by the Government of Canada to change the regulations regarding NEB cost recovery? What is the current status of the NEB proposals and what is the likely impact on Manitoba Hydro?**

ANSWER:

The forecast NEB Assessments do not reflect the referenced proposals by the Government of Canada to change the regulations regarding NEB cost recovery. The proposals were implemented for the 2010 calendar year, after the forecasts were completed. Manitoba Hydro's actual NEB charges have been dependent upon Manitoba Hydro's relative share of all Canadian electricity exports in recent years. The new cost recovery regulations will share the National Energy Board costs over the total of all Canadian electricity exports plus imports. As Manitoba Hydro has a lower share of Canadian electricity imports than exports, on average this change is expected to reduce Manitoba Hydro's share of National Energy Board costs by about \$200,000 per year.

CAC/MSOS/MH II-34

Subject: COSA

Reference: MIPUG/MH I-22 e)

a) Please provide a copy of PCOSS08 as filed with the Board in March 2009.

ANSWER:

Please see Attachment 1, which was filed on March 4, 2009 in response to Directive 19 in PUB Order 150/08.

Order 116/08 Directive 19 Revisions to PCOSS08

The attached Electric Cost of Service schedules are filed to comply with Directive 19 in PUB Order 116/08 requiring Manitoba Hydro to re-file the results of the 2007/08 Prospective Cost of Service Study (“PCOSS08”) with modifications as directed in that Order. Order 116/08 was issued subsequent to PUB Order 90/08 which dealt with Manitoba Hydro’s 2008/09 General Rate Application. Order 116/08 provided further direction on a number significant matters including directing Manitoba Hydro to make some specific modifications to the Corporation’s Cost of Service Study (“COSS”) that had been filed as part of the 2008/09 GRA as compliant with earlier Cost of Service Order 117/06. Directed modifications are discussed below.

- a) **Manitoba Hydro was directed to re-file the study using the methodology as defined by Order 117/06 (Directive 19(a)).**

Manitoba Hydro has revised PCOSS08 to reflect the intention of the PUB as clarified in Order 116/08. Differences from the methodology used by Manitoba Hydro in preparing PCOSS08 as per order 117/06 and PCOSS08 as revised pursuant to the clarifications issued in Order 116/08 are discussed in the remainder of the document.

- b) **The PCOSS should incorporate diesel and exports in the same fashion as other domestic customer classes (Directive 19(b)).**

As directed the Export and Diesel classes have been incorporated, and disclosed, in the study in the same fashion as other customer classes as shown in Schedules 5 and 6.

- c) **Fifty percent of fixed and 100% variable thermal plant costs are to be directly assigned to the Export class. (Directive 19(c)).**

In Order 117/06 Manitoba Hydro was directed to allocate costs to the export customer class in a manner that reflected cost causation, and in particular, costs assigned to the Export class were to include thermal plant costs.

In PCOSS08 filed to support the 2008/09 GRA, Manitoba Hydro assigned the thermal fuel costs to the export customers, while the remaining operating and maintenance, interest and depreciation expense were allocated as part of the generation pool. Manitoba Hydro believed this treatment was the closest cost-causal interpretation consistent with the directive. MIPUG provided support for Manitoba Hydro’s interpretation and agreed that the treatment did not appear unreasonable.

In Order 116/08 the Board stated that while it understood the rationale that “thermal plants provide dispatchable energy, increase dependable energy for export, and enhance the reliability of domestic energy and, as such, all non-variable costs should be shared by both domestic and export classes”, the approach “would reject the principles of cost causation and would be avoiding a proper allocation of costs” (Order 116/08, pp 270). The Directive from

Order 117/06 was modified in 116/08 to assign all fuel costs and 50% of the fixed costs to the Export class.

Manitoba Hydro continues to believe that it is inconsistent with cost causation, and therefore inappropriate to directly assign fixed thermal plant costs to the Export class, or to assign any fixed cost at all to opportunity export sales. However, as directed, 100% of the fuel costs of \$23.2 million have been directly assigned to the Export class in the revised study. The remaining fixed operating and maintenance costs (\$20.5M), interest (\$20.3M) and depreciation (\$17.5) are split evenly between exports and the generation pool. The \$52.4 million in thermal plant fixed and variable costs assigned to exports implies a cost of 8.92¢/kWh for the 587 GW.h of thermal energy forecast in PCOSS08. The remaining costs are assigned to the generation pool for allocation to the domestic and Export classes, with the export share reduced for sales deemed served by thermal generation and power purchases.

d) Assign DSM cost directly to export class and add DSM energy savings to domestic load for Generation cost-sharing purposes (Directive 19(d)).

Order 117/06 directed Manitoba Hydro to directly assign the cost of domestic DSM to export customers, but did not provide a specific treatment for DSM energy. In PCOSS08 Manitoba Hydro interpreted the directive to mean that the associated DSM energy savings should also be assumed to serve the export market. The PUB clarified their intent in 116/08, and stated that while the costs of DSM are to be directly assigned to the export class, exports should not to be deemed to receive the benefit from the associated energy savings.

As directed Manitoba Hydro has assigned the costs of domestic DSM programs to the Export class, and added the DSM energy and capacity savings into the domestic load in this revised PCOSS. No reduction was made to the Export class energy or demand for cumulative DSM savings.

Energy savings from DSM programs are included in the PCOSS in two ways. Energy savings from programs undertaken in the past are implicitly and inextricably included in the forecast energy consumption for the class. Additional energy savings from new DSM planned for the two forecast years included in the PCOSS are then explicitly assigned to reduce forecast consumption for each class. This treatment of the DSM energy savings is consistent with PCOSS prepared prior to the issuance of 117/06.

In this revision to PCOSS08, once forecast class loads (including savings from DSM undertaken in the two forecast years) are calculated, the forecast cumulative DSM savings of 1,350 GW.h (actual to 2005/06 plus forecast for 2006/07 and 2007/08) are added back to the domestic classes in accordance with Directive 19(d). The determination of class energy including cumulative DSM is illustrated in Schedule 1. The DSM savings are assumed to have the same distribution between the twelve time periods as the forecast class energy when determining the weighted energy allocator for Generation cost-sharing purposes. The determination of marginal cost weighted class energy including cumulative DSM is illustrated in Schedule 2.

While forecast DSM savings are allocated to individual classes for rate design and use in the PCOSS, the DSM cumulative savings have only been tracked on an aggregate basis by sector, and are not available broken down by customer class. The sector aggregations can be directly matched to a specific class in the case of Residential programs, but in the cases of Industrial and Commercial programs participants belong to multiple classes. To estimate the savings on a class level, cumulative DSM savings aggregated by sector have been split using the forecast for DSM as used in the PCOSS (See Table 1). For example, if General Service Medium class was expected to provide 36% of the forecast savings from the Commercial DSM programs, then 36% of the 539 GW.h savings projected from Commercial programs to the end of 2007/08 would be added to the GSM load.

The class share of forecast sector savings from a sample of past studies (PCOSS from 1995, 1999, 2004 and 2008) has been averaged to recognize the evolution in the Power Smart programs as technologies change, existing opportunities are exhausted and new ones identified. Table 2 shows the average class share of forecast savings for the Commercial and Industrial sector programs in the sampled studies. As a PCOSS is not prepared each year, and due to the considerable effort required to produce the data, a complete analysis incorporating all years is neither practical nor even possible.

Unlike other classes that benefit from ongoing DSM programs, the Streetlighting and Sentinel conversion was completed in a single program spanning several years in the early 1990's and accordingly are not represented in Power Smart program forecasts since that time. The programs were significant, but would not be recognized in the revised PCOSS without a specific adjustment to the methodology used to estimate class share of DSM savings. A post-conversion review of the Streetlighting and Sentinel programs identified the savings realized from the conversion. As these savings are directly attributable to the lighting class, they are removed from the Commercial sector savings before allocating the remaining savings between classes.

While Manitoba Hydro believes this method of estimating class share of DSM savings is the most reasonable given the lack of historical data at the detailed level, it should be stressed that these results may vary considerably from actual class-by-class savings had they been tracked in that manner since the Power Smart program's inception.

Table 1 – Cumulative DSM Energy Savings Forecast to 2007/08 (GW.h @ Generation)

Sector	Program Savings by Sector	Codes & Standards Savings Attributed to Sectors	Total Savings by Sector
Residential (including Customer Service Initiatives)	113.0	279.9	392.9
Industrial	349.0	27.5	376.6
Commercial (less A&R Lighting)	386.5	151.4	538.0
A&R Lighting	42.6	-	42.6
Total Energy Savings	891.1	458.9	1,350.0

Table 2 – Average Class Share of Forecast Sector Savings in PCOSS

Sector	Res	A&R Lighting	GSS ND	GSS Demand	GSM	GSL 0-30	GSL 30-100	GSL >100	Total
Industrial	0.0%	0.0%	2.5%	2.5%	17.3%	17.7%	6.3%	53.8%	100%
Commercial	0.5%	0.0%	25.8%	27.4%	36.0%	8.4%	1.1%	0.7%	100%

Table 3 – Sector Energy Savings Assigned to Classes (GW.h @ Gen)

Sector	Res	A&R Lighting	GSS ND	GSS Demand	GSM	GSL 0-30	GSL 30-100	GSL >100	Total
Residential	392.9								392.9
Industrial	-		9.4	9.4	65.0	66.7	23.5	202.5	376.6
Commercial	2.9		138.6	147.4	193.9	45.4	6.1	3.6	538.0
A&R Lighting		42.6							42.6
Total Savings	395.8	42.6	148.0	156.8	258.9	112.1	29.6	206.1	1,350.0

Both Coincident Peak (CP) and class Non-Coincident Peak (NCP) demand allocators for Transmission, Subtransmission and Distribution incorporate the cumulative DSM capacity savings into the forecast class demand in a similar manner. Cumulative winter and summer demand savings by sector, excluding rate programs, have been broken down to the class level on the same basis as energy savings and added to the forecast seasonal demands used to calculate the seasonal demand (2 CP) allocator for Transmission. The determination of the seasonal demand allocator is illustrated in Schedule 3. Cumulative savings forecast to 2007/08 are 294.5 MW at Generation at winter peak, and 249.5 MW at summer peak, excluding rate programs

Demand for curtailable customers was calculated in previous PCOSS as if the customers were not curtailed at the time of the system peak. There were no curtailments in the top fifty hours, summer or winter, in the 2005/06 Load Research results used in PCOSS08 so the adjustment did not change calculated demand in the study. This adjustment to customer demand allocators, and the possible resulting increase in demand allocated costs, was offset in prior studies by crediting the affected classes with a cost reduction equal to the value of the curtailable load. However, as the demand allocators for all customer classes have now been increased by the amount of their cumulative DSM demand savings, this trade-off for the curtailable incentive is no longer applicable. As such, there is no assignment of a curtailable credit to the curtailable classes in this revised version.

The increase in class Non-Coincident Peak is estimated using the increase in winter CP and the class diversity factor, and results in an increase to total NCP load of 340.6 MW at Generation. The determination of the NCP demand allocator is illustrated in Schedule 1.

Manitoba Hydro is of the view that the treatment of DSM savings and costs, as described above, is unnecessarily cumbersome, requires significant analytical effort, provides only a rough allocation of DSM energy and demand to classes, and does not improve the results of the PCOSS. Manitoba Hydro recommends that DSM be incorporated into the PCOSS by allocating ongoing costs and benefits both to the domestic classes.

e) Use the most recent actual [not forecast] export prices to establish export revenue in the COSS (Directive 19(e)).

The 7,707 GWh of forecast export sales in PCOSS08 had an average price 6.362¢/kWh, while the actual average price for Market and Bilateral sales in 2005/06 (the most recent actual year at the time PCOSS08 was prepared) was 5.194¢/kWh. The actual average sales price has been adjusted for forecast CPI in 2006/07 and 2007/08 (2.0% per year) to calculate the inflation adjusted price used in the PCOSS of 5.404¢/kWh. For comparison purposes the actual average price received for export sales for the first three quarters of 2007/08 was 4.942¢/kWh.

Export revenue in the study also included \$42.5 million in Merchant or Off System sales that are made only when there are arbitrage opportunities to allow such sales to be made profitably. These price-sensitive sales are directly linked to an offsetting import purchase, the cost of which (\$35.2 million) is directly assigned to the export class as part of power purchases. There is no energy associated with these transactions in the PCOSS.

As a proxy for restating using actual export prices, total merchant sales revenue has been adjusted while purchases are held constant, to yield the same ratio of sales to purchases as realized in 2005/06. In 2005/06 the ratio of actual sales revenue to purchases was 114.4% for these transactions, compared to the 120.8% forecast for 2007/08.

Table 4 – Calculation of Revised System Merchant Sales Revenue

2005/06 System Merchant Sales (\$/MWh)	68.49
2005/06 System Merchant Purchase (\$/MWh)	59.87
Ratio of Sales:Purchase	114.4%
Forecast System Merchant Purchases in PCOSS08 (000\$)	35,213
Adjusted System Merchant Sales in PCOSS08 (000\$)	40,283

Export revenue includes items such as MISO Transmission Credits and other export related revenues that are not related to energy sales. These items have not been adjusted in the revised PCOSS. Revised export revenue of \$475.4 million is \$76 million less than in the prior version of PCOSS08.

Table 5 – Calculation of Revised Export Revenue

	(000 \$)
Export Sales at Forecast Price (7,707 GW.h @ 6.362¢/kWh)	490,314
Adjust Export Sales to use Actual Price (5.404¢/kWh vs 6.362¢/kWh)	(73,840)
Merchant Sales at Forecast Price	42,538
Adjust Merchant Sales to 114.4% of Forecast Merchant Purchases	(2,255)
Miscellaneous Revenue	18,662
Revised Export Revenue	475,419

Adjusting the revenue side of the transaction requires a corresponding adjustment to the cost of the supply that is subject to many of the same market forces and conditions. The 2,028 GW.h in forecast Power Purchases included in the PCOSS have been restated to use the CPI adjusted actual price of purchased power for 2005/06 of 3.939¢/kWh, resulting in the power purchase costs directly assigned to the Export class increasing by \$5.8 million. Power Purchases also include Merchant Purchases, PSO Transmission Charges and Financial Transmission Rights. These items have not been adjusted in the revised PCOSS.

Table 6 – Calculation of Revised Power Purchases

	(000 \$)
Power Purchases at Forecast Price (2,028 GW.h @ 3.652¢/kWh)	74,065
Adjust Power Purchases to use Actual Price (3.939¢/kWh vs. 3.652¢/kWh)	5,817
Merchant Purchases at Forecast Price	35,213
PSO Transmission and FTR Charges	25,181
Revised Power Purchases	140,276

The net change in Manitoba Hydro revenue due to the \$76.1 million reduction in export revenue and \$5.8 million increase in Purchased Power costs is matched on the cost side by making a \$81.9 million reduction in Contribution to Reserves (a component of Interest costs included in the PCOSS) so costs continue to equal revenue in the study.

The intervenor, COALITION, has raised concerns that this would result in revenues and net costs in the PCOSS that will not match Manitoba Hydro's projected revenue requirement as per the Integrated Financial Forecast (IFF). Manitoba Hydro does not believe that the fact that PCOSS revenues do not match Manitoba Hydro's projected revenue requirement necessarily reduces the usefulness of the PCOSS results. There is already a precedent for a mismatch between the PCOSS and the IFF revenue requirement with the addition of the Uniform Rate Adjustment (URA) which increased revenue in the PCOSS without, by definition, a similar increase to the revenue requirement.

The purpose of the COSS is to determine a fair sharing of revenue requirement among the customer classes and with minor changes in export revenue the apportionment of the revenue requirement is still valid, regardless of the precise amount of revenue required. The risk is that a dramatic reduction in export revenue requires adjustments to the PCOSS that imply a considerably lower cost for Manitoba Hydro's plant, even though the Corporation's revenue requirement as identified in the IFF does not change.

Revenue Cost Coverage (RCC) ratios for the domestic classes are utilized post allocation of net export credit and the change will not be material for most classes as a result of the change in gross export revenues. There are some classes that are more sensitive to these changes than others, and could see significant changes in their RCC with dramatic changes to export revenues. The accompanying change in interest costs has the greatest impact on plant-intensive functions such as Generation and Transmission, while the reduction in net export has a uniform effect on the net cost of all functions. As a result the net cost of Generation and Transmission after allocation of exports is reduced more than other functions due to this change. Similarly, directly assigned interest costs will change, but are not offset by net export revenues in the approved methodology. Classes with a relatively higher proportion of direct costs or Generation and Transmission related costs are liable to see greater changes than average with the directed change to export revenue.

f) Use actual [eight year] energy [SEP] prices and energy use profiles in Generation energy weighting process (Directive 19(f)).

In the version of the PCOSS08 filed during the 2008/09 GRA the energy consumption patterns from the last actual year are used to distribute forecast energy consumption into the twelve time periods, which are then weighted by the relative value of SEP energy in each period. The distribution of export energy among the twelve periods in the actual years previous to the PCOSS06 and PCOSS08 were quite different due to different water conditions in 2003/04 versus 2005/06.

The season and time of day that export sales are made by Manitoba Hydro are logically affected by changing water conditions. The pattern of domestic energy use does not share the same connection to water conditions, but is likely affected by variations in weather and other factors from year to year. Manitoba Hydro agrees that using averages improves data quality for the export customers, and to a lesser degree for the domestic classes.

Load Research data is not available to provide domestic consumption profiles over the required twelve periods for years prior to 2002/03. The revised study has used energy use profiles for the four year period from 2002/03 to the 2005/06 base year of PCOSS08. Future PCOSS will use the full eight year average as data becomes available. As expected the use of average weightings from a number of years affects the Export class distribution more than any domestic class.

Table 7 – Energy Profile Using Average of 2002/03 to 2005/06 Actual Consumptions

	Spring			Summer			Fall			Winter		
	On	Shoulder	Off	On	Shoulder	Off	On	Shoulder	Off	On	Shoulder	Off
Residential	3.3%	6.2%	3.9%	6.2%	11.6%	5.9%	4.2%	7.8%	4.9%	11.4%	20.6%	14.1%
GSS	3.7%	6.5%	3.9%	8.3%	12.6%	7.2%	4.4%	7.7%	4.7%	10.5%	18.4%	12.0%
GSM	3.9%	6.7%	4.1%	8.6%	14.0%	8.3%	4.3%	7.6%	4.7%	9.8%	16.9%	11.0%
GSL	3.8%	7.1%	5.3%	7.5%	13.8%	10.3%	3.9%	7.4%	5.6%	8.4%	15.4%	11.6%
Exports	6.3%	9.2%	3.4%	13.7%	20.6%	7.9%	3.9%	7.0%	3.7%	6.7%	11.2%	6.5%

Table 8 – Energy Profile Using 2005/06 Actual Consumption

	Spring			Summer			Fall			Winter		
	On	Shoulder	Off	On	Shoulder	Off	On	Shoulder	Off	On	Shoulder	Off
Residential	3.2%	5.9%	4.1%	6.4%	12.0%	6.4%	4.2%	7.6%	5.2%	11.2%	20.3%	13.4%
GSS	3.9%	6.7%	4.0%	8.5%	12.8%	7.5%	4.4%	7.6%	4.6%	10.4%	17.9%	11.5%
GSM	4.0%	7.0%	4.2%	8.7%	14.3%	8.4%	4.3%	7.7%	4.6%	9.6%	16.5%	10.7%
GSL	3.9%	7.1%	5.4%	7.7%	13.8%	10.5%	3.9%	7.3%	5.5%	8.3%	15.2%	11.5%
Exports	4.0%	7.8%	5.6%	9.2%	17.3%	11.7%	3.6%	7.6%	5.5%	6.5%	12.8%	8.4%

Table 9 compares the ratio of class weighted energy to their un-weighted energy under both consumption profiles, and illustrates the effect of using an averaged consumption profile versus a single year. The use of a multi-year consumption profile instead of just a single year has essentially no effect on the aggregate weighting applied to the domestic classes energy consumption, and only moderately increases the weighting applied to the export energy sales. While it is reasonable to assume that the aggregate weighting for the domestic class will not change significantly once the full eight year sample is available, it is difficult to predict the impact the additional data will have on the export aggregate weighting.

Table 9 – Comparison of Aggregate Weightings of Single vs. Multi-Year Energy Profile

	Aggregate Weight using 2002/03 to 2005/06 Profiles	Aggregate Weight using 2005/06 Profile	Increase Due to Multi-Year Profile
Residential	2.25	2.25	0.3%
GSS	2.26	2.26	0.1%
GSM	2.25	2.25	0.1%
GSL	2.17	2.17	0.0%
Exports	2.32	2.16	7.1%

Revised Results of PCOSS08

Manitoba Hydro has modeled the results of the Prospective Cost of Service Study for 2007/08 to reflect the modifications directed in Order 116/08 as discussed above. Other than the changes previously mentioned, costs and revenues in PCOSS08 have not been updated or changed in order to allow comparison between versions, and allow the effects of Order 116/08 revisions to be studied in isolation. A variance analysis illustrating the effect of incorporating these directions is included as Schedule 7. The changes were implemented on a cumulative basis in the variance analysis, and it should be noted that the impact attributed to any individual modification may be different if they had been implemented in a different sequence.

The assignment and allocation of costs as directed in Order 116/08 results in net export revenue of \$48.7 million remaining to be allocated to domestic customers, considerably lower than the \$165 million in the study prior to incorporating the 116/08 directives.

Table 10 – Comparison of Net Export Revenue under Order 116/08 vs. 117/06

	PCOSS08 116/08ⁱ (\$ Million)	PCOSS08 117/06ⁱⁱ (\$ Million)
Gross Export Revenue	475	552
Less:		
Uniform Rates	17	17
DSM	23	25
Trading Desk	13	13
MAPP/MISO/NEB	7	7
Purchased Power	140	134
Thermal Costs	52	23
Allocated Generation	129	116
Allocated Transmission	45	51
Net Export Revenue	49	165

Table 11 – Comparison of Class Share of Export Revenue

Customer Class	PCOSS08 116/08ⁱ	PCOSS08 117/06ⁱⁱ	PCOSS06 Previousⁱⁱⁱ	PCOSS06 Recommended^{iv}
Residential	42.6%	42.4%	34.2%	42.6%
GSS Non-Demand	8.6%	8.3%	8.4%	9.6%
GSS Demand	9.8%	9.7%	8.6%	8.3%
GSM	13.6%	13.4%	14.8%	13.6%
GSL 0-30 kV	7.0%	7.0%	7.3%	6.5%
GSL 30-100 kV	3.1%	3.2%	3.5%	2.6%
GSL >100kV	13.8%	14.5%	22.8%	15.4%
A&R Lighting	0.7%	0.5%	0.4%	0.5%
Diesel	1.0%	0.9%	0.0%	0.8%

As shown in Table 12, application of Order 116/08 directives yields results similar to those from studies before the review and revision of Manitoba Hydro's Cost of Service methodology began. With the reduction of net export to only \$49 million, the distorting effects of exports on class RCC's remain. Although the study no longer explicitly allocates net export credits as an offset to Generation and Transmission costs, the assignment of sufficient Generation and Transmission expenses to the Export class to largely eliminate the net export credit has simply shifted the appearance of the allocation but not its results.

The changes perpetuate the distorting effects of export revenues that caused concern for Manitoba Hydro and some of the parties in the first place. Using the methodology from 116/08 results in four classes falling within the 0.95 - 1.05 zone of reasonableness (ZOR), three classes above the ZOR, and one below the ZOR.

The greatest impact on class RCC is from the assignment of DSM costs directly to the Export class, and the addition of DSM savings back to the domestic class load. Unfortunately the lack of detailed historic data on realized savings requires a number of assumptions and allocations to disaggregate savings to the class level, and yields an estimate for which the level of confidence is disproportionate to its impact on the results of the study.

Table 12 – Comparison of Class RCC

Customer Class	PCOSS08 116/08ⁱ	PCOSS08 117/06ⁱⁱ	PCOSS06 Previousⁱⁱⁱ	PCOSS06 Recommended^{iv}
Residential	96.2%	96.4%	92.2%	97.0%
GSS Non-Demand	101.4%	104.3%	103.1%	107.4%
GSS Demand	107.8%	107.2%	106.0%	105.4%
GSM	100.2%	101.1%	102.9%	100.6%
GSL 0-30 kV	89.9%	90.4%	94.0%	90.1%
GSL 30-100 kV	108.4%	103.7%	109.4%	101.5%
GSL >100kV	112.0%	108.7%	114.7%	103.2%
A&R Lighting	102.4%	105.8%	105.2%	107.1%

ⁱ Version of PCOSS described herein with changes as directed in PUB Order 116/08

ⁱⁱ Version of PCOSS submitted during the 2008/09 GRA with changes as directed in PUB Order 117/06

ⁱⁱⁱ Version of PCOSS submitted during the 2005 Cost of Service Review using Manitoba Hydro's then current methodology

^{iv} Version of PCOSS submitted during the 2005 Cost of Service Review using Manitoba Hydro's preferred methodology

SCHEDULE 1

2008 Prospective Cost of Service Study
Prospective Peak Load Report
Using Top 30 Peak Hours

Class	Forecast # Cust.	Forecast Total kW/h	Forecast Subs Before DSM	Energy Data				Forecast DSM kW/h Savings	Forecast Cumulative DSM kW/h Savings to 07:08	KWh Generated Adjusted	CP Factor	Demand Data										Class Demand NCP MW @ Meter @ J20									
				Total kW/h Sales After DSM E20	Distribution Losses	Common Bus Losses	Forecast DSM kW/h Savings					CP @ Meter After DSM Non-Rec. MW	Forecast DSM MW Non-Rec.	Forecast DSM MW Non-Rec.	Forecast DSM MW Non-Rec.	Forecast DSM MW Non-Rec.	Forecast DSM MW Non-Rec.	Forecast DSM MW Non-Rec.	Forecast DSM MW Non-Rec.	Forecast DSM MW Non-Rec.	Forecast DSM MW Non-Rec.		Forecast DSM MW Non-Rec.	Forecast DSM MW Non-Rec.	Forecast DSM MW Non-Rec.						
Residential	430,295	6,538,090,000	(42,040,000)	6,496,050,000	420,132,337	677,844,495	395,799,888	7,989,907,221	53.6%	1,388.65	(3.81)	1,384.84	55.1%	(72,65)	1,312.19	115,97	165.69	88.07	88.07	1,690.75	84.9%	1,551.31	1,943.53	1,914.94	1,904.53	1,914.94	1,904.53				
Non-Demand	20,118	61,960,000	-	6,466,343	1,578,886	6,466,343	1,578,886	7,245,609	157.8%	4.29	4.27	4.47	0.40	0.56	0.00	0.00	0.00	0.00	4.00	80.0%	4.12	5.00	67.86	67.86	54.3	8.0%	55.89				
Seasonal	5,490	19,516,000	-	1,952,198	2,056,752	2,056,752	2,056,752	2,281,430	67.4%	3.29	3.29	3.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.12	5.00	5.00	5.00	5.00	5.00				
Water Heating	455,903	6,079,586,000	(42,040,000)	6,577,526,000	425,401,801	686,451,591	395,799,888	8,035,129,280	54.0%	1,986.42	(3.81)	1,982.61	55.1%	(72,65)	1,919.96	116,65	166.07	88.07	88.07	1,690.75	84.9%	1,551.31	1,987.80	1,987.80	1,987.80	1,987.80	1,987.80	1,987.80			
Total Residential																															
GS Small - Single Phase	39,843	987,200,579	(19,818,120)	917,382,459	99,331,818	95,714,064	103,021,792	1,175,478,133	61.6%	173.21	(3.94)	169.26	10.4%	(13.70)	155.56	13.75	19.57	22.32	22.32	211.20	83.0%	187.42	254.46	254.46	254.46	254.46	254.46	254.46	254.46		
Non-Demand	3,371	489,887,449	(6,995,007)	482,892,442	31,179,228	30,312,506	37,086,499	609,688,777	68.1%	81.76	(1.39)	80.38	4.1%	(4.35)	78.03	6.63	9.44	8.03	8.03	99.13	87.2%	86.04	111.68	111.68	111.68	111.68	111.68	111.68	111.68		
Seasonal	43,214	1,426,289,000	(26,815,027)	1,399,473,973	90,311,595	146,053,570	140,108,292	1,776,165,909	65.3%	250.77	(5.35)	245.42	14.4%	(19.05)	230.38	20.01	30.15	30.15	30.15	310.33	84.3%	271.46	384.13	384.13	384.13	384.13	384.13	384.13	384.13		
Water Heating	509	6,104,000	-	6,104,000	394,776	637,033	637,033	2,138,909	68.9%	1.01	-	1.01	0.0%	-	0.99	0.09	0.13	0.00	0.00	1.22	75.0%	1.34	1.63	1.63	1.63	1.63	1.63	1.63	1.63		
Total Single Phase	44,202	1,637,153,028	(26,815,027)	1,610,338,001	91,213,676	147,187,372	140,108,292	1,788,847,241	63.8%	256.31	(5.35)	250.98	14.4%	(19.05)	231.92	20.50	29.18	30.35	30.35	311.95	83.1%	278.96	374.82	374.82	374.82	374.82	374.82	374.82	374.82		
GS Small - Three Phase	109,11	409,538,420	(8,653,780)	400,884,640	19,097,891	41,138,756	44,985,493	508,906,781	61.6%	75.63	(1.72)	73.91	4.5%	(5.89)	67.03	4.54	8.38	9.75	9.75	90.59	83.0%	81.84	109.15	109.15	109.15	109.15	109.15	109.15	109.15		
Non-Demand	5,877	1,278,912,552	(22,857,093)	1,256,055,459	149,749,846	159,629,536	119,725,705	1,910,077,645	68.1%	265.95	(4.47)	259.47	13.1%	(17.27)	242.21	16.19	29.87	25.93	25.93	314.20	87.2%	277.76	360.32	360.32	360.32	360.32	360.32	360.32	360.32		
Seasonal	163,888	1,988,150,972	(31,241,773)	1,956,909,199	93,295,737	200,968,292	164,711,198	2,414,884,427	66.7%	339.58	(6.20)	333.38	17.6%	(22.25)	310.13	20.73	38.23	35.68	35.68	404.79	86.2%	359.60	469.46	469.46	469.46	469.46	469.46	469.46	469.46		
Total Three Phase																															
Total G.S. Small	60,754	1,146,629,969	(28,471,807)	1,118,158,162	70,429,709	156,979,630	148,097,286	1,683,904,914	65.3%	246.84	(5.07)	241.17	14.0%	(16.69)	233.48	18.29	37.95	37.95	37.95	391.79	83.0%	390.26	515.60	515.60	515.60	515.60	515.60	515.60	515.60		
Non-Demand	9,148	2,688,000,000	(28,844,000)	2,659,156,000	108,377,024	118,444,044	158,832,286	2,510,242,322	62.1%	348.71	(5.86)	338.85	17.1%	(22.61)	317.23	23.82	39.31	33.96	33.96	411.32	87.2%	368.88	471.99	471.99	471.99	471.99	471.99	471.99	471.99	471.99	
Seasonal	60,002	3,014,440,000	(38,056,800)	2,976,383,200	138,806,784	347,021,840	304,819,490	4,192,013,336	62.4%	594.55	(11.33)	583.02	32.1%	(42.50)	540.72	41.11	67.26	66.03	66.03	715.11	85.4%	633.06	837.59	837.59	837.59	837.59	837.59	837.59	837.59		
Water Heating	509	4,760,000	-	4,760,000	394,776	637,033	637,033	2,138,909	68.9%	1.01	-	1.01	0.0%	-	0.99	0.09	0.13	0.00	0.00	1.22	75.0%	1.34	1.63	1.63	1.63	1.63	1.63	1.63	1.63		
Total G.S. Small	61,290	3,625,384,000	(38,056,800)	3,587,327,200	184,809,414	348,159,664	304,819,490	4,204,217,007	65.4%	595.89	(11.33)	584.36	32.1%	(42.50)	542.08	41.23	67.43	66.03	66.03	716.74	84.9%	635.36	842.28	842.28	842.28	842.28	842.28	842.28	842.28	842.28	
General Service - Medium	1,801	2,987,000,000	(38,282,780)	2,948,717,220	140,580,121	302,823,792	238,898,845	3,651,020,088	73.6%	462.03	(7.21)	454.81	12.6%	(16.67)	438.14	29.29	54.03	56.95	56.95	578.40	90.6%	483.59	634.42	634.42	634.42	634.42	634.42	634.42	634.42	634.42	
General Service - Large	252	1,636,326,000	(24,523,120)	1,611,802,880	62,336,552	164,105,030	112,120,996	1,950,374,458	81.2%	229.42	(4.26)	225.16	0.2%	(0.27)	224.88	12.47	27.44	25.34	25.34	290.13	84.2%	267.08	344.57	344.57	344.57	344.57	344.57	344.57	344.57	344.57	
30 - 100 KV	27	769,958,000	(1,810,474)	768,147,526	8,961,613	76,179,968	23,053,906	876,338,013	83.2%	105.35	(0.47)	104.89	-	-	104.89	1.60	12.31	5.47	5.47	124.27	77.7%	134.99	159.94	159.94	159.94	159.94	159.94	159.94	159.94	159.94	
30 - 100 KV - Curtailment Costs	1	220,000,000	(517,306)	219,482,694	2,560,600	21,765,464	6,871,889	2,580,985,947	98.0%	255.56	(0.11)	254.44	-	-	254.44	0.39	2.99	1.33	1.33	301.5	94.1%	27.04	32.04	32.04	32.04	32.04	32.04	32.04	32.04	32.04	
Over 100KV - Curtailment Costs	1	2,662,716,000	(5,347,953)	2,657,368,047	-	266,484,554	105,292,717	3,023,143,318	97.0%	348.43	(0.35)	347.60	-	-	347.60	-	40.18	25.85	25.85	411.65	91.8%	376.65	450.55	450.55	450.55	450.55	450.55	450.55	450.55	450.55	
Over 100KV - Curtailment Costs	3	2,586,060,000	(5,141,061)	2,580,918,939	-	249,459,556	160,855,448	2,933,114,908	97.3%	298.36	(0.11)	297.65	-	-	297.65	-	38.41	27.14	27.14	354.19	95.8%	310.79	399.12	399.12	399.12	399.12	399.12	399.12	399.12	399.12	399.12
Total G.S. - Large	294	7,839,000,000	(37,320,220)	7,801,679,780	71,855,765	771,987,942	347,899,257	8,954,235,644	88.6%	1,007.11	(6.38)	1,000.73	0.2%	(0.27)	1,000.46	14.46	17.32	86.13	86.13	1,213.37	89.5%	1,118.45	1,356.84	1,356.84	1,356.84	1,356.84	1,356.84	1,356.84	1,356.84	1,356.84	1,356.84
SEP	22	21,000,000	-	21,000,000	1,001,176	2,156,633	24,157,909	24,157,909	44.8%	5.34	-	5.34	-	-	5.34	0.26	0.66	0.66	6.35	78.7%	6.78	8.07	8.07	8.07	8.07	8.07	8.07	8.07	8.07	8.07	
GSU 0 - 30 KV	6	2,700,000	-	2,700,000	104,423	274,899	3,079,322	3,079,322	88.8%	0.55	-	0.55	-	-	0.55	0.02	0.04	0.04	0.41	18.0%	1.02	2.26	2.26	2.26	2.26	2.26	2.26	2.26	2.26	2.26	
Total SEP	28	23,700,000	-	23,700,000	1,105,599	2,431,532	2,431,532	2,431,532	47.5%	5.68	-	5.68	-	-	5.68	0.38	0.70	0.70	6.76	65.3%	8.70	10.33	10.33	10.33	10.33	10.33	10.33	10.33	10.33	10.33	
Street Lighting	12,24	85,666,630	-	85,666,630	5,490,596	8,969,464	34,032,420	134,100,239	119.7%	8.15	-	8.15	-	-	8.15	0.72	1.03	3.03	3.03	15.93	38.2%	21.33	33.84	33.84	33.84	33.84	33.84	33.84	33.84	33.84	33.84
Street Lighting	2,576	10,530,000	-	10,530,000	688,093	1,078,072	2,066,165	2,066,165	119.7%	0.98	-	0.98	-	-	0.98	0.09	0.12	0.28	0.28	1.97	38.2%	2.57	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84
Total - Lighting	15,000	95,996,630	-	95,996,630	6,208,599	10,047,536	42,588,420	154,866,345	119.7%	9.13	-	9.13	0.0%	-	9.13	0.81	1.15	3.81	3.81	14.89	38.2%	23.90	38.99	38.99	38.99	38.99	38.99	38.99	38.99	38.99	38.99
Total - General Consumers	534,116	20,998,566,830	(175,700,000)	20,822,866,830	33,664,489	2,121,869,056	1,350,000,000	25,184,092,																							

SCHEDULE 2

2008 Prospective Cost of Service Study
Prospective Peak Load Responsibility Report
Energy (MW.h) Weighted by Marginal Cost

	Spring			Summer			Fall			Winter			Total	Weighted Energy/1000
	Peak	Shoulder	Off Peak	Peak	Shoulder	Off Peak	Peak	Shoulder	Off Peak	Peak	Shoulder	Off Peak		
Residential	260,215,668	491,708,977	311,526,521	495,985,920	927,184,012	472,795,945	335,498,650	623,540,968	391,257,440	909,479,895	1,646,211,365	1,124,525,380	7,989,930,721	18,010,482
Residential PRWH	930,431	1,758,162	1,113,899	1,989,469	3,719,064	1,896,450	944,778	1,755,917	1,101,797	1,879,895	3,401,813	2,322,775	22,814,950	50,826
Residential Seasonal	3,425,956	6,473,758	4,101,506	8,334,687	15,580,661	7,944,996	2,520,237	4,683,986	2,939,092	4,059,278	7,348,795	5,019,955	72,433,609	160,183
GS Small Non-Demand	62,844,245	111,722,522	64,596,402	146,123,313	210,944,436	118,819,101	73,513,433	129,314,557	77,675,964	177,130,903	300,384,838	199,215,219	1,681,284,914	3,817,507
GS Small Non-Demand PRWH	312,509	555,570	321,223	730,361	1,054,354	593,888	311,688	548,277	329,336	614,416	1,073,167	691,020	7,135,809	16,088
GS Small Non-Demand Seasonal	316,323	562,348	325,142	908,998	1,312,235	739,145	170,628	300,144	180,289	193,569	338,097	217,703	5,564,622	12,401
GS Small Demand	92,573,922	161,090,331	98,014,160	196,384,238	319,037,872	185,454,789	112,048,121	195,964,779	121,278,023	263,960,116	460,565,323	304,374,748	2,510,746,422	5,660,405
GS Medium	141,211,522	245,898,382	149,823,196	315,113,424	511,972,152	302,665,618	158,215,234	277,528,164	170,711,983	356,718,215	618,339,374	402,722,824	3,651,020,088	8,209,245
GS Large 750-30kV	81,095,211	135,150,774	88,200,891	177,123,119	279,107,637	182,112,596	85,755,539	143,444,686	94,733,982	181,882,142	299,086,616	202,681,266	1,950,374,458	4,355,577
GS Large 30-100kV	30,842,802	60,123,907	47,091,513	61,916,682	116,138,204	91,748,195	33,964,080	65,167,732	51,329,110	73,402,019	137,489,749	107,104,019	876,338,013	1,890,530
GS Large 30-100kV Curtailed	9,053,239	17,894,055	13,348,520	18,441,966	33,527,303	27,137,792	9,339,480	18,612,230	14,048,376	19,693,963	38,018,266	29,080,757	250,395,947	539,590
GS Large > 100kV	116,529,553	221,981,830	172,704,109	209,744,857	388,509,097	304,656,889	118,328,202	227,595,253	175,787,962	251,479,480	469,640,461	366,387,626	3,023,145,318	6,522,504
GS > 100kV Curtailed	104,309,191	204,100,159	156,536,299	210,169,696	412,843,813	318,947,713	108,197,066	213,690,588	163,011,685	228,095,845	438,441,331	336,828,523	2,895,171,908	6,229,885
Street Lights	-	5,882,643	14,551,800	464,419	10,991,253	29,103,600	4,798,998	8,359,545	17,493,121	10,217,221	17,957,541	34,986,243	154,806,385	280,891
Totals	903,660,572	1,664,903,418	1,122,455,179	1,843,431,149	3,233,742,095	2,044,716,718	1,043,606,133	1,910,506,808	1,281,878,161	2,478,807,137	4,447,296,736	3,116,159,059	25,091,163,164	55,756,113
Exports	367,199,670	539,397,650	201,254,829	804,708,027	1,209,304,879	462,675,421	228,589,098	411,597,523	217,310,475	394,652,948	657,798,434	379,511,046	5,874,000,000	13,006,145
12 Season Wiggins	2,513	2,144	1,246	3,258	2,388	1,000	2,624	2,155	1,396	3,406	2,262	1,796		

SCHEDULE 3

2008 Prospective Cost of Service Study
Prospective Peak Load Responsibility Report
Seasonal Coincident Peaks (2 CP) at Generation Peak

	Forecast Total Energy @ Generation	Avg % of Yearly Energy	Winter				SUMMER				D14			
			Estimated Seasonal Demand	Estimated Winter DSM Adder	Estimated Seasonal Demand incl DSM	Avg % of Yearly Energy	Estimated Seasonal Demand	Estimated Summer DSM Adder	Estimated Seasonal Demand incl DSM	Seasonal CP LF	Estimated Seasonal Energy	Estimated Summer Demand	Estimated Seasonal Demand	2CP Estimated Demand
Residential	7,594,130,833	63.1%	4,794,857,598	88,070	1,385,666	36.9%	2,799,273,234	720,738	68,960	789,698	1,087,682			
Seasonal	72,433,609	34.0%	24,643,092	3,472	3,472	66.0%	47,790,517	6,660	0	6,660	5,066			
Water Heating	22,814,950	49.6%	11,316,215	2,056	2,056	50.4%	8,809,416	1,583	0	1,583	1,820			
Total Residential	7,689,379,392		4,830,816,906	88,070	1,391,194		2,855,873,167	728,981	68,960	797,941	1,094,568			
GS Small														
Non-Demand	1,533,277,628	57.8%	886,234,469	32,070	312,667	42.2%	647,043,159	200,408	28,520	228,928	270,797			
Demand	2,353,934,217	57.6%	1,355,866,109	381,807	33,960	415,767	42.4%	998,068,108	273,622	30,210	303,832	359,799		
Subtotal	3,887,211,846		2,242,100,579	662,403	728,433		1,645,111,267	474,030	58,730	532,760	630,597			
Seasonal	5,564,622	20.2%	1,124,054	158	158	79.8%	3,781,000	527	0	527	343			
Water Heating	7,135,809	49.6%	3,539,361	764	764	50.4%	3,596,448	768	0	768	766			
Total GSS	3,899,912,277		2,246,763,994	663,326	729,356		1,652,488,715	475,325	58,730	534,055	631,706			
General Service - Medium	3,392,121,243	53.2%	1,805,771,384	503,543	560,493	46.8%	1,586,349,858	439,691	50,630	490,321	525,407			
General Service - Large														
0 - 30 Kv	1,838,244,462	51.0%	936,624,149	265,071	290,411	49.0%	901,620,313	241,909	22,520	264,429	277,420			
30 - 100 Kv	853,284,107	52.4%	447,114,283	117,918	123,388	47.6%	406,169,824	93,125	4,859	97,983	110,686			
30 - 100 Kv - Curtailed Cust	243,808,758	49.8%	121,416,761	24,863	26,193	50.2%	122,391,996	28,015	1,181	29,196	27,695			
Over 100 Kv	2,917,852,601	53.1%	1,548,819,005	361,577	25,850	387,427	46.9%	1,369,033,596	281,330	22,952	304,282	345,855		
Over 100 Kv - Curtailed Cust	2,794,336,359	51.1%	1,426,919,643	329,688	22,140	351,828	48.9%	1,367,416,716	314,854	19,658	334,512	343,170		
Total G.S. - Large	8,647,526,287		4,480,893,842	1,099,117	801,300	1,179,247	4,166,632,445	959,233	71,170	1,030,403	1,104,825			
Street Lighting	112,223,965	58.2%	65,306,569	17,255	3,810	21,065	41.8%	46,917,396	-	-	10,532			
Total - General Consumers	23,741,163,164		13,429,552,695	3,586,365	294,990	3,881,355	10,308,261,582	2,603,231	249,490	2,852,721	3,367,038			
Extra Provincial	8,462,000,000	40.3%	3,409,000,000	826,171	0	826,171	59.7%	5,053,000,000	1,280,245	0	1,280,245	1,063,208		
Integrated System	32,203,163,164		16,838,552,695	4,412,536	294,990	4,707,526	15,361,261,582	3,883,476	249,490	4,132,966	4,420,246			

SCHEDULE 4

Manitoba Hydro
Prospective Cost Of Service Study
March 31, 2008
Revenue Cost Coverage Analysis
MH Model of 11/6/08 Directives
S U M M A R Y

Customer Class	Total Cost (\$000)	Class Revenue (\$000)	RCC % Pre Export Allocation	Net Export Revenue (\$000)	Total Revenue (\$000)	RCC % Current Rates
Residential	471,650	433,136	91.8%	20,721	453,857	96.2%
General Service - Small Non Demand	95,714	92,895	97.1%	4,205	97,100	101.4%
General Service - Small Demand	108,460	112,162	103.4%	4,765	116,926	107.8%
General Service - Medium	150,430	144,186	95.8%	6,609	150,795	100.2%
General Service - Large 0 - 30kV	77,138	65,925	85.5%	3,389	69,314	89.9%
General Service - Large 30-100kV*	34,003	35,367	104.0%	1,494	36,861	108.4%
General Service - Large >100kV*	152,443	164,004	107.6%	6,697	170,702	112.0%
*Includes Curtailment Customers						
SEP	1,748	1,561	89.3%	-	1,561	89.3%
Area & Roadway Lighting	19,105	19,243	100.7%	319	19,563	102.4%
Total General Consumers	1,110,690	1,068,480	96.2%	48,199	1,116,679	100.5%
Diesel	11,248	4,765	42.4%	494	5,259	46.8%
Export	426,726	475,419	111.4%	(48,693)	426,726	100.0%
Total System	1,548,664	1,548,664	100.0%	-	1,548,664	100.0%

SCHEDULE 5

Manitoba Hydro
Prospective Cost Of Service Study - March 31, 2008
Customer, Demand, Energy Cost Analysis
MH Model of 11/6/08 Directives
SUMMARY

Class	C U S T O M E R				D E M A N D				E N E R G Y		
	Cost (\$000)	Number of Customers	Unit Cost \$/Month	Cost (\$000)	% Recovery	Billable Demand MVA	Unit Cost \$/KVA	Cost (\$000)	Metered Energy mWh	Unit Cost ¢/kWh	
Residential	108,534	455,903	19.84	177,294	0%	n/a	n/a	165,101	6,577,526	5.21 **	
GS Small - Non Demand	20,919	52,042	33.50	35,742	0%	n/a	n/a	34,848	1,328,832	5.31 **	
GS Small - Demand	6,069	9,248	54.68	46,338	34%	2,124	7.40	51,288	2,038,415	4.02	
General Service - Medium	5,349	1,801	247.49	64,090	100%	8,042	7.97	74,382	2,948,717	2.52	
General Service - Large <30kV	2,629	252	n/a	31,655	100%	3,826	8.96 *	39,465	1,611,803	2.45	
General Service - Large 30-100kV	1,526	28	n/a	8,965	100%	2,104	4.99 *	22,019	987,630	2.23	
General Service - Large >100kV	1,868	14	n/a	28,331	100%	8,597	3.51 *	115,547	5,202,246	2.22	
SEP	353	28	1,051.21	296	0%	n/a	n/a	1,099	23,700	5.88 **	
Area & Roadway Lighting	13,213	150,000	7.34	3,028	0%	n/a	n/a	2,545	95,997	5.81 **	
Total General Consumers	160,460	669,316		395,739		24,693		506,293	20,814,867		
Diesel	287	716	33.43	431	0%	n/a	n/a	10,036	13,250	78.99 **	
Export	n/a	n/a	n/a	51,102	0%	n/a	n/a	375,624	7,707,000	5.54 ***	
Total System	160,747	670,032		447,272		24,693		891,953	28,535,117		

* - includes recovery of customer costs

** - includes recovery of demand costs

*** - includes recovery of customer and demand costs

SCHEDULE 6

Manitoba Hydro
Prospective Cost Of Service Study - March 31, 2008
Functional Breakdown
MH Model of 11/6/08 Directives
S U M M A R Y

Class	Total Cost (\$000)	Generation Cost (\$000)	%	Transmission Cost (\$000)	%	Subtransmission Cost (\$000)	%	Distribution Cust Service Cost (\$000)	%	Distribution Plant Cost (\$000)	%
Residential	450,929	165,101	36.6%	45,007	10.0%	33,910	7.5%	52,168	11.6%	154,743	34.3%
General Service - Small Non Demand	91,509	34,848	38.1%	11,180	12.2%	6,317	6.9%	13,450	14.7%	25,714	28.1%
General Service - Small Demand	103,695	51,288	49.5%	14,794	14.3%	8,086	7.8%	2,717	2.6%	26,810	25.9%
General Service - Medium	143,821	74,382	51.7%	21,604	15.0%	10,891	7.6%	4,365	3.0%	32,580	22.7%
General Service - Large <30kV	73,749	39,465	53.5%	11,407	15.5%	5,878	8.0%	2,397	3.3%	14,602	19.8%
General Service - Large 30-100kV	32,509	22,019	67.7%	5,690	17.5%	3,275	10.1%	1,478	4.5%	48	0.1%
General Service - Large >100kV	145,746	115,547	79.3%	28,331	19.4%	0	0.0%	1,843	1.3%	25	0.0%
SEP	1,748	1,099	62.9%	296	16.9%	0	0.0%	335	19.2%	18	1.1%
Area & Roadway Lighting	18,786	2,618	13.9%	445	2.4%	684	3.6%	554	2.9%	14,485	77.1%
Total General Consumers	1,062,492	506,365	47.7%	138,755	13.1%	69,041	6.5%	79,306	7.5%	269,025	25.3%
Diesel	10,754	10,036	93.3%	0	0.0%	0	0.0%	0	0.0%	718	6.7%
Export	426,726	375,624	88.0%	51,102	12.0%	0	0.0%	0	0.0%	0	0.0%
Total System	1,499,971	892,025	59.5%	189,857	12.7%	69,041	4.6%	79,306	5.3%	269,742	18.0%

SCHEDULE 7

PCOSS08 Variance Analysis
Effect of Changes Directed in Order 116/08 on Class RCC¹

Customer Class	Revenue Cost Coverage Ratio (RCC)				Incremental Change in RCC					
	PCOSS08 117/06 ²	Thermal ³	Multi Year TOU ⁴	DSM ⁵	Actual Exports & Imports (ie 116/08) ⁶	Thermal ³	Multi Year TOU ⁴	DSM ⁵	Actual Exports & Imports ⁶	Net
Residential	96.4%	95.9%	95.7%	96.6%	96.2%	-0.5%	-0.2%	0.9%	-0.4%	-0.2%
General Service - Small Non Demand	104.3%	104.0%	104.1%	101.8%	101.4%	-0.3%	0.1%	-2.3%	-0.4%	-2.9%
General Service - Small Demand	107.2%	107.5%	107.3%	107.2%	107.8%	0.3%	-0.2%	-0.1%	0.6%	0.6%
General Service - Medium	101.1%	101.3%	101.3%	100.1%	100.2%	0.2%	0.0%	-1.2%	0.1%	-0.9%
General Service - Large 0 - 30kV	90.4%	90.3%	90.4%	90.3%	89.9%	-0.1%	0.1%	-0.1%	-0.4%	-0.5%
General Service - Large 30-100kV*	103.7%	104.6%	105.0%	107.7%	108.4%	0.9%	0.4%	2.7%	0.7%	4.7%
General Service - Large >100kV*	108.7%	110.2%	110.7%	110.8%	112.0%	1.5%	0.5%	0.1%	1.2%	3.3%
*Includes Curtailment Customers										
SEP	89.1%	89.1%	89.1%	89.1%	89.3%	0.0%	0.0%	0.0%	0.2%	0.2%
Area & Roadway Lighting	105.8%	105.6%	105.6%	99.5%	102.4%	-0.2%	0.0%	-6.1%	2.9%	-3.4%
Total General Consumers	100.4%	100.4%	100.5%	100.5%	100.5%	0.0%	0.1%	0.0%	0.0%	0.1%
Diesel	54.9%	53.0%	52.6%	51.3%	46.8%	-1.9%	-0.4%	-1.3%	-4.5%	-8.1%
Export	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total System	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%

¹Changes to PCOSS methodology are cumulative, and the impact attributed to a specific change may vary depending on the sequence in which the steps are performed.

²Version of PCOSS submitted during the 2008/09 GRA prepared as directed in PUB Order 117/06

³Above with 50% of fixed and 100% of variable Thermal costs assigned to the export class

⁴Above with energy split between the 12 TOU periods based on the average distribution over the past four years

⁵Above with DSM costs assigned to Export class, and DSM energy and capacity savings added to domestic class load

⁶Above with most recent actual export/import prices used to establish export revenue and power purchases. PCOSS includes all changes directed in Order 116/08.

CAC/MSOS/MH II-35

Subject: COSA

**Reference: MIPUG/MH I-22 b)
Appendix 11.1, page 46
RCM/TREE/MH I-6 a) – i)**

- a) Please explain why there is no load research data for years prior to 2005/06 to determine CP values.**

ANSWER:

Studies prior to PCOSS08 defined coincident peak (CP) based on the time of Common Bus peak. With the incorporation of an Export class into the study, the CP used in the PCOSS and provided in the Load Research study was defined by the Generation peak. As the data was not required for the PCOSS, Load Research results prepared for years prior to 2005/06 did not calculate CP values on this basis.

CAC/MSOS/MH II-35

Subject: COSA

**Reference: MIPUG/MH I-22 b)
Appendix 11.1, page 46
RCM/TREE/MH I-6 a) – i)**

- b) Please provided a revised response MIPUG/MH I-23 a) showing the class shares for D13 and D14 using the 3 years worth of Load Research data from 2005/06 to 2007/08.**

ANSWER:

Response is attached.

Allocation
Table

Prospective Cost Of Service Study
D13 Avg CP Adjusted for Losses - Domestic Only

		Curtable		
		Class	Class	Total
Residential	Standard & All Electric		34.6%	34.6%
	Seasonal		0.2%	0.2%
	Water Heating		0.1%	0.1%
Total Residential		0.0%	34.9%	34.9%
General Service Small:	Non-Demand		7.8%	7.8%
	Demand		9.7%	9.7%
	Seasonal		0.0%	0.0%
	Water Heating		0.0%	0.0%
Total General Service Small		0.0%	17.5%	17.5%
SEP	GSM			0.0%
	GSL			0.0%
Total SEP		0.0%	0.0%	0.0%
General Service Medium			14.6%	14.6%
General Service Large	0-30KV		7.2%	7.2%
	30-100KV	0.8%	3.7%	4.5%
	>100KV	10.4%	10.6%	21.0%
Total General Service Large		11.2%	21.5%	32.7%
Area & Roadway Lighting			0.3%	0.3%
Total General Consumers		11.2%	88.8%	100.0%
Diesel				0.0%
Export				0.0%
Total System		11.2%	88.8%	100.0%

Allocation
Table

Prospective Cost Of Service Study
D14 Average Coincident Peak - Adjusted For Losses

		Curtable		
		Class	Class	Total
Residential	Standard & All Electric		25.8%	25.8%
	Seasonal		0.1%	0.1%
	Water Heating		0.0%	0.0%
Total Residential		0.0%	26.0%	26.0%
General Service Small:	Non-Demand		5.8%	5.8%
	Demand		7.2%	7.2%
	Seasonal		0.0%	0.0%
	Water Heating		0.0%	0.0%
Total General Service Small		0.0%	13.0%	13.0%
SEP	GSM			0.0%
	GSL			0.0%
Total SEP		0.0%	0.0%	0.0%
General Service Medium			10.9%	10.9%
General Service Large	0-30KV		5.3%	5.3%
	30-100KV	0.6%	2.8%	3.4%
	>100KV	7.7%	7.9%	15.6%
Total General Service Large		8.3%	16.0%	24.3%
Area & Roadway Lighting			0.2%	0.2%
Total General Consumers		8.3%	66.1%	74.4%
Diesel				0.0%
Export			25.6%	25.6%
Total System		8.3%	91.7%	100.0%

CAC/MSOS/MH II-35

Subject: COSA
Reference: MIPUG/MH I-22 b)
Appendix 11.1, page 46
RCM/TREE/MH I-6 a) – i)

c) **How do the PCOSS10 results change if the CP and NCP allocation factors are updated to include the 2006/07 load research that is now available?**

ANSWER:

Manitoba Hydro
Prospective Cost Of Service Study
March 31, 2010
Revenue Cost Coverage Analysis

S U M M A R Y

Customer Class	Total Cost (\$000)	Class Revenue (\$000)	RCC % Pre Export Allocation	Net Export Revenue (\$000)	Total Revenue (\$000)	RCC % Current Rates
Residential	562,789	486,651	86.5%	54,537	541,188	96.2%
General Service - Small Non Demand	115,785	111,651	96.4%	10,885	122,536	105.8%
General Service - Small Demand	123,027	115,256	93.7%	11,504	126,760	103.0%
General Service - Medium	172,865	158,991	92.0%	16,295	175,286	101.4%
General Service - Large 0 - 30kV	81,762	67,889	83.0%	7,695	75,584	92.4%
General Service - Large 30-100kV*	45,725	44,588	97.5%	4,417	49,005	107.2%
General Service - Large >100kV*	193,004	192,906	99.9%	18,513	211,418	109.5%
*Includes Curtailment Customers						
SEP	1,513	1,315	86.9%	-	1,315	86.9%
Area & Roadway Lighting	20,490	19,837	96.8%	655	20,492	100.0%
Total General Consumers	1,316,961	1,199,084	91.0%	124,501	1,323,584	100.5%
Diesel	12,516	4,665	37.3%	1,227	5,892	47.1%
Export	420,393	546,121	129.9%	(125,728)	420,393	100.0%
Total System	1,749,870	1,749,870	100.0%	-	1,749,870	100.0%

CAC/MSOS/MH II-36

Subject: Rate Design

Reference: RCM/TREE/MH I-7 b)

- a) **Please confirm that the table provided in the response also suggests that the demand rate for GSM and GSL<50 will have to increase at a faster pace than the respective energy charge. If not, why not?**

ANSWER:

Confirmed, subject to constraints that may be imposed by other rate design objectives and subject to changes that could arise subsequent to the independent review of Cost of Service methodology.

CAC/MSOS/MH II-37

Subject: DSM

Reference: RCM/TREE/MH I-10 d)

a) Please provide some context for the referenced 8.26 cents per kWh including:

- The year or years to which it is meant to be applicable,**
- What year's dollars it is expressed in, and**
- To what customer class it is applicable.**

ANSWER:

The levelized value of 8.26 cents per kW.h is based on the 30-year period from 2009/10 to 2038/39. It is expressed in 2009 dollars and it is applicable to the Residential and Commercial customer classes.

CAC/MSOS/MH II-38

Subject: Risk

Reference: RCM/TREE/MH I-19-a) – c)

- a) **Please clarify the “obligation” referred to. In the event of an energy supply shortage in Manitoba, is Manitoba Hydro obligated to purchase from MISO or can it make up the shortfall from other sources?**

ANSWER:

To the extent that Manitoba Hydro experiences a curtailment event (such as a forced outage or a force majeure) which reduces Manitoba Hydro’s accredited supply capability to the point where continuing to serve an export obligation results in curtailment of Manitoba load, Manitoba Hydro has the right to curtail the export obligation and is not required to continue serving the export obligation with purchased power.

CAC/MSOS/MH II-39

Subject: Risk

Reference: RCM/TREE/MH I-25-a)

- a) **Please provide a schedule that indicates the amount of electricity that is has been transacted annually through the Minnesota Hub over the 2002/03 to 2008/09 period relative to Manitoba Hydro's involvement in the market.**

ANSWER:

All MH sales to the U.S. occur at the Manitoba - U.S. border. Manitoba Hydro may price certain sales (not including long term sales or MISO market transactions) based on the Minn.Hub price but MH has no record of that quantity.

CAC/MSOS/MH II-40

Subject: Risk

Reference: RCM/TREE/MH I-26 b) & c)

- a) **Please explain why Manitoba Hydro “may be responsible” for a portion of the costs in the US associated with the provision of additional import capability to Canada but is responsible for all of the investment in Canada required to facilitate exports.**

ANSWER:

The Term Sheets for the proposed contracts specify that Manitoba Hydro is responsible for the investment in Canada required to facilitate the exports. Manitoba Hydro may be responsible for a portion of the costs in the US associated with the provision of additional import capability associated with Manitoba Hydro’s firm north bound transmission services requests beyond the firm service that becomes available that is directly associated with the firm south bound service requests.

CAC/MSOS/MH II-40

Subject: Risk

Reference: RCM/TREE/MH I-26 b) & c)

- b) Does the IFF09-1 include the capital costs for all of the transmission facilities required to facilitate the export sales assumed in the forecast? If not, what volume of exports (GWh) and revenues (\$) in the IFF is not supported by the assumed transmission investment?**

ANSWER:

The IFF09-1 includes new transmission facilities between the Dorsey Converter Station and the Manitoba/U.S. border. A provision for additional north-south transmission has also been planned just beyond the 11 year IFF period to provide an interconnection to the U.S. for the additional energy from both Keeyask and Conawapa.

CAC/MSOS/MH II-41

Subject: Risk

Reference: Appendix 12.2, page 90

- a) **As forecasts change regularly in response to changing economic and market conditions, please explain why vintage export price forecasts (e.g. those prepared in 2007 and 2008) are currently considered to be commercially sensitive.**

ANSWER:

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

The commercial sensitivity applies to the vintage export price forecasts (e.g. those prepared in 2007 and 2008) for the reasons as outlined below and thus the vintage forecasts can not be released into the public record.

The latter years in a long-term price forecasts change slowly in response to long-term expectations. Hence there may be very little difference in the long-term forecast (beyond 2020), whether that forecast was prepared in 2008, 2009 or 2010. Therefore releasing vintage forecasts can give significant insight into the current forecast.

The review of vintage forecasts can also give significant insight into the forecast methodologies and assumptions used and the review of the forecast methodologies and assumptions in vintage reports can give significant insight into the current forecast.

As described in PUB/MH I-156(a), Manitoba Hydro's electricity export price forecast is prepared using information from several external price forecast consultants who each have their own electricity price forecast models and assumptions. 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 releasing the forecast reports. The electricity export price forecast consultants vigorously protect their reports from becoming public - it would impair their ability to sell similar reports to other clients. For example, one of the reports has wording to

the effect that “this report constitutes and contains valuable trade secret information”, and that “disclosure of any information contained in this report is prohibited”, and further “you will take all necessary precautions to prevent this report from being available to anyone other than employees of your company”.

CAC/MSOS/MH II-41

Subject: Risk

Reference: Appendix 12.2, page 90

- b) Pending the response to part (a), please provide copies of the 2007 and 2008 vintage export price forecasts.**

ANSWER:

As discussed in CAC/MSOS/MH II-41(a), there are several reasons that vintage export price forecasts (e.g. those prepared in 2007 and 2008) are still considered to be commercially sensitive and thus cannot be released into the public record.

CAC/MSOS/MH II-41

Subject: Risk

Reference: Appendix 12.2, page 90

- c) **Pending the response to parts (a) and (b), please provide schedules that set out the projected high/low/average export prices from the 2007 and 2008 vintage forecasts.**

ANSWER:

As discussed in CAC/MSOS/MH II-41(a), there are several reasons that vintage export price forecasts (e.g. those prepared in 2007 and 2008) are still considered to be commercially sensitive and thus cannot be released into the public record.

CAC/MSOS/MH II-42

Subject: Residential Service Charges

Reference: RCM/TREE/MH I-47 and 77 b)

- a) **What is the basis for Manitoba Hydro's view that the listed service charges do not require PUB approval?**

ANSWER:

The referenced charges, being the late payment charge, residential reconnection charge, residential special reading fee, residential returned cheque charge, and residential Federal meter dispute charge are not rates for service for the provision of power within the meaning of *The Crown Corporations Public Review and Accountability Act*.

CAC/MSOS/MH II-42

Subject: Residential Service Charges

Reference: RCM/TREE/MH I-47 and 77 b)

b) Please provide the most recent cost analysis supporting the level for each Residential service charge.

ANSWER:

The Residential service charges referenced in RCM/TREE/MH 1-47 and 1-77 include:

Late Payment Charges - Under Order 135/02, the PUB approved aligning Centra's late payment fee for natural gas services with Manitoba Hydro's current practises. Late Payment Charges are reviewed with consideration of the marketplace, Manitoba Hydro's short-term cost of funds, interest rate risk, credit risk, and administration costs. Manitoba Hydro seeks to position the late payment charge in line with the marketplace but at or near the lower end of the range witnessed within the marketplace, while considering the above identified costs. The late payment charge was last reviewed in December 2009. The current charge of 1.25% per month was found to be sufficient to cover the components as follows:

		<i>Current Rate</i>
Manitoba Hydro Short-term Cost of Funds	1.45%	
Interest Rate Risk	1.00%	
Administration Costs	5.00%	
Credit Risk/Market Adjustment	2.25%	
Annual Nominal Rate	9.70%	15.00%
Monthly Rate		1.25%

The late payment charge was then compared to market and found to be appropriate when considering current market conditions with Shaw Cable at 2%, MTS announcing a move to 2% effective February 2010, and the City of Winnipeg Water Utility at 1.5% per month.

Deposits - The Guarantee Deposit is not considered a fee by Manitoba Hydro as it is either refunded, with interest, to the customer, or applied against amounts outstanding at the time of the final bill. Deposits were, however, included with the items listed in reference question RCM/TREE/MH 1-77.

Monetary Guarantee Deposits are assessed as follows for residential services where credit worthiness has not been established:

- Rental house
 - \$200 + \$100 (gas heat plus electric non-heat)
 - \$300 (electric heat plus electric non-heat)
- Apartment
 - Tenant pays heat \$100
 - Landlord pays heat \$50

The deposit amounts were established in 2004 after a review of the various guarantee deposit criteria and amounts for Manitoba Hydro, former Winnipeg Hydro and Centra services. The rental house heating amount of \$200 was established in view of the direction received from the Public Utilities Board that set the natural gas deposit maximum at \$225.

Returned Cheque Fees - The Returned Cheque Fee was last adjusted in March 2000 to be consistent with the equivalent fee charged by Centra. Returned Cheque Fees are reviewed with consideration of the marketplace, financial institutions chargeback fees, and Manitoba Hydro's administration costs. The Returned Cheque Fee continues to be appropriate when considering current market conditions with both the City of Winnipeg Water Utility and Shaw Cable charging \$25, and Assiniboine Credit Union charging \$32 for returned payments.

Reconnect Fees - The Reconnect Fee was last adjusted in March 2000 to be consistent with the equivalent fee charged by Centra. The most recent analysis supporting this fee was provided to the Manitoba Public Utilities Board in the Centra Gas Manitoba Inc. 2003/04 General Rate Application. A copy of Attachment 1 to Tab 13 of Centra's Application is attached.

Special Read Fees - The Special Read Fee was reviewed in 2004 and was subsequently incrementally increased by \$5 per year for each of the years 2005, 2006, 2007, 2008 and

2009. The current fee of \$50 was developed based upon the cost of providing special meter read services and was intended to recover part, but not all, of the expense associated with this activity. The cost per reading based upon the 2004 study was estimated to be \$90. This fee is currently under review.

Federal Meter Dispute Fees - The Federal Meter Dispute Fee was last adjusted in March 2000 to be consistent with the equivalent fee charged by Centra. This fee has not been formally reviewed since March 2000 and is likely to no longer be cost recovery. This fee is currently under review.

CENTRA GAS MANITOBA INC.
Reconnection Service Costs

Tab 13
Attachment 1

January 31, 2003

	Outside 24-Hour Service Area		Within 24-Hour Service Area	
	Regular Business Hours	After Hours	Regular Business Hours	After Hours
Labour Rates				
Class 1 Service Personnel/Journeyman				
Activity Rate	\$ 70.11	\$ 102.28	\$ 64.23	\$ 99.86
Dispatcher:				
Activity Rate	\$ 53.21	\$ 53.21 ⁽¹⁾	\$ 53.21	\$ 53.21 ⁽¹⁾
Overhead Rate	38.75%	38.75%	38.75%	38.75%
Hours				
Class 1 Service Personnel/Journeyman	1	1 ⁽²⁾	1	1 ⁽²⁾
Dispatcher	0.17	0.17	0.17	0.17
Total Cost				
Labour	\$ 78.98	\$ 111.15	\$ 73.10	\$ 108.73
Overhead	\$ 30.60	\$ 43.07	\$ 28.33	\$ 42.13
Total	\$ 109.58	\$ 154.22	\$ 101.42	\$ 150.86

Note:

⁽¹⁾ The Dispatcher is on shift not overtime.

⁽²⁾ There is a three hour at double time minimum call out. However, there is an expectation other work will be done in the three hours. Therefore, the actual time required to complete the reconnection has been used.

CAC/MSOS/MH II-43

Subject: Residential Service Charges

Reference: RCM/TREE/MH I-57

- a) **Please explain why the number of customers with Debit (57 e) and Credit (57 d)) balances does not sum to and in some months exceeds the total number of customer on the Equal Payment Plan (57 a)).**

ANSWER:

The 'number of customers on the Equal Payment Plan' as presented in RCM/TREE/MH I-57(a) is based upon the calendar date of the customers' enrolment in, or removal from, the Equal Payment Plan (EPP). The number of customers with debit [RCM/TREE/MH I-57(e)] and credit [RCM/TREE/MH I-57(d)] balances on their accounts are based on the balance remaining on the customers' EPP services by billing month. The billing month ends on or around the third working day of each calendar month.

Customers may enrol in, or be removed from, the EPP either before or after their account has billed for the month. For example:

- A customer whose account billed on May 2 (for April) and enrolled in the EPP on May 5 would be included in the number of EPP customers for May [RCM/TREE/MH I-57(a)] but would have no variance and not be included in the debit [RCM/TREE/MH I-57(e)] or credit [RCM/TREE/MH I-57(d)] customer counts presented, as the account had never billed under the Plan;
- A customer whose account billed April 25 and was removed from the Plan April 30 would not be included in the number of customers for April [RCM/TREE/MH I-57(a)] but would maintain their debit or credit variance until such time as the April bill was paid in full and therefore may be included in the debit [RCM/TREE/MH I-57(e)] or credit [RCM/TREE/MH I-57(d)] customer counts presented.

Also, customers with a zero variance for a specified month would be included within the EPP customer count [RCM/TREE/MH I-57(a)] but not be included within the count of customers with debit [RCM/TREE/MH I-57(e)] or credit [RCM/TREE/MH I-57(d)] balances.

CAC/MSOS/MH II-44

Subject: OM&A

**Reference: PUB/MH I-4 a)
CAC/MSOS/MH I-15 a)**

- a) **Please explain why the actual EFTs for 2008/09 were greater than the budget complement for the start and end of the year. Does the budget complement vary by month and if so please provide the monthly budget values for 2008/09 and explain the reason for the monthly variation.**

ANSWER:

The actual EFTs for 2008/09 referred to in PUB/MH I-4(a) reflects a combined straight time and overtime EFT; whereas EFTs for the start and end of fiscal 2008/09 referred to in CAC/MSOS/MH I-15 reflects only straight time EFTs. Budgeted EFTs vary throughout the year as a result of seasonality of work, summer students, and expected timing of staff hiring and turnover.

CAC/MSOS/MH II-45

Subject: Exports/Imports

Reference: PUB/MH I-6 f)

- a) **Please indicate those months (2005-2009) where the transfer capacity was insufficient (in either the peak and/or off-peak) to meet desired levels of exports or imports.**

ANSWER:

During the period 2005 - 2009, water conditions were such that only during the following months would Manitoba Hydro have benefitted from additional import capability:

2005 May, June, July, August, September, October
2006 April, May, June, July
2007 July, August
2008 July, August, September
2009 June, July, August, September, October

CAC/MSOS/MH II-45

Subject: Exports/Imports

Reference: PUB/MH I-6 f)

- b) **For purposes of preparing IFF09 what assumptions are made regarding the future available transfer capacity for imports and exports (e.g. is it assumed to be 100%)?**

ANSWER:

For purposes of the IFF09, Manitoba Hydro limits its export and import activities to an amount less than the maximum capacity of the tielines. This assumption recognizes that averaging the maximum is not realistic due to scheduling limits, outages, congestion, and the way in which surpluses are calculated based upon approximation of the Manitoba load shape.

After the first two years of the forecast Manitoba Hydro assumes an average export capability of 1850 MW to the U.S. and 250 MW to Canadian markets, and an import capability of 700 MW from the U.S. and 150 MW from Canadian markets. In the first two years of the forecast, the transfer capability is reduced based on known maintenance outages which limit import and export capability.

CAC/MSOS/MH II-46

Subject: OM&A

Reference: PUB/MH I-8 c)

- a) Please indicate the impact that accounting changes (relative to IFF07) have on the OM&A reported in IFF09 for each year.**

ANSWER:

Please see the following table indicating the impact that accounting changes (relative to IFF07) have on the OM&A reported in IFF09 for each year:

	<u>2008/09</u>	<u>2009/10</u>	<u>2010/11</u>	<u>2011/12</u>	<u>2012/13</u>	<u>2013/14</u>	<u>2014/15</u>	<u>2015/16</u>	<u>2016/17</u>
IFF07 - OM&A (2008 Electric GRA*)	\$ 349	\$ 358	\$ 365	\$ 377	\$ 386	\$ 394	\$ 402	\$ 410	\$ 418
<u>Accounting Changes:</u>									
CICA adjustment reducing stores overhead capitalized	5	5	5	5	5	5	5	5	5
CICA adjustment reducing capitalization of intangibles		4	4	4	4	4	4	4	4
CICA adjustment reducing A&G capitalized		2	2	2	2	2	2	2	2
Waterways mgmt program reclassify to operating				5	5	5	5	5	5
Funding agreement reclassify to capital & other taxes		(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
Accounting change re transfer of wire & telecom to subsidiaries	3	3	3	3	3	3	3	3	3
Provision for IFRS				15	15	15	15	15	15
Less: Allocation to Gas Operations		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total Accounting Changes	\$ 8	\$ 9	\$ 9	\$ 29	\$ 29	\$ 29	\$ 29	\$ 29	\$ 29
Other cost changes	3	6	7	(3)	(4)	(3)	(3)	(2)	(2)
Actuals 2009 / IFF09 2010 - 2017	\$ 360	\$ 372	\$ 380	\$ 403	\$ 411	\$ 420	\$ 428	\$ 437	\$ 445

* The IFF07 information presented at the 2008 Electric GRA, for the years 2012-2017 has been revised to include the Wuskwatim OM&A expense consistent with the IFF09 presentation.

CAC/MSOS/MH II-46

Subject: OM&A

Reference: PUB/MH I-8 c)

b) What is the adjustment that was made for Wuskwatim in each year?

ANSWER:

Please see the attached table.

(in millions of dollars)	Actual	Forecast - IFF09							
	2009	2010	2011	2012	2013	2014	2015	2016	2017
OM&A expense (excl Wuskwatim)	360	372	380	397	405	413	422	430	439
OM&A expense Wuskwatim	-	-	-	6	6	6	7	7	7
	360	372	380	403	411	420	428	437	445

(in millions of dollars)	2009	2010	2011	Forecast - IFF07					
				2012	2013	2014	2015	2016	2017
OM&A expense (excl Wuskwatim)	349	358	365	372	380	387	395	403	411
OM&A expense Wuskwatim	-	-	-	5	6	7	7	7	7
	349	358	365	377	386	394	402	410	418

CAC/MSOS/MH II-47

Subject: Fuel & Power Purchases

Reference: PUB/MH I-11 f)

<http://news.gov.mb.ca/news/index.html?archive=&item=8021>

- a) **Please indicate any differences between the assumptions underlying the current Power Resource Plan (e.g. timing and size) and IFF09 (e.g. cost and loans) regarding the St. Joseph wind farm and the actual terms of the agreement recently completed. What is the impact on the IFF09 projected net income or debt/equity ratios?**

ANSWER:

The recent agreement regarding St. Joseph wind is for 138 MW of wind development by the spring of 2011. The 2009 plans were based on installing 300 MW by the beginning of fiscal year 2011/12. There will be minimal impact on projected net income or debt/equity ratios.

CAC/MSOS/MH II-48

Subject: Financial Results

Reference: PUB/MH I-22

CAC/MSOS/MH I-5 a)

2008 GRA, COALITION/MH II-18 a)

PUB/MH I-27

- a) **Please reconcile the export volumes (GWh) for 2008 and 2009 as reported in the first two responses.**

ANSWER:

A revised response for CAC/MSOS/MH I-5(a) was filed.

Note that export volumes reported in PUB/MH I-22 are aligned with fiscal year-end information in the annual report, whereas the revised CAC/MSOS/MH I-5(a) includes after-the-fact final export volumes. Final export figures will differ somewhat from annual report figures, primarily due to lagged market reporting and market re-settlements.

CAC/MSOS/MH II-48

Subject: Financial Results

Reference: PUB/MH I-22

CAC/MSOS/MH I-5 a)

2008 GRA, COALITION/MH II-18 a)

PUB/MH I-27

- b) Please reconcile the 2005-2007 financial results as reported in the first and third responses.**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-1(a).

CAC/MSOS/MH II-48

Subject: Financial Results

Reference: PUB/MH I-22

CAC/MSOS/MH I-5 a)

2008 GRA, COALITION/MH II-18 a)

PUB/MH I-27

- c) **Please confirm that any differences between the values in the first and fourth responses are due to rounding. If not, explain.**

ANSWER:

Confirmed.

CAC/MSOS/MH II-49

Subject: Exports

**Reference: PUB/MH I-31
CAC/MSOS/MH I-34 d)**

- a) **Please reconcile the different export prices quoted for 2009/10 through 2011/12 in the two responses.**

ANSWER:

A revised response for PUB/MH I-31 was filed.

CAC/MSOS/MH II-50

Subject: OM&A

Reference: PUB/MH I-33 c)

- a) **Please explain the reason for the high “average salaries” in the Administration units for Corporate Relations, Finance & Administration and Customer Service & Distribution relative to the average salaries in other Divisions (including the Administration divisions of other BUs.**

ANSWER:

The positions in the Administration units for Corporate Relations, Finance & Administration and Customer Service & Distribution include mainly Division Managers, wherein the positions in the Administration units for Power Supply and Transmission also include trainee positions which reduces the average salaries.

CAC/MSOS/MH II-50

Subject: OM&A

Reference: PUB/MH I-33 c)

- b) Please explain the significant increase from 2007/08 to 2011/12 in the average salary for Corporate Planning & Strategic Analysis – Administration.**

ANSWER:

Please see Manitoba Hydro's response to PUB/MH II-24(b).

CAC/MSOS/MH II-51

Subject: OM&A

**Reference: PUB/MH I-34 b)
2008 GRA, COALITION/MH II-16 a)**

- a) **Please provide a similar breakdown of “Overtime, Vacancies and Other” to that provided in the 2008 GRA.**

ANSWER:

See attached.

MANITOBA HYDRO
EQUIVALENT FULL TIME EMPLOYEES - ANNUAL RESULTS BY DIVISION

	Overtime	Vacancies	Other	Total "Other" as per PUB/MH 1-34 (b)	Variations for EFTs greater than 5 and 5%	2005/06 Actual EFTs
1						
2						
3						
4						
5	President & CEO					
6			1	1		25
7	0	(2)		(2)		30
8		(2)		(2)		3
9			1	1		24
10	0	(2)	0	(2)		82
11						
12	Corporate Relations					
13			1	1		54
14		0		0		8
15	0	1	0	1		62
16						
17	Corporate Planning & Strategic Analysis					
18			1	1		6
19			0	0		11
20		(1)		(1)		2
21	0	0	0	0		19
22						
23	Finance & Administration					
24	3	0		3		364
25	0	0		0		16
26			1	1		2
27	(0)	0		0		20
28	(0)	(3)		(3)		19
29	(0)	5		5		113
30	(0)	(7)		(7)		164
31	0	(2)		(2)		29
32	(2)	(1)		(3)		295
33	(0)	0		0		9
34	1	(7)	0	(6)		1,031
35						
36	Power Supply					
37	(0)	3		3		35
38	(0)	(2)		(2)		38
39	(7)	(2)		(9)		228
40	(3)	12		9		213
41	(6)	(5)		(11)		462
42	(0)	0		0		84
43		(1)		(1)		162
44		0		0		14
45	13	0		13	Trainee overtime associated with equipment maintenance and repairs.	131
46	(3)	5	0	2		1,367
47						
48	Transmission					
49	2	0		2		346
50	(1)	(2)		(3)		195
51	(1)	2		1		276
52	6	(1)		5		362
53	0	(0)		0		42
54	6	(1)	0	5		1,221
55						
56	Customer Service & Distribution					
57	4	(2)		2		537
58	12	8		20		569
59	2	(1)		1		160
60	18	0		18	Overtime related to storm restoration.	382
61		0		0		0
62	37	4	0	41		1,648
63						
64	Customer Care & Marketing					
65	0	1		1		49
66	1	4		5		219
67	1	(2)		(1)		237
68	(0)	(4)		(4)		47
69	2	(1)	0	1		552
70						
71	Total	42	0	0		5,982

MANITOBA HYDRO
EQUIVALENT FULL TIME EMPLOYEES - ANNUAL RESULTS BY DIVISION

	Overtime	Vacancies	Other	Total "Other" as per PUB/MH I-34 (b)	Variations for EFTs greater than 5 and 5%	2006/07 Actual EFTs
President & CEO						
General Counsel		0	(0)	0		26
Public Affairs	0	(0)		0		30
Research & Development		(1)		(1)		2
President & CEO Administration		2		2		26
	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>		<u>84</u>
Corporate Relations						
Aboriginal Relations	1	(1)		0		59
VP Corp Relations Administration		0		0		8
	<u>1</u>	<u>(1)</u>	<u>0</u>	<u>0</u>		<u>67</u>
Corporate Planning & Strategic Analysis						
Corporate Strategic Review		(1)		(1)		5
Corporate Planning & Development		0		0		12
VP Corp Planning & Strat Analysis		1		1		3
	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>20</u>
Finance & Administration						
Information Technology Services	(3)	(15)		(18)	Completion of the CIS Project	336
Treasury	0	(1)		(1)		15
Corporate Risk Mgmt	0	1		1		3
Gas Supply	0	(1)		(1)		19
Rates & Regulatory Affairs	0	0		0		19
Corporate Controller	(0)	0		0		106
Human Resources	0	1		1		161
Corporate Safety & Health	0	(2)		(2)		26
Corporate Services	2	2		4		303
Senior VP Finance & Administration	0	(1)		(1)		11
	<u>(1)</u>	<u>(16)</u>	<u>0</u>	<u>(17)</u>		<u>999</u>
Power Supply						
Power Planning	0	(0)		0		42
Power Projects Development	(0)	0		0		41
HVDC	(1)	5		4		232
Generation North	1	(3)		(2)		211
Generation South	1	(4)		(3)		459
Power Sales & Operations	(1)	(0)		(1)		82
Engineering Services	5	6		11	Filling of vacant positions primarily Professional Engineers and overtime related to capital projects such as Kelsey Rerunning.	176
New Generation Construction	1	0		1		25
Senior VP PS Administration	0	(0)		0		137
	<u>7</u>	<u>4</u>	<u>0</u>	<u>10</u>		<u>1,405</u>
Transmission						
Transmission System Operations	(1)	5		4		363
Transmission Planning & Design	(1)	(1)		(2)		193
Transmission Construction & Line Mtce	2	(4)		(2)		274
Apparatus Maintenance	(1)	4		3		365
VP Transmission Administration	(0)	(5)		(5)	Vacant trainee positions.	38
	<u>(1)</u>	<u>(1)</u>	<u>0</u>	<u>(2)</u>		<u>1,233</u>
Customer Service & Distribution						
Customer Service Operations - Wpg&North	(1)	(21)		(22)		515
Customer Service Operations - South	(11)	1		(10)		559
Distribution Planning & Design	1	1		2		162
Distribution Construction	(5)	4		(1)		381
VP Cust Service & Distribution Admin	0	0		0		0
	<u>(16)</u>	<u>(15)</u>	<u>0</u>	<u>(31)</u>		<u>1,617</u>
Customer Care & Marketing						
Industrial & Commercial Solutions	0	2		2		51
Consumer Marketing & Sales	(1)	2		1		227
Business Support Services	(0)	(12)		(12)	Vacancies primarily in administrative and technical positions.	239
VP Cust Care & Marketing	(0)	0		0		47
	<u>(1)</u>	<u>(8)</u>	<u>0</u>	<u>(9)</u>		<u>564</u>
Total	<u>(11)</u>	<u>(37)</u>	<u>0</u>	<u>(48)</u>		<u>5,989</u>

MANITOBA HYDRO
EQUIVALENT FULL TIME EMPLOYEES - ANNUAL RESULTS BY DIVISION

	Overtime	Vacancies	Other	Total "Other" as per PUB/MH I-34 (b)	Variations for EFTs greater than 5 and 5%	2007/08 Actual EFTs
1						
2						
3						
4						
5	President & CEO					
6			1	1		27
7	(0)	1		1		31
8		0		0		2
9		1		1		27
10	(0)	3	0	3		87
11						
12	Corporate Relations					
13	(1)	3		2		61
14		0		0		8
15	(1)	3	0	2		69
16						
17	Corporate Planning & Strategic Analysis					
18		0		0		5
19		0		0		11
20		0		0		3
21	0	0	0	0		19
22						
23	Finance & Administration					
24	0	(9)		(9)		313
25		0		0		15
26		0		0		4
27		(1)		(1)		18
28		0		0		19
29	(0)	(8)		(8)	Vacancies primarily in professional and general accounting positions.	108
30	(0)	0		0		159
31	(0)	1		1		30
32	1	3		4		309
33		0		0		11
34	1	(14)	0	(13)		986
35						
36	Power Supply					
37	0	3		3		55
38	0	0		0		46
39	4	(1)		3		235
40	(2)	6		4		215
41	(0)	(4)		(4)		455
42	(1)	2		1		84
43	(2)	1		(1)		175
44	5	(0)		5	Overtime associated with capital projects including Wuskwatim, Conawapa, Keeyask GS and Bipole 3 Converter Station.	55
45	2	(2)		0		150
46	6	5	0	11		1,470
47						
48	Transmission					
49	1	(2)		(1)		362
50	2	(2)		0		178
51	1	(2)		(1)		273
52	2	(2)		0		397
53	1	2		3		45
54	7	(6)	0	1		1,255
55						
56	Customer Service & Distribution					
57	3	(4)		(1)		520
58	0	(5)		(5)		561
59	(2)	2		0		173
60	0	6		6		386
61		0		0		-
62	2	(2)	0	0		1,640
63						
64	Customer Care & Marketing					
65	0	1		1		52
66	(1)	(10)		(11)	Vacancies primarily in administrative and marketing positions.	216
67	(1)	(9)		(10)		229
68	0	1		1		48
69	(2)	(17)	0	(19)		545
70						
71	13	(28)	0	(15)		6,071

MANITOBA HYDRO
EQUIVALENT FULL TIME EMPLOYEES - ANNUAL RESULTS BY DIVISION

	Overtime	Vacancies	Other	Total "Other" as per PUB/MH 1-34 (b)	Variations for EFTs greater than 5 and 5%	2008/09 Actual EFTs
President & CEO						
General Counsel			(1)	(1)		26
Public Affairs	0	1		1		32
Research & Development			0	0		2
President & CEO Administration			0	0		27
	<u>0</u>	<u>(0)</u>	<u>0</u>	<u>0</u>		<u>87</u>
Corporate Relations						
Aboriginal Relations	1	0		1		67
VP Corp Relations Administration			0	0		8
	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>		<u>75</u>
Corporate Planning & Strategic Analysis						
Corporate Strategic Review			1	1		6
Corporate Planning & Development			0	0		11
VP Corp Planning & Strat Analysis			0	0		3
	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>		<u>20</u>
Finance & Administration						
Information Technology Services	(1)	1		0		313
Treasury			0	0		15
Corporate Risk Mgmt			0	0		5
Gas Supply	(0)	1		1		20
Rates & Regulatory Affairs	(0)	0		0		19
Corporate Controller			(1)	(1)		107
Human Resources	(0)	3		3		163
Corporate Safety & Health	0	(0)		0		30
Corporate Services	0	5		5		316
Senior VP Finance & Administration			0	0		11
	<u>(1)</u>	<u>9</u>	<u>0</u>	<u>8</u>		<u>999</u>
Power Supply						
Power Planning	(0)	1		1		58
Power Projects Development	1	(1)		0		49
HVDC	4	11		15	Filling of vacancies primarily trade and technical positions.	250
Generation North	2	2		4		219
Generation South	1	3		4		459
Power Sales & Operations	0	(0)		0		84
Engineering Services	2	(1)		1		183
New Generation Construction	4	(0)		4		83
Senior VP PS Administration	2	0		2		191
	<u>17</u>	<u>14</u>	<u>0</u>	<u>31</u>		<u>1,576</u>
Transmission						
Transmission System Operations	1	(1)		0		362
Transmission Planning & Design	(1)	7		6		191
Transmission Construction & Line Mtce	5	(3)		2		275
Apparatus Maintenance			0	0		421
VP Transmission Administration	0	1		1		49
	<u>4</u>	<u>5</u>	<u>0</u>	<u>9</u>		<u>1,298</u>
Customer Service & Distribution						
Customer Service Operations - Wpg&North	(4)	(2)		(6)		530
Customer Service Operations - South	4	(3)		1		566
Distribution Planning & Design	(1)	2		1		178
Distribution Construction	(3)	12		9		397
VP Cust Service & Distribution Admin			0	0		0
	<u>(4)</u>	<u>9</u>	<u>0</u>	<u>5</u>		<u>1,671</u>
Customer Care & Marketing						
Industrial & Commercial Solutions	0	2		2		54
Consumer Marketing & Sales	(0)	0		0		216
Business Support Services	1	(1)		0		229
VP Cust Care & Marketing	(0)	3		3		51
	<u>0</u>	<u>5</u>	<u>0</u>	<u>5</u>		<u>550</u>
Total	<u>17</u>	<u>43</u>	<u>0</u>	<u>60</u>		<u>6,276</u>

MANITOBA HYDRO
EQUIVALENT FULL TIME EMPLOYEES - ANNUAL RESULTS BY DIVISION

	Overtime	Vacancies	Other	Total "Other" as per PUB/MH I-34 (b)	Variations for EFTs greater than 5 and 5%	2009/10 Forecast EFTs
President & CEO						
General Counsel	0	2		2		29
Public Affairs	0	1		1		34
Research & Development		0		0		2
President & CEO Administration		1		1		32
	<u>0</u>	<u>4</u>	<u>0</u>	<u>4</u>		<u>97</u>
Corporate Relations						
Aboriginal Relations	(1)	(2)		(3)		64
VP Corp Relations Administration		0		0		4
	<u>(1)</u>	<u>(2)</u>	<u>0</u>	<u>(3)</u>		<u>68</u>
Corporate Planning & Strategic Analysis						
Corporate Strategic Review		(2)		(2)		9
Corporate Planning & Development		(1)		(1)		10
VP Corp Planning & Strat Analysis		(2)		(2)		4
	<u>0</u>	<u>(5)</u>	<u>0</u>	<u>(5)</u>		<u>23</u>
Finance & Administration						
Information Technology Services	(1)	1		0		313
Treasury		0		0		15
Corporate Risk Mgmt		0		0		6
Gas Supply		0		0		20
Rates & Regulatory Affairs	0	(1)		(1)		21
Corporate Controller	1	12		12	Filling of vacancies primarily professional and general accounting positions.	119
Human Resources	(0)	(3)		(3)		158
Corporate Safety & Health	0	(0)		0		30
Corporate Services	(2)	25		23	Filling of vacancies primarily administrative, technical positions.	347
Senior VP Finance & Administration		1		1		13
	<u>(2)</u>	<u>34</u>	<u>0</u>	<u>32</u>		<u>1,042</u>
Power Supply						
Power Planning	0	(0)		0		68
Power Projects Development	(0)	0		0		58
HVDC	3	4		7		268
Generation North	1	7		8		227
Generation South		8		2		469
	<u>(6)</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>88</u>
Power Sales & Operations	0	4		4		213
Engineering Services	0	4		4		142
New Generation Construction	14	(0)		14	Overtime associated with the construction of Wuskwatom Site.	224
Senior VP PS Administration	8	0		8		1,757
	<u>20</u>	<u>27</u>	<u>0</u>	<u>47</u>		<u>1,757</u>
Transmission						
Transmission System Operations	(2)	8		6		370
Transmission Planning & Design	3	15		18	Filling of vacancies primarily trade and technical positions including trainees.	215
Transmission Construction & Line Mtce	(3)	18		15	Filling of vacancies primarily trade and technical positions.	295
Apparatus Maintenance	1	(1)		0		432
VP Transmission Administration	0	(2)		(2)		44
	<u>(1)</u>	<u>38</u>	<u>0</u>	<u>37</u>		<u>1,356</u>
Customer Service & Distribution						
Customer Service Operations - Wpg&North	(2)	7		6		532
Customer Service Operations - South	(3)	7		4		579
Distribution Planning & Design	0	8		8		185
Distribution Construction	2	0		2		406
VP Cust Service & Distribution Admin		0		0		6
	<u>(2)</u>	<u>21</u>	<u>0</u>	<u>20</u>		<u>1,708</u>
Customer Care & Marketing						
Industrial & Commercial Solutions	0	6		6	Filling of vacancies primarily technical positions.	60
Consumer Marketing & Sales	1	(2)		(1)		215
Business Support Services	(1)	1		0		229
VP Cust Care & Marketing	(0)	7		7	Filling of vacancies primarily marketing, administrative and technical positions.	57
	<u>0</u>	<u>12</u>	<u>0</u>	<u>12</u>		<u>561</u>
Total	<u>15</u>	<u>128</u>	<u>0</u>	<u>144</u>		<u>6,612</u>

MANITOBA HYDRO
EQUIVALENT FULL TIME EMPLOYEES - ANNUAL RESULTS BY DIVISION

	Overtime	Vacancies	Other	Total "Other" as per PUB/MH 1-34 (b)	Variations for EFTs greater than 5 and 5%	2010/11 Forecast EFTs
President & CEO						
General Counsel			0	0		29
Public Affairs	0	(0)		0		34
Research & Development			0	0		2
President & CEO Administration	0	2		2		34
	0	2	0	2		99
Corporate Relations						
Aboriginal Relations	(1)	1		0		65
VP Corp Relations Administration			0	0		4
	(1)	1	0	0		69
Corporate Planning & Strategic Analysis						
Corporate Strategic Review			0	0		21
Corporate Planning & Development			2	2		12
VP Corp Planning & Strat Analysis			0	0		5
	0	2	0	2		38
Finance & Administration						
Information Technology Services	1	0		1		314
Treasury	0	0		0		15
Corporate Risk Mgmt	0	0		0		6
Gas Supply	0	0		0		20
Rates & Regulatory Affairs	0	(0)		0		21
Corporate Controller	1	(1)		0		119
Human Resources	(1)	1		0		158
Corporate Safety & Health	(0)	0		0		30
Corporate Services	(1)	1		0		347
Senior VP Finance & Administration			0	0		13
	(0)	1	0	1		1,043
Power Supply						
Power Planning	0	(0)		0		68
Power Projects Development	0	0		0		58
HVDC	4	(2)		2		270
Generation North	2	0		2		229
Generation South	(8)	9		1		470
Power Sales & Operations	1	0		1		89
Engineering Services	(5)	5		0		213
New Generation Construction	11	(10)		1		143
Senior VP PS Administration	7	(7)		0		246
	12	(5)	0	7		1,785
Transmission						
Transmission System Operations	(1)	1		0		370
Transmission Planning & Design	(1)	2		1		216
Transmission Construction & Line Mtce	(3)	4		1		296
Apparatus Maintenance	(1)	2		1		433
VP Transmission Administration	0	(0)		0		44
	(6)	9	0	3		1,358
Customer Service & Distribution						
Customer Service Operations - Wpg&North	2	(0)		2		534
Customer Service Operations - South	2	(1)		1		579
Distribution Planning & Design	1	(1)		0		185
Distribution Construction	8	(7)		1		407
VP Cust Service & Distribution Admin			0	0		6
	13	(9)	0	4		1,711
Customer Care & Marketing						
Industrial & Commercial Solutions	(0)	0		0		60
Consumer Marketing & Sales	1	2		3		218
Business Support Services	(1)	(1)		(2)		227
VP Cust Care & Marketing	(0)	3		3		60
	0	4	0	4		566
Total	19	5	0	23		6,669

MANITOBA HYDRO
EQUIVALENT FULL TIME EMPLOYEES - ANNUAL RESULTS BY DIVISION

	Overtime	Vacancies	Other	Total "Other" as per PUB/MH 1-34 (b)	Variations for EFTs greater than 5 and 5%	2011/12 Forecast EFTs
1						
2						
3						
4						
5	President & CEO					
6				0		29
7		0		0		34
8				0		2
9		(0)		(0)		34
10	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>99</u>
11						
12	Corporate Relations					
13				0		65
14				0		4
15	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>69</u>
16						
17	Corporate Planning & Strategic Analysis					
18				0		21
19				0		12
20				0		5
21	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>38</u>
22						
23	Finance & Administration					
24				0		314
25				0		15
26				0		6
27				0		20
28				0		21
29				0		119
30				0		158
31				0		30
32				0		347
33				0		13
34	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>1,043</u>
35						
36	Power Supply					
37				0		68
38				0		58
39				0		270
40				0		229
41				0		470
42				0		89
43				0		213
44				0		143
45		(5)	5	0		246
46	<u>(5)</u>	<u>5</u>	<u>0</u>	<u>0</u>		<u>1,785</u>
47						
48	Transmission					
49				0		370
50				0		216
51				0		296
52				0		433
53				0		44
54	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>1,358</u>
55						
56	Customer Service & Distribution					
57				0		534
58				0		579
59				0		185
60				0		407
61				0		6
62	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>1,711</u>
63						
64	Customer Care & Marketing					
65				0		60
66				0		218
67				0		227
68				0		60
69	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>566</u>
70						
71	<u>(5)</u>	<u>5</u>	<u>0</u>	<u>0</u>		<u>6,669</u>

CAC/MSOS/MH II-52

Subject: Wuskwatim

Reference: PUB/MH I-42 b) & c)

- a) **Please confirm that the revenues shown for WPLP are based on MH's current export price forecast. If not, please provide a revised response where the revenues are based on the current export price forecast.**

ANSWER:

Confirmed.

CAC/MSOS/MH II-53

Subject: Capital Expenditures

Reference: PUB/MH I-67 c))

- a) **Please confirm if the Provincial mitigation cost obligations assumed by Manitoba Hydro are expensed as OM&A or capitalized.**

ANSWER:

All mitigation cost obligations, including those Provincial obligations assumed by Manitoba Hydro, are capitalized. Mitigation costs represent the compensation paid to ameliorate the impacts of the development of generation and transmission facilities in Manitoba and pertain mainly to the Churchill River Diversion and Lake Winnipeg Regulation projects. This compensation is an integral cost component of the related generation and transmission facilities' infrastructure and is capitalized accordingly.

CAC/MSOS/MH II-54

Subject: Cost of Service Study
Reference: PUB/MH I-136 a) and b)
Appendix 11.1, page 7

- a) **Please provide a schedule that sets out the total energy provided by source and the adjustments made for purposes of allocating G&T costs to the export and domestic classes (per Appendix 11.1, page 7). In responding, please indicate the treatment of DSM savings.**

ANSWER:

In PCOSS10 energy consumption forecast for Domestic classes is net of energy savings from past DSM programming, as well as forecast savings from programs planned to be undertaken in 2008/09 and 2009/10. There is no adjustment of the Export class's energy in PCOSS10 for DSM energy savings, as had been done in PCOSS08.

Forecast energy for the Export class used to allocate costs from the Generation pool is reduced by energy from any source whose costs are directly assigned to the class, including a portion of Thermal Generation resources. The remaining Thermal costs not assigned to the Export class are allocated among the Domestic classes. The Domestic classes' share of Energy as used to allocate the Generation pool costs between Domestic and Exports, is reduced for Energy associated with the Thermal costs that have been allocated to Domestic customers,

The energy sources and adjustments as used to allocate Generation pool costs are as follows:

	GWh @ Gen
Domestic Classes Net of DSM (Excl SEP)	24,823
Domestic Energy from Thermal	(158)
Domestic Energy in Generation Pool Allocator	24,665
Export Class	8,715
Export Energy from Purchased Power	(1,974)
Export Energy from Thermal	(317)
Export Energy in Generation Pool Allocator	6,424

The calculation of the Domestic class's demand for allocation of Transmission costs is based on the total energy use, and does not incorporate any adjustment for energy deemed provided by Thermal resources.

Similarly the calculated Demand of the Export class is not reduced for any Energy deemed provided by Thermal resources. However, the Energy usage used to calculate 2CP Demand is reduced by 140 GWh of US On Peak Purchases as these purchases are assumed to serve US On Peak Sales in a median flow year, and would not physically use MH's Transmission system.

CAC/MSOS/MH II-54

Subject: Cost of Service Study

**Reference: PUB/MH I-136 a) and b)
Appendix 11.1, page 7**

- b) Is the energy used to allocate Generation costs to domestic classes adjusted to reflect the fact that gas-fired generation cost are directly assigned to domestic classes? If not, why not and what would be the impact?**

ANSWER:

Yes, the energy used to allocate Generation cost to domestic classes has been reduced for gas-fired generation costs that are allocated exclusively among the domestic classes.

CAC/MSOS/MH II-54

Subject: Cost of Service Study
Reference: PUB/MH I-136 a) and b)
Appendix 11.1, page 7

- c) **Please reconcile the fact that Brandon’s coal-fired generation is expected to be used (during droughts) to support exports with plan to assign all such costs directly to domestic classes in future COS studies.**

ANSWER:

While coal-fired generation may be required to support export sales under severe drought conditions, no such use is considered in the financial forecast incorporating median water flow conditions that is the basis of the PCOSS. Assignment of the costs of Brandon Unit 5 to domestic customers is consistent with the anticipated operation, and resulting costs, of Brandon Unit 5 under median water flows.

CAC/MSOS/MH II-55

Subject: Cost of Service Study

Reference: PUB/MH I-141 b)

a) Please provide a similar table for the total of all domestic classes.

ANSWER:

The allocated and directly assigned Interest, Depreciation and Operating costs for the total domestic classes in PCOSS10 are as follows:

Domestic Class Costs in PCOSS10 (\$ 000's)

	Interest	Depreciation	Operating	Total
Diesel	1,175	3,729	6,916	11,821
SEP	410	181	324	915
DSM	14,682	23,477	-	38,159
Directly Assigned Generation	16,268	27,388	7,240	50,895
SEP	109	65	67	242
Directly Assigned Transmission	109	65	67	242
A&R Lighting	3,782	2,544	7,477	13,803
Diesel	101	266	328	695
Directly Assigned Distribution	3,883	2,810	7,805	14,498
E12 Generation - Domestic Share	260,622	98,217	209,474	568,313
E13 Generation - Domestic Only	20,910	19,620	36,584	77,114
Allocated Generation	281,532	117,837	246,058	645,427
D13 Transmission - Domestic Only	-	-	3,106	3,106
D14 Transmission - Domestic Share	68,139	40,929	39,656	148,724
Allocated Transmission	68,139	40,929	42,762	151,830
D21 Subtransmission - Domestic Only	5,879	22,363	26,342	54,585
D22 Subtransmission - Domestic Only	8,140	-	-	8,140
D23 Subtransmission - Domestic Only	19,879	-	-	19,879
Allocated Subtransmission	33,898	22,363	26,342	82,604
D32 Distribution Plant - Domestic Only	28,936	22,539	31,186	82,661
D36 Distribution Plant - Domestic Only	48,340	37,969	15,739	102,048
D40 Distribution Plant - Domestic Only	14,115	13,741	5,058	32,914
C23 Distribution Plant - Domestic Only	32,227	25,313	10,493	68,032
C27 Distribution Plant - Domestic Only	4,565	-	-	4,565
C40 Distribution Plant - Domestic Only	3,163	1,933	-	5,095
C41 Distribution Plant - Domestic Only	-	-	2,820	2,820
Allocated Distribution Plant	131,346	101,494	65,296	298,135
C10 Distribution Service - Domestic Only	1,091	4,099	29,436	34,626
C11 Distribution Service - Domestic Only	907	3,215	24,076	28,198
C12 Distribution Service - Domestic Only	418	1,398	12,956	14,773
C13 Distribution Service - Domestic Only	50	140	1,300	1,490
C14 Distribution Service - Domestic Only	116	350	3,239	3,704
C15 Distribution Service - Domestic Only	397	914	8,467	9,778
C30 Distribution Service - Domestic Only	-	277	-	277
Allocated Distribution Service	2,979	10,393	79,475	92,847
Total Costs Assigned to Domestic Classes	\$ 538,153	\$ 323,280	\$ 475,045	\$ 1,336,478

CAC/MSOS/MH II-56

Subject: Cost of Service Study

**Reference: PUB/MH I-141 c) & 144 a) – c)
Appendix 11.1, pages 20 & 29**

- a) **With respect to Schedule C2 and the reported Transmission function costs, what is the basis of the split shown between Domestic and Export for each asset class?**

ANSWER:

Transmission and Substation asset classes shown on Schedule C2 are designated as 'Domestic' or 'Export' on an asset by asset basis in reference to lines that cross provincial boundaries and related facilities versus those that do not.

The split for Transformers (Substation) asset class investment in Schedule C2 is based upon the proportional investment of the Substation asset class for the 2007/08 base year of PCOSS10.

Buildings, Communication and General Equipment asset class investment in Schedule C2 is based upon the proportional investment of the Transmission asset class for the 2007/08 base year of PCOSS10.

CAC/MSOS/MH II-56

Subject: Cost of Service Study

**Reference: PUB/MH I-141 c) & 144 a) – c)
Appendix 11.1, pages 20 & 29**

- b) If assets (and subsequently their related costs) are classified as “Domestic” in Schedule C2 – are the related costs all allocated to the Domestic Classes?**

ANSWER:

The designation of assets in Schedule C2 as ‘Export’ or ‘Domestic’ is in reference to lines that cross provincial boundaries and related facilities versus those that do not. This designation is not intended to imply that these assets are used only by the domestic or Export customer classes. The costs of the assets are aggregated before being allocated between both the domestic and Export classes that utilize the shared transmission assets.

CAC/MSOS/MH II-56

Subject: Cost of Service Study

**Reference: PUB/MH I-141 c) & 144 a) – c)
Appendix 11.1, pages 20 & 29**

- c) **Similarly, if assets (and subsequently their related costs) are classified as “Export” in Schedule C2 – are the related costs all allocated to the Export Class?**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-56(b).

CAC/MSOS/MH II-56

Subject: Cost of Service Study

**Reference: PUB/MH I-141 c) & 144 a) – c)
Appendix 11.1, pages 20 & 29**

d) Why in the subsequent “C” series schedules is Transmission sometimes shown as split between Domestic and Exports (e.g., 5) and sometimes it is not (e.g., C6)?

ANSWER:

The split of Transmission as shown in Schedule C2 does not affect the costs allocated to either the domestic or Export customer classes, but is merely a presentation convention carried forward from previous studies. As there is no cost impact, the segregation was not implemented in portions of the study that were created when SAP was implemented, such as shown in Schedule C6.

CAC/MSOS/MH II-56

Subject: Cost of Service Study

**Reference: PUB/MH I-141 c) & 144 a) – c)
Appendix 11.1, pages 20 & 29**

- e) **The response to PUB/MH I-141 c) indicates that a portion of some converter stations is allocated to exports. However, Schedule C2 does not show any HVDC substation assets functionalized as under “Export”. Please reconcile.**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-56(b).

CAC/MSOS/MH II-57

Subject: Risk

Reference: PUB/MH I-152

- a) For each year 2004-2007, please indicate the cost of the purchases required to “back” the merchant sales shown.

ANSWER:

	Merchant Sales		Merchant Purchases	
	MWh	CDN \$	MWh	CDN \$
2004	156,016	7,042,969	156,016	4,911,248
2005	701,128	50,391,897	701,128	40,495,381
2006	1,210,939	60,462,993	1,210,939	52,341,975
2007	1,202,882	63,530,264	1,202,882	43,341,983

Please see revised response to PUB/MH I-152 as the Merchant Sales numbers have changed.

CAC/MSOS/MH II-58

Subject: Financial Outlook

Reference: PUB/MH I-204

- a) **Does the fact there is no “allowance” for capitalized OM&A after 2011//12 mean that the forecast capital additions included after this date are under stated? Please explain.**

ANSWER:

Please see Manitoba Hydro’s response to PUB/MH II-170(a).

CAC/MSOS/MH II-59

Subject: Financial Outlook

Reference: PUB/MH I-11 h) and 86 b); e) & f)

- a) **Please provide the analysis supporting the 85% factor used to convert average annual wind production into annual dependable energy.**

ANSWER:

Manitoba Hydro adopted the 85% factor for determining dependable wind generation from experience in other jurisdictions. This was based on statistical analysis of wind records for extended periods of time in these jurisdictions. The standard that was adopted required that the dependable energy could be achieved in 19 years out of 20. It is estimated that each year there is a 5% chance that actual annual generation will be less than the 85% level. The five percentile probability is the industry standard for determining the dependable energy of wind generation.

CAC/MSOS/MH II-59

Subject: Financial Outlook

Reference: PUB/MH I-11 h) and 86 b); e) & f)

- b) Does Manitoba Hydro attribute any dependable capacity value to wind power for purposes of resource planning and, if so, what is the value and how was it determined?**

ANSWER:

Manitoba Hydro does not attribute dependable capacity to wind power because its wind generation is concentrated in a small geographic area with little diversity in wind generation. It is possible that there is no available wind generation because of low wind speeds during the winter peak corresponding to extremely low temperatures. Furthermore, the extremely low temperatures could result in curtailment of wind power generation due to cold weather operating limits. It is considered imprudent to count on this intermittent resource to meet critical loads.

CAC/MSOS/MH II-60

Subject: Financial Outlook

Reference: PUB/MH I-85 b) & c) and 136 b)

- a) Please provide a schedule that sets out for 2009/10 and each year thereafter the MW associated with firm export contracts that existed prior to the passage of the Climate Change and Emissions Reduction Act. As part of the response please include the MW of capacity associated with Brandon's Unit 5 coal-fired generation.

ANSWER:

System Firm (Winter Peak) Demand and Resources

Capacity at Generation (MWs)

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Supply Available to Serve Long Term Sales (Net of Manitoba Load & Reserves)	1265	1430	1428	1307	1199	955
Total Long Term Sales Signed prior to June 18, 2008	638	638	605	605	605	0
Surplus Supply including Brandon Unit #5	627	792	823	702	594	956
Surplus Supply Excluding Brandon Unit #5	522	687	718	597	489	851

The capacity at generation for Brandon Unit 5 is 105 MW.

CAC/MSOS/MH II-60

Subject: Financial Outlook

Reference: PUB/MH I-85 b) & c) and 136 b)

- b) **Please explain what the \$7 - \$15 M financial impact estimate is based on. Is it simply reduced firm long term export contracts or do the restrictions also impact Manitoba Hydro's ability to enter into short-term (<1 year) export arrangements?**

ANSWER:

The financial impact of \$7 - \$15 M is based on a retrospective analysis of energy generated from Brandon Unit 5 as a result of restricted operation and the potential cost of replacing the energy. The energy would contribute to Manitoba Hydro's overall system energy and would be used to supply both short and long-term sales as well as provide energy for Manitoba load.

CAC/MSOS/MH II-61

Subject: DSM

Reference: PUB/MH I-110 c)

- a) What are the specific program changes that lead to the significant increase in participants in 2009/10 and beyond (particularly for Homeowners)?**

ANSWER:

The significant increase in participation is due to a number of factors, including Manitoba Hydro having the established infrastructure and marketing network in place. During the initial years, Manitoba Hydro was also occupied with the pilots being implemented with both BUILD and BEEP. All of these efforts in combination with competing demands placed on the staff working on the lower income program took more time than initially anticipated.

CAC/MSOS/MH II-61

Subject: DSM

Reference: PUB/MH I-110 c)

b) What has been the actual 2009/10 participation to date?

ANSWER:

Please see Manitoba Hydro's response to PUB/MH II-98.

CAC/MSOS/MH II-62

Subject: DSM

Reference: PUB/MH I-118

a) Please provide the details regarding the Revenue Gain calculation for the following two programs:

- Home Insulation program
- Lower Income Energy Efficiency program

ANSWER:

The following table outlines the details of the Revenue Gain calculations:

Program	PV Export Sales	PV Revenue Loss	Difference	PV kW.h @ Generation	Revenue Gain (c/kW.h)
	(A)	(B)	(C) = (A) - (B)	(D)	(F) = (C) *100 / (D)
Home Insulation Program	\$ 33,104,742	\$ 20,585,204	\$ 12,519,538	343,077,994	3.65
Lower Income Energy Efficiency Program	\$ 14,865,625	\$ 16,936,284	\$ (2,070,658)	213,886,387	-0.97

CAC/MSOS/MH II-63

Subject: DSM

Reference: PUB/MH I-129 c)

- a) What is the levelized value (e.g. 10-year in F2010/11 \$) that Manitoba Hydro currently assigns to winter capacity savings for purposes of DSM evaluation?**

ANSWER:

The levelized value (10-year in F2010/11\$) that Manitoba Hydro currently assigns to winter capacity savings for purposes of DSM evaluation is \$148.08/kW/yr at meter.

CAC/MSOS/MH II-64

Subject: DSM

Reference: PUB/MH I-132 a)

- a) **Please indicate specifically what infrastructure costs are included in the determination of “avoided infrastructure costs” (e.g. generation, transmission, sub-transmission and/or distribution facilities). In each case, please outline how the avoided infrastructure costs were determined.**

ANSWER:

Please refer to the responses to MIPUG/MH II-9(a) and RCM/TREE/MH II-4(b) for information on the derivation of marginal cost. In those responses it is indicated that avoided infrastructure costs apply only to the transmission, subtransmission and distribution components. The methodology for determining these components of marginal cost is provided in the report “Marginal Transmission and Distribution Cost Estimates. SPD 04/05” Manitoba Hydro, September 23, 2004. This report is referenced in the response to RCM/TREE/MH I-7(f). The portions of transmission and distribution projects that are capacity related are identified from the Capital Expenditure Forecast and these are used in the one year deferral method to determine the avoided cost of infrastructure expansion.

CAC/MSOS/MH II-65

Subject: Rate Design

Reference: PUB/MH I-133 e)

- a) Please explain how the reduction in the residential basic monthly charge “eliminates the difficulty associated with establishing and monitoring income screening for low income consumers”.

ANSWER:

Please see Manitoba Hydro’s response to PUB/MH-II 120(b).

CAC/MSOS/MH II-66

Subject: Exports

Reference: PUB/MH I-156 a) & b)

- a) **Please comment on the degree to which Manitoba Hydro's export price forecast (as used in IFF09) falls within the range of the five external export price forecasts provided by consultants.**

ANSWER:

Manitoba Hydro's export price forecast (as used in IFF09) falls entirely within the range of the five external export price forecasts provided by consultants.

CAC/MSOS/MH II-67

Subject: Temporary Billing Demand Deferral

Reference: PUB/MH I-167 b)

- a) **How is the \$1,291,190 in deferrals treated in IFF09? For example are the revenues for F2009/10 reduced by the amount of the deferral?**

ANSWER:

IFF09 does not include any reduction in revenue related to the Partial Bill Payment Deferral Program as final deferral figures were not available prior to IFF09 being completed.

The Public Utilities Board approved the program on September 4, 2009 (Board Order 126/09), but due to the time-frame required to notify and consult customers about the program, implementation of the deferrals was not applied to affected customers' bills until the November billing period. The final deferral amounts were applied in the January 2010 billing period, after IFF09 had been finalized.

CAC/MSOS/MH II-67

Subject: Temporary Billing Demand Deferral

Reference: PUB/MH I-167 b)

- b) Are there any accounts that received a billing demand deferral concession and that subsequently have gone out business?

ANSWER:

In total, 26 accounts received billing demand deferrals. Of these accounts, one account has ceased production at its Manitoba-based operations.

CAC/MSOS/MH II-68

Subject: Rate Design

Reference: RCM/TREE I-81 a) & d)

- a) Please provide a schedule that sets out the coincident and non-coincident load factors for all Residential consumers versus those for Low-Use Residential consumers. For purposes of the calculation please use the same definition of “coincident peak” as used in the allocation of Transmission costs.

ANSWER:

**Load Research Results Average 2008/2009
Corresponding to Highest 50 Winter Generation Peaks**

	Winter CP LF	Relative Accuracy %
Residential Low Use	85.4%	30.24
Residential (including low use)	77.7%	3.96

**Load Research Results Average 2008/2009
Corresponding to Highest 50 Summer Generation Peaks**

	Summer CP LF	Relative Accuracy %
Residential Low Use	84.8%	29.70
Residential (including low use)	82.9%	6.30

**Load Research Results Average 2008/2009
Corresponding to Highest 50 Overall Common Bus Peaks**

	NCP LF	Relative Accuracy %
Residential Low Use	41.4%	26.36
Residential (Including low use)	46.2%	3.48

CAC/MSOS/MH II-69

Subject: Corporate Overview

Reference: CAC/MSOS/MH I- 9 b)

- a) **Do the NERC and MRO reliability standards just apply to transmission or are there also prescribed standards for distribution?**

ANSWER:

The NERC and MRO Reliability Standards only apply to the Bulk Electric System (>100 kV). The distribution system falls outside the scope of these standards.

CAC/MSOS/MH II-69

Subject: Corporate Overview

Reference: CAC/MSOS/MH I- 9 b)

- b) If there are prescribed standards for distribution, please outline what they are and whether they have changed since 2007.**

ANSWER:

There are no NERC Reliability Standards that apply to distribution.

CAC/MSOS/MH II-69

Subject: Corporate Overview

Reference: CAC/MSOS/MH I- 9 b)

- c) **If there are no NERC/MRO reliability standards for distribution, please describe what actions Manitoba Hydro is taking to improve the reliability of its distribution system.**

ANSWER:

Manitoba Hydro takes pride in having one of the best reliability records in North America.

There are two high level actions that are used to maintain and improve reliability of the distribution system:

1. Manitoba Hydro Distribution manages reliability using field inspections and maintenance schedules developed over many decades,
2. Manitoba Hydro Distribution incorporates reliability performance into the planning of the system. Reliability is one of the factors that trigger and influence distribution system improvements.

CAC/MSOS/MH II-70

Subject: OM&A Expense

Reference: CAC/MSOS/MH I-20 a) and 131 b)

- a) The referenced response (i.e., 131 b)) does not outline the requested “new activities” that have led to a significant increase in the staff level requirement for the Corporate Planning and Strategic Analysis Business Unit. Please provide.

ANSWER:

Please see Manitoba Hydro’s response to PUB/MH II-24(c).

CAC/MSOS/MH II-71

Subject: Financial Expense

Reference: CAC/MSOS/MH I- 21 e)

- a) **The response suggests that the financial expense included in schedule 4.6.0 (and correspondingly in MH08-1) includes financial expenses (as well as income) related to MH's subsidiaries (excluding Centra). Please confirm that this is the case and, if so, provide a schedule setting out the financial expense values included for 2007/08 to 2019/2020.**

ANSWER:

The response to CAC/MSOS/MH I-21(e) provided a schedule of the immaterial amount of actual interest income from other Manitoba Hydro subsidiaries that was included in schedule 4.6.0 for 2007/08 to 2009/10. Manitoba Hydro did not forecast interest income from these subsidiaries for 2010/11 to 2019/20.

CAC/MSOS/MH II-71

Subject: Financial Expense

Reference: CAC/MSOS/MH I- 21 e)

- b) Please explain why the MH08-1 financial forecast includes interest income (and expenses) associated with Manitoba Hydro's affiliates but not OM&A costs (per CAC/MSOS/MH I-15 e))**

ANSWER:

The inclusion of subsidiary interest income in electric operations net finance expense for 2007/08 and 2008/09 was an oversight; however, the amount is immaterial and does not impact the financial statements or projections.

CAC/MSOS/MH II-72

Subject: Financial Forecast – Capital Expenditures

Reference: CAC/MSOS/MH I- 41 d)

- a) What is the required in-service for the next new resource (following Keeyask) to meet Manitoba load?**

ANSWER:

Under the assumptions in the 2009/10 power resource plan, new resources to meet Manitoba load would be required by 2022/23, regardless of the specific supply option. If Keeyask were to be put in-service in 2022/23, additional new generation would be required to serve Manitoba load in 2029/30.

CAC/MSOS/MH II-73

Subject: Energy Supply

Reference: CAC/MSOS/MH I- 63 a)

- a) **The initial question was whether the load forecast included any historic savings from Manitoba Hydro DSM programs (beyond Basic Customer Information and Service) or whether the DSM resources shown in Table 1 and 2 included all such savings from past Manitoba Hydro DSM programs. Put another way, is historic DSM achieved to-date via DSM programs included in the load forecast or as a supply resource. Please clarify.**

ANSWER:

Historic DSM savings achieved to date via DSM programs is included in the 2009 Base Load Forecast numbers.

CAC/MSOS/MH II-74

Subject: Financial Forecast – Capital Expenditures

Reference: CAC/MSOS/MH I- 63 c)

- a) **Is the cost of this new interconnection capability included in CEF09? If so, please indicate where.**

ANSWER:

The new interconnection is referenced in CEF09 as the “Dorsey-US Border New 500 kV Transmission Line” project. Information on this project including the cost can be found on page 14 of CEF09. The projected capital cost is \$204.8 million for an in-service date of May, 2018.

CAC/MSOS/MH II-75

Subject: Proposed Rates and Customer Impacts

**Reference: CAC/MSOS/MH I- 66 c)
CAC/MSOS/MH I-46 a)**

- a) **Please reconcile the marginal costs provided in response to 66 c) with the levelized value assigned to DSM per 46 a).**

ANSWER:

It should be noted that the marginal cost components in the response to CAC/MSOS/MH I-66(c) were not correct and should be revised as follows:

Generation -	6.01 ¢/kW.h
Transmission -	0.83 ¢/kW.h
Distribution -	<u>0.51</u> ¢/kW.h
Total Estimated Marginal Cost	7.23 ¢/kW.h

The above marginal costs apply to customers at the distribution level and were derived for the year 2010/11. This marginal cost is in 2010 dollars and was derived utilizing assumptions that are consistent with the 2009 power resource plan. If this marginal cost were to be referenced to a generating station location, the marginal cost of the generation component would be 5.27 ¢/kW.h instead of 6.01 due removing the 14% loss factor between the generating station and the distribution level reference points. The 5.27 ¢/kW.h marginal cost is the appropriate value that should be compared to the levelized marginal cost for DSM that is provided in the response to CAC/MSOS/MH I-46(a).

The marginal cost for DSM of 5.53 ¢/kW.h that is provided in the response to CAC/MSOS/MH I-46(a) for the 2009 Power Smart Plan is referenced to the generating station location in the system as requested and thus does not include the transmission and distribution components. This marginal cost utilized assumptions that are consistent with the 2008 power resource plan and was escalated such that it could be stated in 2009 dollars. An additional factor that is different compared to the marginal cost in the response to CAC/MSOS/MH I-66(c) is that it reflects a 10 year levelized value. This 10-year marginal cost would be higher than a 2010/11 value because marginal costs increase over the years as export prices are forecast to increase.

In summary, the marginal costs in the two responses are relatively similar after appropriate adjustments are made for several factors that are different in the two applications.

CAC/MSOS/MH II-76

Subject: Proposed Rates and Customer Impacts

Reference: CAC/MSOS/MH I- 66 a)

- a) Please provide a schedule that breaks down the frequency for Residential Basic into: i) Residential Standard and ii) Residential All-Electric.

ANSWER:

The table below provides the breakdown of Residential Basic into Standard and All-Electric based on bill frequency data for 2008/09.

kW.h Range	Residential Basic Total		Residential Basic Standard		Residential Basic All-Electric	
	Bills	%	Bills	%	Bills	%
≤ 250	598,567	11.5	502,459	14.1	96,108	5.8
251 - 750	1,717,675	33.0	1,442,022	40.6	275,653	16.7
751 -1000	690,607	13.3	547,555	15.4	143,052	8.7
1001 - 2000	1,250,947	24.0	802,424	22.6	448,523	27.2
2001 - 5000	774,843	14.9	227,383	6.4	547,460	33.2
> 5000	169,156	3.3	30,298	0.9	138,858	8.4

CAC/MSOS/MH II-77

Subject: Cost of Service

Reference: CAC/MSOS/MH I- 75

- a) **If DSM costs are not tracked by rate class, please explain how the interest and amortization costs associated with DSM expenditures are allocated to customer classes in the COSA.**

ANSWER:

Power Smart expenditures are capitalized by program. In the PCOSS, interest and amortization costs are calculated for each DSM program, and then assigned to customer classes based upon anticipated customer participation for each program.

CAC/MSOS/MH II-78

Subject: Diesel

Reference: CAC/MSOS/MH I- 92

a) What is the status of Manitoba Hydro's anticipated Diesel Rate Application?

ANSWER:

Manitoba Hydro filed its Diesel Rate Application on April 29, 2010.

CAC/MSOS/MH II-79

Subject: Financial Forecast

Reference: CAC/MSOS/MH I- 106 c)

- a) **Please confirm if the need to rely on on-peak purchases to meet energy needs will be impacted by the level of firm export commitments (either long term and/or short term). If yes, what are the assumptions regarding firm exports in the “1 in 10” calculation?**

ANSWER:

Confirmed. The need for on-peak purchases under low flow conditions will generally increase with a greater level of firm export commitments. The 1 in 10 frequency reflects the current makeup of Manitoba Hydro's export portfolio where the long term export commitments are System Participation sales, backed by all of Manitoba Hydro's resources including the combustion turbines and purchased energy. To the extent that purchased energy is cheaper than operating Manitoba Hydro's gas turbines, purchased energy will be used first to serve export sales.

In the future, sales to MP and WPS are proposed to be Hydro Participation sales that are resourced from new dependable hydraulic generation. These sales will require significantly less on peak purchases to support them as, under dependable flow conditions or better, Manitoba Hydro will have hydraulic energy available to serve the sales. Under worse than dependable flow conditions, Manitoba Hydro is relieved of its sales obligation but may choose to serve the sale if economic or other conditions make continued deliveries appropriate.

CAC/MSOS/MH II-80

Subject: Temporary Billing Demand Concession

Reference: CAC/MSOS/MH I-193 d)

- a) Please confirm whether the first table presented in the response is the average unit energy cost before or after the granting of the concession.
- If “before”, please provide a comparable table the sets out the average unit energy cost “after” the concession was granted.
 - If “after”, please provide a comparable table that sets out the average unit energy cost “before” the concession was granted.

ANSWER:

The first table provided in the response to CAC/MSOS/MH I-193(d) shows the average unit cost of energy “before” the application of the billing demand deferral. The table below shows the average unit cost of energy “after” application of the billing demand deferrals.

Average Unit Energy Cost (**after deferrals**) for Accounts Participating in the Distressed Industry Billing Demand Deferral Program by Month for the Billing Periods of Jun 2009 - Nov 2009

Billing Period	Average Unit Energy Cost (\$/kWh)			
	GSL > 100 kV	GSL 30 - 100 kV	GSL 750 V - 30 kV	GSM
Jun 09	\$ 0.0391	\$ 0.0367	\$ 0.0560	\$ 0.0651
Jul 09	\$ 0.0429	\$ 0.0402	\$ 0.0550	\$ 0.0658
Aug 09	\$ 0.0391	\$ 0.0400	\$ 0.0637	\$ 0.0668
Sep 09	\$ 0.0494	\$ 0.0399	\$ 0.0557	\$ 0.0649
Oct 09	\$ 0.0475	\$ 0.0399	\$ 0.0558	\$ 0.0652
Nov 09	\$ 0.0513	\$ 0.0399	\$ 0.0562	\$ 0.0656

CAC/MSOS/MH II-80

Subject: Temporary Billing Demand Concession

Reference: CAC/MSOS/MH I- 193 d)

- b) For GSM customers, does the calculation of the “Baseline Normal Unit Energy Cost” and subsequent billing concession consider the monthly customer charge or does it just consider the demand and energy charges?

ANSWER:

The calculation of Baseline Unit Energy Cost and subsequent billing demand deferrals considered the monthly customer charges that GSM customers are subject to under their rate tariffs.

CAC/MSOS/MH II-80

Subject: Temporary Billing Demand Concession

Reference: CAC/MSOS/MH I- 193 d)

- c) For GSM customers, do the average rates set out in the response include the monthly customer charge?

ANSWER:

Average rates provided in response to CAC/MSOS/MH I-193(d) included the monthly customer charge that GSM customers are subject to under this rate tariff.

CAC/MSOS/MH II-81

Subject: Temporary Billing Demand Concession

Reference: CAC/MSOS/MH I- 193 e)

- a) The response to 193 c) sets out the average unit energy cost (by customer class) for those accounts participating in the Program. As result, the kWh associated with the Program is known. Using these kWh, please provide the information requested in the original question.

ANSWER:

Total kWh's for customers participating in the Billing Demand Deferral Program:

Rate Class	Total kWh
GSL > 100 kV	185,870,085
GSL 30 kV to 100 kV	20,649,087
GSL 750 V to 30 kV	21,796,896
GSM	6,335,220

Total revenues for customers participating in the Billing Demand Deferral Program (prior to application of billing demand deferrals):

Rate Class	Total Revenue
GSL > 100 kV	\$ 9,087,608
GSL 30 kV to 100 kV	\$ 902,871
GSL 750 V to 30 kV	\$ 1,407,285
GSM	\$ 456,414

Total estimated revenues at forecasted SEP rates (energy charge only) for energy consumed by customers participating in the Billing Demand Deferral Program:

Rate Class	Est Revenue
GSL > 100 kV	\$ 3,555,000
GSL 30 kV to 100 kV	\$ 400,000
GSL 750 V to 30 kV	\$ 480,000
GSM	\$ 145,000

Total estimated revenues at adjusted (actual) SEP rates (energy charge only) for energy consumed by customers participating in the Billing Demand Deferral Program:

Rate Class	Est Revenue
GSL > 100 kV	\$ 3,610,000
GSL 30 kV to 100 kV	\$ 405,000
GSL 750 V to 30 kV	\$ 465,000
GSM	\$ 140,000

CAC/MSOS/MH II-81

Subject: Temporary Billing Demand Concession

Reference: CAC/MSOS/MH I- 193 e)

b) Please confirm whether the first table presented in the response is the average unit energy cost before or after the granting of the concession.

- If “before”, please provide a comparable table that sets out the average unit energy cost “after” the concession was granted.**
- If “after”, please provide a comparable table that sets out the average unit energy cost “before” the concession was granted.**

ANSWER:

No table in the original response to CAC/MSOS/MH I-193(e) was provided that referenced average unit energy cost before or after application of the billing demand deferral.

CAC/MSOS/MH II-82

Subject: Letter of Application

Reference: CAC/MSOS/MH I- 1 b) & c)

- a) **What is the source of the information presented in response to 1 b). If it is more current than the 2003 Residential End Use Survey, please update the response to CAC/MSOS/MH I-196 d) using the same source.**

ANSWER:

The 2009 Residential Energy Use Survey was used as the source to provide Manitoba Hydro's response to CAC/MSOS/MH I-1(b).

The following table provides a breakdown of LICO-125 customers by annual kW.h consumption based on the 2009 Residential survey:

Heat Source:	Electric	Non-Electric	Total
0 - 4,999 kW.h	2,772	25,369	28,141
5,000 - 9,999 kW.h	5,452	31,100	36,552
10,000 - 14,999 kW.h	3,387	9,982	13,369
15,000 - 19,999 kW.h	4,916	3,346	8,262
20,000 - 24,999 kW.h	6,565	615	7,180
25,000 - 29,999 kW.h	4,785	435	5,220
30,000 - 34,999 kW.h	2,915	85	3,000
35,000 - 39,999 kW.h	1,522	85	1,607
40,000 kW.h plus	2,283	170	2,453
Total	34,597	71,187	105,784

Note that the column title for the third column in Manitoba Hydro's response to CAC/MSOS/MH I-196(d) was "Gas". The title should more accurately have been stated as "Non-Electric" as presented above. This column includes customers heating with gas and also customers heating with propane, oil and wood.

CAC/MSOS/MH II-82

Subject: Letter of Application

Reference: CAC/MSOS/MH I- 1 b) & c)

b) How many residential customers are “All Electric” and meet the LICO-125 criteria?

ANSWER:

Based on the 2009 survey, the number of customers who meet the LICO-125 criteria is 34,597.

CAC/MSOS/MH II-82

Subject: Letter of Application

Reference: CAC/MSOS/MH I- 1 b) & c)

- c) **What is the history and projected annual participation in Manitoba Hydro Low Income Energy Efficiency Program by residential customers? Please report separately the participation by land-lord owner dwellings vs. customer owned dwellings.**

ANSWER:

Category	Actual Participation			
	2006-07			
	Gas	Elec	Other	Total
Homeowner	0	0	0	0
Tenant	4	27	0	31
Total	4	27	0	31

Category	Actual Participation			
	2007-08			
	Gas	Elec	Other	Total
Homeowner	0	0	0	0
Tenant	24	84	0	108
Total	24	84	0	108

Category	Actual Participation			
	2008-09			
	Gas	Ele	Other	Total
Homeowner	30	2	1	33
Tenant	15	95	0	110
Total	45	97	1	143

Category	Actual Participation			
	2009-10			
	Gas	Ele	Other	TOTAL
Homeowner	357	23	3	383
Tenant	233	96	0	329
Total	590	119	3	712

Category	Forecasted Participation			
	2010-11			
	Gas	Ele	Other	Total
Homeowner	1,156	686	118	1,960
Tenant	466	277	47	790
Total	1,623	963	165	2,750

CAC/MSOS/MH II-83

Subject: Fuel and Power Purchased

Reference: CAC/MSOS/MH I- 24 c)

- a) **Please describe the circumstances under which purchases were or are expected to be made to “support the efficient and economic operation of system resources”.**

ANSWER:

There are many circumstances that can lead to purchases being used to “support the efficient and economic operation of system resources”. Many of these arise in the operational time frame when a combination of factors can result in purchases either to ensure system reliability or because it is an economically attractive opportunity.

For example, purchases are considered to be “efficient and economic” when they can be made at a lower cost than operating Manitoba Hydro’s thermal generating facilities to meet system commitments. Such purchases can also be efficient in that do not require starting thermal equipment for short operating periods.

Another example of economic operation is the purchase of energy during low value periods such as overnight to serve Manitoba load. This allows water that would otherwise be used overnight to be stored in reservoirs for generation and sale during higher value periods such as during the MISO on-peak periods.

CAC/MSOS/MH II-84

Subject: Fuel and Power Purchased

Reference: CAC/MSOS/MH I- 24 e)

a) Please explain the material increase in natural gas-based generation in 2011/12.

ANSWER:

The increase in natural gas-fired generation in 2011/12 is due to the methodology that applies beginning in the third year of the IFF estimate. The first two years of the IFF estimate are based on a single water flow condition beginning with known water flow and storage conditions and progressing into an expectation of median inflow in the second year. These median flow conditions do not require the utilization of natural gas-fired generation, and for these flow conditions this generation resource is operated only for purposes of testing the units and maintaining operator proficiency.

The IFF estimates assume that the entire range of flow conditions is possible beginning in 2011/12, the third year in IFF09-1. The average of the consequences of the 94 possible water flow events is judged to be the best estimate of revenues and costs beginning in the third year of the IFF estimate. This methodology results in large volumes of gas-fired generation being required in several of the flow conditions in the low end of the range. When the average natural gas-fired generation across all flow conditions is determined, the large volumes in low flow conditions contribute significantly to the estimate. Therefore, the material increase in the estimate of gas-fired generation in 2011/12 is due to consideration that the entire range of 94 flow conditions can occur in that year.

CAC/MSOS/MH II-84

Subject: Fuel and Power Purchased

Reference: CAC/MSOS/MH I- 24 e)

- b) What now is the expected 2011/12 level for wind purchases based on the change noted in response to CAC/MSOS/MN I-13 i)?**

ANSWER:

The estimate for wind energy purchases from the existing 100 MW St. Leon wind farm is 342 GW.h per year. The wind energy purchases from the 138 MW St. Joseph wind farm are expected to be 460 GW.h per year. If the entire St. Joseph wind farm is in-service in 2011/12, the total wind purchases are estimated to be 802 GW.h. It should be noted that the dependable energy from these wind farms is estimated to be 85% of the average. In addition, for consistency the wind energy is assigned an additional 10% when used in the dependable supply/demand resource planning tables which include an inherent consideration of losses in the load forecast. After the reduction to 85% of the average for the calculation of dependable wind energy and the 10% upward adjustment for losses, the 802 GW.h purchase on average becomes 750 GW.h for use in dependable supply/demand resource planning tables.

CAC/MSOS/MH II-85

Subject: Financial Forecast – Capital Spending

Reference: CAC/MSOS/MH I- 45 c)

- a) **Please revise the schedule provide to also show the average energy output for Wuskwatim and Keeyask assumed for each relevant year. Please also include the annual transmission US export Capability (i.e., peak period MWs), including the impact of the new inter-tie planned for 2018.**

ANSWER:

The following table outlines the total system surplus, the average generation for Wuskwatim and Keeyask, as well as the capability of the U.S. interconnection. It should be noted that annual surplus energy is not distributed uniformly over the year with significantly more surplus being available in the summer period. Consequently, the comparison of interconnection capability to average annual on-peak surplus generation as provided in the table is only an approximate indicator of interconnection limits and is not fully representative of the actual situation when analyzed on a monthly basis.

Fiscal Year	Energy (GWh)			On-Peak Capability (MW)		Notes
	Total System Surplus	Wuskwatim	Keeyask	Total Surplus Generation**	US Interconnection	
2006/07	11060	0	0	2650	1850	Historic
2007/08	11789	0	0	2824	1850	Historic
2008/09	10007	0	0	2397	1850	Historic
2009/10	9150	0	0	2191	1850	Median Flows
2010/11	7122	0	0	1706	1850	Median Flows
2011/12	8628	655	0	2067	1850	Average Flows
2012/13	8967	1520	0	2148	1850	Average Flows
2013/14	8825	1520	0	2114	1850	Average Flows
2014/15	8176	1520	0	1959	1850	Average Flows
2015/16	7900	1520	0	1893	1850	Average Flows
2016/17	7792	1520	0	1867	1850	Average Flows
2017/18	7708	1520	0	1847	1850	Average Flows
2018/19	8522	1520	255	2042	2850	Average Flows
2019/20	10561	1520	2790	2530	2850	Average Flows

** Refers to average MW if all export energy is marketed in the (5x16) on-peak period.

CAC/MSOS/MH II-86

Subject: Low Income

Reference: PUB/MH I- 223 a)

- a) **When available, please provide a copy of the Low Income analysis based on the 2009 Survey.**

ANSWER:

Please see Manitoba Hydro's response to PUB/MH II-187(b).

CAC/MSOS/MH II-87

Subject: Low Income

Reference: CAC/MSOS/MH I-196 d)

a) Please provide a similar table showing breakdown for all Residential customers.

ANSWER:

The following table provides a breakdown of all customers by annual kW.h consumption in 2009:

Heat Source:	All-Electric	Non-Electric	Total
0 - 4,999 kW.h	6,214	59,560	65,774
5,000 - 9,999 kW.h	13,507	113,210	126,717
10,000 - 14,999 kW.h	13,395	67,313	80,708
15,000 - 19,999 kW.h	19,171	27,675	46,846
20,000 - 24,999 kW.h	24,850	8,882	33,732
25,000 - 29,999 kW.h	24,379	4,216	28,595
30,000 - 34,999 kW.h	19,380	2,352	21,732
35,000 - 39,999 kW.h	12,580	1,108	13,688
40,000 kW.h plus	18,621	2,683	21,304
Total	152,097	286,999	439,096

CAC/MSOS/MH II-88

Subject: Cost of Service

Reference: CAC/MSOS/MH I-68 a)

a) What is the current status of the terms of reference for the external consultant?

ANSWER:

The Terms of Reference were filed with the PUB and Intervenors to the GRA on May 25, 2010.

CAC/MSOS/MH II-88

Subject: Cost of Service

Reference: CAC/MSOS/MH I-68 a)

- b) Will the terms of reference be completed and available to participants in the current GRA prior to July 1, 2010?**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-88(a).

CAC/MSOS/MH II-89

Subject: Low Income

Reference: RCM-TREE/MH I-83 a) & b)

a) What is the source of the data used to prepare these responses?

ANSWER:

This data was prepared using the 2009 Residential Energy Use survey and Manitoba Hydro's consumer usage database.

CAC/MSOS/MH II-89

Subject: Low Income

Reference: RCM-TREE/MH I-83 a) & b)

- b) Please refile the schedules and include a column showing the annual total by consumption level.

ANSWER:

The table below provides the number of LICO-Standard, LICO-125, and all Residential Basic customers based on annual consumption level.

Annual total kW.h	LICO-STD	LICO-125	Total Res Basic
5,000 and less	21,925	28,141	65,774
5,001 to 10,000	25,828	36,552	126,717
10,001 to 15,000	9,090	13,369	80,707
15,001 to 20,000	5,574	8,262	46,847
20,001 to 25,000	4,497	7,180	33,732
Over 25,000	8,024	12,280	85,319
Total	74,938	105,784	439,096

The following tables are updated as requested however; the total number of customers aggregated in this manner is meaningless.

Number of Low-Income (LICO 125) Residential Basic Customers Across Month For 2009

Monthly													
<u>KW.h Ranges</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Total</u>
200 or below	11066	10276	14531	11135	19232	14740	17927	17066	18038	14380	14874	10832	174097
201 to 250	2044	5197	4181	3651	4492	5966	4757	5462	3538	3333	4152	2575	49348
251 to 300	2394	3721	4675	4261	5846	5856	6316	6315	6609	4277	6473	5650	62393
301 to 350	2481	3325	4429	3817	5169	6431	6049	6483	6371	5726	3743	3459	57483
351 to 400	3602	2189	3719	5068	6462	4967	5666	6190	5960	5986	5535	5663	61007
401 to 450	2829	4886	3860	5721	5389	5442	4936	5942	5271	5203	5584	5529	60592
451 to 500	3224	3667	4032	3946	5522	6819	5782	5773	5735	5745	5961	4751	60957
501 to 550	2964	4298	4379	5796	4102	4017	5349	4476	6177	5134	4425	4278	55395
551 to 600	2840	3580	4067	3730	2766	4834	4925	5141	3385	5013	4307	4327	48915
601 to 650	3751	3447	2707	3149	3000	3888	3206	4019	4199	3610	2507	4254	41737
651 to 700	4037	3596	3121	2492	3656	3437	3847	4556	5174	3401	2813	3705	43835
701 to 750	3010	3128	2685	3089	2782	2819	2487	4114	4325	4165	2359	2968	37931
751 to 800	2785	3441	2678	2364	2818	2641	3870	2871	3403	2877	2026	2403	34177
801 to 850	2649	2503	2563	1942	1670	2912	2748	3025	2733	2062	2712	2108	29627
851 to 900	2268	2446	2103	3171	1619	3074	3256	2720	1701	2242	2960	3087	30647
901 to 950	2745	2145	2123	1746	1615	2064	2124	2348	2107	2514	2302	1563	25396
951 to 1,000	2135	1195	2291	1868	1630	1498	2780	1604	2063	1900	2286	2271	23521
1,001 to 1,100	3950	3217	2059	3259	2943	3704	4270	2652	4547	3930	2712	2032	39275
1,101 to 1,200	4119	2700	2384	2975	2700	3412	2625	3513	2128	3830	2250	1821	34457
1,201 to 1,400	4650	2999	3856	3783	3695	4526	4126	4227	4374	6069	3907	4259	50471
1,401 to 1,600	3141	2283	2588	3122	4535	2532	3314	3258	2631	3648	3460	3435	37947
1,600 to 1,800	3402	3018	1914	2879	3669	2457	1533	970	1617	3406	3380	1813	30058
1,801 to 2,000	1844	2295	2185	2723	2079	2044	1258	1170	1502	2675	2620	2060	24455
Above 2,000	27854	26232	22654	20097	8393	5704	2633	1889	2196	4658	12436	20941	155687
<u>TOTAL</u>	<u>105784</u>	<u>105784</u>	<u>105784</u>	<u>105784</u>	<u>105784</u>	<u>105784</u>	<u>105784</u>	<u>105784</u>	<u>105784</u>	<u>105784</u>	<u>105784</u>	<u>105784</u>	<u>1269408</u>

Number of Low-Income (LICO STD) Residential Basic Customers Across Month For 2009

Monthly

<u>KW.h Ranges</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Total</u>
200 or below	8338	8208	11095	8774	14755	11673	14649	13498	14671	11700	11930	8991	138283
201 to 250	1840	4276	2810	2876	3021	5035	4116	4674	2528	2926	3052	2096	39251
251 to 300	1831	3126	3862	3549	4546	4628	4107	5182	4466	2856	4770	3839	46762
301 to 350	1694	2803	3484	2379	3726	4405	4468	4920	5313	4313	3000	2627	43131
351 to 400	3348	1541	2479	3749	5191	4094	4333	4948	4616	4062	4422	4000	46782
401 to 450	2274	3483	3006	4109	3590	4680	3771	4357	3681	3835	3744	4740	45268
451 to 500	2035	2205	2859	3286	3685	4520	3561	3895	3515	4238	4614	3477	41889
501 to 550	2173	2783	2731	3999	2524	2879	4177	2969	4388	3696	3041	3293	38651
551 to 600	2081	2661	2691	1972	1848	2935	3210	3913	2787	3766	2439	3035	33339
601 to 650	2237	2268	2227	2168	2050	2370	2600	3152	3214	2367	1501	2806	28960
651 to 700	2779	2394	2264	1914	2445	2261	3024	3360	3747	2599	2151	2574	31511
701 to 750	2510	2354	1573	1912	1817	1876	1771	2079	2615	2654	1583	2297	25040
751 to 800	1961	1751	1545	1863	1968	2021	2537	1917	2576	1963	1147	1648	22896
801 to 850	1492	1466	1885	1090	1097	2126	1922	1769	1884	1550	1853	902	19036
851 to 900	1559	1748	1440	2435	1212	2146	2151	1229	1207	1543	2112	2096	20877
901 to 950	1755	1639	1143	988	1087	1481	1476	1535	1673	1810	1167	691	16445
951 to 1,000	1588	1044	1912	1142	1405	1126	1811	1225	1116	1291	1285	1009	15953
1,001 to 1,100	2584	2042	1235	2116	2340	2275	2878	1555	3154	2825	2104	1315	26422
1,101 to 1,200	2780	2065	1793	2111	2005	2449	1540	2440	1235	2110	1566	1170	23263
1,201 to 1,400	3359	1711	2897	2766	2236	2580	2353	2023	2331	3778	2452	2763	31249
1,401 to 1,600	2151	1164	1417	2378	3121	1674	1552	1611	1452	2168	2858	2417	23962
1,600 to 1,800	2119	2443	1161	2170	2592	1248	756	555	603	2291	2187	1501	19624
1,801 to 2,000	1463	1802	1571	1917	1231	1543	481	816	790	1800	1927	1642	16983
Above 2,000	18988	17961	15859	13276	5447	2914	1695	1317	1378	2801	8033	14011	103680
<u>TOTAL</u>	<u>74938</u>	<u>74938</u>	<u>74938</u>	<u>74938</u>	<u>74938</u>	<u>74938</u>	<u>74938</u>	<u>74938</u>	<u>74938</u>	<u>74938</u>	<u>74938</u>	<u>74938</u>	<u>899258</u>

Number of Total Residential Basic Customers Across Month For 2009**Monthly**

<u>KW.h Ranges</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Total</u>
200 or below	28326	31283	34991	32860	46285	40157	43923	48905	39458	34714	33484	29872	444258
201 to 250	4708	10296	9323	8531	12312	11844	12385	11656	10963	7888	9413	5535	114854
251 to 300	5249	8315	10995	10291	15942	13468	15424	14273	16631	11538	13242	12252	147620
301 to 350	6316	8475	11013	10944	14932	15052	18468	15280	16423	12837	13827	9441	153008
351 to 400	7024	8679	11357	13311	19227	17058	15959	17709	17386	15393	16280	12135	171518
401 to 450	7528	10923	12634	15499	17066	16027	16607	17193	18022	14225	16052	13823	175599
451 to 500	7215	9892	13151	12882	17091	19443	18242	19578	20240	18327	18619	14061	188741
501 to 550	10016	11478	13454	15137	16575	16161	18599	18605	19819	17770	15744	13825	187183
551 to 600	9216	13340	13436	13812	16749	17758	19282	20830	19016	17092	18789	13486	192806
601 to 650	10363	11648	12863	14766	14443	15677	16591	19212	17151	16781	16655	16214	182364
651 to 700	11542	14113	13197	13234	14209	14626	16660	16732	19363	15562	13348	15389	177975
701 to 750	10858	13282	12831	12005	12052	15792	14936	14625	15550	14928	11813	12826	161498
751 to 800	9688	12032	11350	10831	12075	15697	17089	15987	17297	14961	12521	12283	161811
801 to 850	10958	11635	12137	10140	11535	13455	14944	15939	14975	13591	12012	11925	153246
851 to 900	11457	11987	10167	12796	10672	14585	13165	16274	13060	12910	13401	11681	152155
901 to 950	11263	10905	9353	9660	9990	11916	12603	13563	12669	13351	10643	11715	137631
951 to 1,000	9008	7929	10369	8158	9874	10558	13145	12164	11083	11350	10295	11484	125417
1,001 to 1,100	17556	17404	15307	18000	15709	24001	21997	21209	24208	21734	15696	16103	228924
1,101 to 1,200	17777	13330	14060	14548	15518	18013	19046	19077	19447	19531	15585	11449	197381
1,201 to 1,400	26257	22377	18336	22666	23049	30484	30472	27785	30557	29944	23104	25493	310524
1,401 to 1,600	18985	16685	17529	17201	21562	21084	23554	19357	20198	24802	20433	18537	239927
1,600 to 1,800	18660	13407	12417	16681	19710	17647	12718	11975	12680	17787	16855	12484	183021
1,801 to 2,000	12142	10754	12435	12946	15034	14353	9268	9482	9732	14483	15193	12136	147958
Above 2,000	156984	138927	126391	112197	57485	34240	24019	21686	23168	47597	76092	114947	933733
<u>TOTAL</u>	<u>439096</u>	<u>439096</u>	<u>439096</u>	<u>439096</u>	<u>439096</u>	<u>439096</u>	<u>439096</u>	<u>439096</u>	<u>439096</u>	<u>439096</u>	<u>439096</u>	<u>439096</u>	<u>5269152</u>

CAC/MSOS/MH II-90

Subject: Power Smart

Reference: CAC/MSOS/MH I-73 a) and Appendix 25 (1) Page 30

Preamble: Appendix 25 (1) indicates the following:

Manitoba Hydro should explore the following options further:

- **Adopt aggressive savings targets**
- **Close program gaps by creating or expanding programs for: multifamily residential housing, manufactured new homes, consumer electronics and office equipment, appliance retirement, commercial new construction, commercial custom retrofits and small commercial retrofits.**
- **Develop upstream strategies (market actor training and incentives)**
- **Launch or consider an expert-supported public stakeholder review process**
- **Consider strategies to facilitate market access for third-party initiatives and innovations.**
- **Modify cost-benefit screening to focus on utility (UCT) or societal (SCT or TRC) perspectives.**
- **Use comprehensive (not incremental) screening for alternative program designs**
- **Consider independent evaluations for certain programs**

a) Provide Manitoba Hydro's assessment/response to the above recommendations/points.

ANSWER:

This information will be included in Manitoba Hydro's Action Plan to address recommendations identified in the Dunsky Report. Please see Manitoba Hydro's response to PUB/MH II-185(a).

CAC/MSOS/MH II-90

Subject: Power Smart

Reference: CAC/MSOS/MH I-73 a) and Appendix 25 (1) Page 30

Preamble: Appendix 25 (1) indicates the following:

Manitoba Hydro should explore the following options further:

- **Adopt aggressive savings targets**
- **Close program gaps by creating or expanding programs for: multifamily residential housing, manufactured new homes, consumer electronics and office equipment, appliance retirement, commercial new construction, commercial custom retrofits and small commercial retrofits.**
- **Develop upstream strategies (market actor training and incentives)**
- **Launch or consider an expert-supported public stakeholder review process**
- **Consider strategies to facilitate market access for third-party initiatives and innovations.**
- **Modify cost-benefit screening to focus on utility (UCT) or societal (SCT or TRC) perspectives.**
- **Use comprehensive (not incremental) screening for alternative program designs**
- **Consider independent evaluations for certain programs**

b) Provide Manitoba Hydro's assessment of/response to, changes to the Federal Eco-Energy Program including but not limited to

- **Impacts on MH Budgets 2010-2011**
- **Residential Programs**
- **New Housing**
- **Single family LIEEP and multi family retrofit**
- **Residential targets and achievement forecasts for 2010-2011**
- **LIEEP targets for 2010-11**

ANSWER:

Manitoba Hydro has assessed and identified the impact the changes to the ecoENERGY program will have on Power Smart Programs as follows:

ecoENERGY In-Home Evaluation Program

The changes to the ecoENERGY Program will significantly affect the In-Home Energy Evaluation service. It is anticipated that the number of evaluations to be performed on single family houses during 2010-11 will be reduced by approximately 3 300, while the number of evaluations performed on multi-unit residential buildings will be reduced by approximately 455. The 2010-2011 budget is expected to decrease by approximately \$332 000 as a result of the reduction in the number of evaluations to be completed. There will be no impact on savings targets, as Manitoba Hydro does not claim savings as a result of the delivery of this service. The majority of the energy savings associated with energy efficient measures installed in association with an home evaluation audit are claimed by other Power Smart programs (e.g. Power Smart Insulation Program).

Lower Income Energy Efficiency Program

Manitoba Hydro is currently redesigning the LIEEP program due to the loss of funds available through the ecoENERGY program.

Home Insulation Program

A review of the 2010 first quarter results for the Home Insulation Program indicate that contrary to expectations, participation in the Home Insulation Program has not declined as a result of cancellation of the ecoENERGY Program. An informal survey of contractors and retailers indicated that these participation levels are expected to continue through the remainder of the 2010/11 fiscal year, as consumer intentions to renovate remain strong. Manitoba Hydro will continue to monitor this initiative and adjust its program including budgets as deemed appropriate.

Power Smart New Home Program

The Power Smart New Home Program will not be impacted by the ecoENERGY changes. Homes certified under this program are evaluated through the EnerGuide for New Homes Program which is still being supported by the federal government and was not part of the announced changes to the ecoENERGY Program.

Solar Water Heating Program

Approximately 60 per cent of participants in the program have also received an ecoENERGY rebate. Given the small energy savings potential and the current high installation cost, incentives are a key driver for consumer demand for solar water heaters although participation in this program is extremely low and not relevant in Manitoba Hydro's overall Power Smart initiative. Regardless, participation is forecast to decrease by a minimum of 60 per cent or approximately 20 installations by the program end date of October 2010. Reduced participation is expected to result in a reduction in energy savings of approximately 30 000 kilowatt hours. There are expected to be no impacts on the Program budget, as the incentives are paid by the federal government and Manitoba Hydro is responsible for administration, promotion and customer service costs.

Geothermal

The Manitoba geothermal installation market is expected to experience approximately a 4% decrease in sales due to the elimination of the ecoENERGY grant. Of the estimated 1988 residential geothermal installations since mid 2007, only 5 per cent (94 units) have applied for funding through the ecoENERGY Program. Considering the low participation in the ecoENERGY program for geothermal installations, the elimination of the incentive would have a minimal effect on the overall residential market. Of the 5 per cent who may have participated in ecoENERGY program, it is predicted that 80% of these will no longer pursue geothermal due to the loss of the federal grant. As a result of the decreased installations, the Residential Earth Power Program (REPP) anticipates a similar decrease in participation due to the elimination of the ecoENERGY grant. Assuming a 4% decrease in loan participants, the REPP would experience eleven fewer loans. As the Program operates on a cost recovery basis, there would be no budget impact to the reduction in participation. The reduction in energy savings associated with reduced participation is estimated to be 65 400 kilowatt hours.

Summary of Impacts:

Program	Budget	Participation	Savings (kW.h)
ecoENERGY Evaluation	-\$332 000	-3 300	0
Lower Income EE Program	t.b.d.	t.b.d.	t.b.d.
Home Insulation Program	0	0	0
New Home Program	0	0	0
Solar Water Heating Program	0	-20	30 000
Geothermal	0	-11	60 000

CAC/MSOS/MH II-91

Subject: Power Smart

**Reference: CAC/MSOS/MH I-73 a) and Appendix 25 (1) Pages 99-103 (LIEEP)
PUB/MH I-113**

- a) **Update the metrics Presented on Page 99 for 2008/09 and if available, the updated comparisons with the other jurisdictions.**

ANSWER:

The metrics presented on page 99 of the referred documented were developed and compiled by Dunsky Energy Consulting. Manitoba Hydro does not have this information and the information is not always easily obtained. Note: Even Dunsky's comparisons are for different years for the different regions compared.

CAC/MSOS/MH II-91

Subject: Power Smart

**Reference: CAC/MSOS/MH I-73 a) and Appendix 25 (1) Pages 99-103 (LIEEP)
PUB/MH I-113**

b) Provide MHs response to the Comment on page 102.

“When we compare Manitoba Hydro’s LIEEP program with a broader range of low-income programs, Manitoba is unusual in its requirement for participant co-pays. Most low-income retrofit programs use a similar model: free energy audits and comprehensive, free turnkey installation of all cost-effective measures”.

ANSWER:

Manitoba Hydro’s program provides a free turnkey installation of all cost effective measure except for furnace installation. Comments on page 102 of the Dunsky report refer to Manitoba Hydro’s Furnace Replacement Program which is offered to customers for \$19/mo over five years. It is important to note that while the report makes the cited statement it also indicated that “The utility’s customer co-pay design for furnaces is innovative and likely overcomes barriers while reducing utility costs.” In addition the report found that “... MH’s use of low-cost monthly payments paid via reduced utility bills seems likely to minimize loss of participation, and early uptake results suggest that the measure is very popular”.

Participation to date for the furnace portion of the program has been very strong. In addition, there has been little if any customer feedback indicating that the co-pay portion of the program has limited participation and hence Manitoba Hydro believes this approach meets the needs of both the utility and the customer.

CAC/MSOS/MH II-91

Subject: Power Smart

**Reference: CAC/MSOS/MH I-73 a) and Appendix 25 (1) Pages 99-103 (LIEEP)
PUB/MH I-113**

- c) **Provide Manitoba Hydro's assessment of the outlook beyond 2011 or continuation of the MH LIEEP single family home retrofit program, given the availability/discontinuation of the AEF funding.**

ANSWER:

Manitoba Hydro is currently re-evaluating LIEEP given the discontinuation of ecoENERGY funding. The intended result of this analysis is a redesigned program that will extend beyond March 2011. Manitoba Hydro through its membership in the Canadian Electric Association is also encouraging the Federal Government to consider programming for energy efficiency for lower income households. Any such programming would be leveraged in Manitoba Hydro's offering.

CAC/MSOS/MH II-92

Subject: Power Smart

Reference: CAC/MSOS/MH I-73 a) and Appendix 25 (1) pages 172-190

- a) Given the Discussion in the “Dunsky Report” at pages 172-190, provide details of MH’s approach and timing for targeted multifamily housing programs including Social Housing and Market Rental units**

ANSWER:

Manitoba Hydro is currently working with Manitoba Housing, not-for profit landlords such as Dakota Ojibway and Westminster Housing as well as First Nation communities to provide funding for material for basic energy up-grades as well as insulation retro-fits for qualifying housing. These groups are then responsible for the installation of the up-grades. Manitoba Hydro also provides training to help facilitate these installations where needed.

In regard to funding for Manitoba Housing, an agreement has been put in place such that all individually metered Manitoba Housing units qualify regardless of who is paying the utility bill. Where Manitoba Housing or social services are paying the utility bill a formula has been established such that Manitoba Housing pays that portion of incentives provided through the Affordable Energy Fund. This arrangement was put in place recognizing that Manitoba Housing is realizing the monetary benefits associated with the retrofit measures.

As indicated in the report Manitoba Hydro is challenged by the same barriers other comparable utilities face in the low-income rental market. These include landlord-tenant split incentives, landlord business models and landlord reluctance. As such, Manitoba Hydro has adopted a similar combination of approaches to some of the utilities cited in the report. Manitoba will continue to evaluate the marketplace as well adjust the program where feasible to overcome barriers in this marketplace and ensure the needs of the end customer can be met. As indicated in PUB/MH II-100 a) this evaluation includes the consideration of adding a component to the program which would include private landlords.

See Manitoba Hydro’s response to CAC/MSOS/MH I-78 b) for details on Manitoba Hydro’s approach to target multifamily housing i.e. apartments.

CAC/MSOS/MH II-93

Subject: Power Smart

Reference: CAC/MSOS/MH I-73 and Appendix 25 (1) page 108

a) **Appendix 25 (1) page 108 contains the following unit kwh savings comparison**

Deemed Annual Savings per product kwh

	MH	NYSERDA	HQ	(OPA)
CFLs	62	64	29	
Lighting fixtures	128	116	57	
Seasonal LEDs	2-30			
Clothes washers (elec.)	622	127	82	
Freezers	102	39	35	

Please expand the table to include the OPA average annual kwh savings as per the appropriate pages of the OPA Mass Market Measures and Assumptions List (available on the OPA Website) a Copy of which is provided for convenience as an attachment to CAC/MSOS Round 2 IRs.

ANSWER:

The Manitoba Hydro deemed annual energy savings per product which were listed in the Dunsky Report on page 108 do not reflect Manitoba Hydro's current energy savings numbers. The following table provides Manitoba Hydro's current annual energy savings per product as utilized for planning and evaluation purposes. These energy savings numbers are also reflected in Manitoba Hydro's responses to CAC/MSOS/MH I-79.

	MH	NYSERDA	HQ	(OPA)¹
CFLs	63.5	64	29	44.4
Lighting fixtures	135	116	57	122.9
Seasonal LEDs	30.1			13.5
Clothes washers (elec.)	367.9	127	82	181.27
Freezers	42.4	39	35	39.9

¹ OPA savings are taken from the OPA Mass Market Measures and Assumptions List issued February 1, 2010, as this document was utilized to prepare the responses to CAC/MSOS/MH I-79.

CAC/MSOS/MH II-93

Subject: Power Smart

Reference: CAC/MSOS/MH I-73 and Appendix 25 (1) page 108

- b) Discuss the basis of MH's input assumptions and how and why they differ from the other jurisdictions including as requested OPA.**

ANSWER:

Manitoba Hydro's deemed annual energy savings are calculated for a group of technologies on a program participant basis, resulting in an "average energy savings per sale" number that is used for both program planning and evaluation purposes. Manitoba Hydro's energy savings numbers take into account a number of factors that may affect energy savings such as heating fuel, water heating fuel, base equipment commonly found in Manitoba residences, and common equipment available in Manitoba as replacements. As a result, the energy savings numbers are not comparable to the other jurisdictions without knowing the input assumptions or basis for their numbers. Comparison of specific technologies to the OPA measures document as requested has been completed and is provided in Manitoba Hydro's response to CAC/MSOS/MH I-79.

Using CFLs as an example, the average energy savings per sale as listed in the table above is 63.5 kWh annually based on the average wattage of bulbs purchased and the average wattage of bulbs being replaced by participating customers, and then adjusted for interactive effects. Manitoba Hydro obtains this information from participating retailer statistics and customer surveys and maintains that this information reflects energy savings in the Manitoba market specifically. The OPA measures document contains an engineering analysis of a wide array of single products. Manitoba Hydro has provided a comparison of input assumptions for a 15-watt CFL as part of Manitoba Hydro's response to CAC/MSOS/MH I-79. For this particular technology, the comparable annual energy savings is 55 kWh.

CAC/MSOS/MH II-94

Subject: Power Smart Review 2007/2008

Reference: CAC/MSOS/MH I-80

Tab 9 Appendix (2) Page 17: Energy Efficient Light Fixtures Mail-In Rebate Program

- a) Provide an update to the Tables in the response with the 2008 data and assumptions for CFLs and SLEDs.

ANSWER:

CFL Program:

		2004/2005	2005/2006	2006/2007	2007/2008	2008/2009
i)	# of Rebated Participants	21 633	26 623	17 296	28 933	73 228
ii)	Cost to Utility per Rebated Participant	\$35	\$37	\$46	\$31	\$17
iii)	Lifetime of CFL	4.5 years	4.5 years	4.5 years	4.5 years	4.5 years
	Hours of Use per CFL	6 500 hours	6 500 hours	6 500 hours	6 500 hours	6 500 hours
iv)	Energy Savings per CFL	64 kW.h	58 kW.h	59 kW.h	64 kW.h	64 kW.h
v)	Total CFL Program Savings	8.1 GW.h	7.3 GW.h	5.2 GW.h	7.5 GW.h	21.9 GW.h
	Total Residential Savings	9.9 GW.h	10.5 GW.h	18.1 GW.h	20.8 GW.h	35.1 GW.h
	% of Total Residential Savings	82%	70%	29%	36%	62%

SLED Program:

		2005/2006	2006/2007	2007/2008	2008/2009
i)	# of Rebated Participants	1 900	10 880	8 144	4 956
ii)	Cost to Utility per Rebated Participant	\$43	\$35	\$43	\$68
iii)	Lifetime of SLED Light String	20 years	20 years	20 years	20 years
	Hours of Use per SLED Light String (Outdoor)	262 hours	262 hours	262 hours	262 hours
	Hours of Use per SLED Light String (Indoor)	80 hours	80 hours	80 hours	80 hours
iv)	Energy Savings per SLED String	28 kW.h	28 kW.h	28 kW.h	28 kW.h
v)	Total SLED Program Savings	0.1 GW.h	1.3 GW.h	1.0 GW.h	1.0 GW.h
	Total Residential Savings	10.5 GW.h	18.1 GW.h	20.8 GW.h	20.8 GW.h
	% of Total Residential Savings	1%	7%	5%	2%

CAC/MSOS/MH II-94

Subject: Power Smart Review 2007/2008

Reference: CAC/MSOS/MH I-80

Tab 9 Appendix (2) Page 17: Energy Efficient Light Fixtures Mail-In Rebate Program

b) Confirm the average Energy Star rating of the CFLs.

ANSWER:

The Energy Star Program does not issue numeric product ratings for CFL's. Energy Star identifies products that meet a higher efficiency threshold with an Energy Star symbol.

CAC/MSOS/MH II-94

Subject: Power Smart Review 2007/2008

Reference: CAC/MSOS/MH I-80

Tab 9 Appendix (2) Page 17: Energy Efficient Light Fixtures Mail-In Rebate Program

c) Confirm the average Energy Star Rating for the SLEDs.

ANSWER:

The Energy Star Program does not issue numeric product ratings for SLED's. Energy Star identifies products that meet a higher efficiency threshold with an Energy Star symbol.

CAC/MSOS/MH II-94

Subject: Power Smart Review 2007/2008

Reference: CAC/MSOS/MH I-80

Tab 9 Appendix (2) Page 17: Energy Efficient Light Fixtures Mail-In Rebate Program

- d) **Compare the kWh per unit to the data on Page 108 of Appendix 25(1) , including the requested inclusion of input values from OPA Mass Market Measures and Assumptions.**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-93.

CAC/MSOS/MH II-94

Subject: Power Smart Review 2007/2008

Reference: CAC/MSOS/MH I-80

Tab 9 Appendix (2) Page 17: Energy Efficient Light Fixtures Mail-In Rebate Program

- e) **Discuss the basis of the higher kWh/unit assumed by MH relative to other jurisdictions.**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-93.

CAC/MSOS/MH II-95

Subject: Corporate Strategic Plan

**Reference: Volume 2, Appendix 3.1, Corporate Strategic Plan
CAC/MSOS/MH I-16(a)**

Preamble: MH outlines a number of targets. It appears that a number of these targets are not met. For example, with respect to OM&A cost per customer, MH states the following:

\$673 is a target of OM&A per customer to be achieved by March 2010 as set out in the 2009-10 CSP which was finalized in Q4 2008-09; \$699 is the forecast of OM&A per customer as at March 31, 2010 that is presented in Appendix 4.4 which was prepared on January 15, 2010.

The above quote indicates that a target of \$673 was not achieved based on a forecast of January 15, 2010.

a) Please outline who is responsible for meeting targets set out in the Corporate Strategic Plan.

ANSWER:

The Executive are ultimately responsible for meeting targets set out in the Corporate Strategic Plan, as all areas of the corporation contribute to the achievement of the CSP goals.

CAC/MSOS/MH II-95

Subject: Corporate Strategic Plan

**Reference: Volume 2, Appendix 3.1, Corporate Strategic Plan
CAC/MSOS/MH I-16(a)**

Preamble: MH outlines a number of targets. It appears that a number of these targets are not met. For example, with respect to OM&A cost per customer, MH states the following:

\$673 is a target of OM&A per customer to be achieved by March 2010 as set out in the 2009-10 CSP which was finalized in Q4 2008-09; \$699 is the forecast of OM&A per customer as at March 31, 2010 that is presented in Appendix 4.4 which was prepared on January 15, 2010.

The above quote indicates that a target of \$673 was not achieved based on a forecast of January 15, 2010.

b) Please describe the accountability process MH has in place for not achieving the targets.

ANSWER:

Measures are used to track progress towards achieving goals set out in the CSP. In each CSP, targets are set for the measures. The targets assist in creating a culture of awareness of performance by helping to highlight areas of exemplary performance, e.g. customer service and reliability, and areas where performance needs to be improved. The Executive are responsible to provide appropriate direction to the Business Units in light of performance results and the Business Units are responsible for taking appropriate action.

CAC/MSOS/MH II-95

Subject: Corporate Strategic Plan

**Reference: Volume 2, Appendix 3.1, Corporate Strategic Plan
CAC/MSOS/MH I-16(a)**

Preamble: MH outlines a number of targets. It appears that a number of these targets are not met. For example, with respect to OM&A cost per customer, MH states the following:

\$673 is a target of OM&A per customer to be achieved by March 2010 as set out in the 2009-10 CSP which was finalized in Q4 2008-09; \$699 is the forecast of OM&A per customer as at March 31, 2010 that is presented in Appendix 4.4 which was prepared on January 15, 2010.

The above quote indicates that a target of \$673 was not achieved based on a forecast of January 15, 2010.

c) Please provide the details of the consequences of not achieving targets.

ANSWER:

Where targets are not met, this information is used to explore and assess performance and to help determine appropriate action in light of recorded performance, including recommendation of future targets. As stated in b) above, the Executive are responsible to provide appropriate direction to the Business Units.

CAC/MSOS/MH II-96

Subject: OM&A per customer and IFRS

**Reference: CAC/MSOS/MH I-17(a)
Volume 1, Appendix 4.4, page 2
Appendix 32**

Preamble: After having reviewed all the material filed, to date, regarding OM&A per customer, it is not clear, on the record how the year over year changes to this statistic have arisen.

With respect to OM&A per customer, MH states:

Year over year increases are primarily due to domestic load growth, aging infrastructure, cost escalation and wage settlements, as well as changes to accounting standards which require more costs to be recognized as current period costs.

- a) Notwithstanding the apparent current requirement for regulated enterprises to report its external financial statements on the basis of IFRS, please confirm that there is no requirement for regulated enterprises to report its costs to its regulator on the basis of adherence to IFRS.**

ANSWER:

The PUB has required audited financial statements to be filed in the past and Manitoba Hydro expects that this requirement will continue after the conversion to IFRS.

CAC/MSOS/MH II-96

Subject: OM&A per customer and IFRS

**Reference: CAC/MSOS/MH I-17(a)
Volume 1, Appendix 4.4, page 2
Appendix 32**

Preamble: After having reviewed all the material filed, to date, regarding OM&A per customer, it is not clear, on the record how the year over year changes to this statistic have arisen.

With respect to OM&A per customer, MH states:

Year over year increases are primarily due to domestic load growth, aging infrastructure, cost escalation and wage settlements, as well as changes to accounting standards which require more costs to be recognized as current period costs.

b) If the confirmation sought in (a) is not provided, please provide the pronouncement and the authority for regulated enterprises to report its forecasts to its regulator using adherence to IFRS.

ANSWER:

Please see Manitoba Hydro's response to part (a).

CAC/MSOS/MH II-96

Subject: OM&A per customer and IFRS
Reference: CAC/MSOS/MH I-17(a)
Volume 1, Appendix 4.4, page 2
Appendix 32

Preamble: After having reviewed all the material filed, to date, regarding OM&A per customer, it is not clear, on the record how the year over year changes to this statistic have arisen.

With respect to OM&A per customer, MH states:

Year over year increases are primarily due to domestic load growth, aging infrastructure, cost escalation and wage settlements, as well as changes to accounting standards which require more costs to be recognized as current period costs.

- c) Please confirm that the Alberta Utilities Commission has determined that it will not compel the regulated entities under its jurisdiction to provide its forecasts, for the purpose of determining rates, using adherence to IFRS.**

ANSWER:

It is Manitoba Hydro's understanding that the AUC rulings provide a basis for utilities to file rate applications while transitioning to IFRS. These rulings are provided in Rule 026 of the AUC, a copy of which is attached.

Rule 026

Rule Regarding Regulatory Account Procedures Pertaining to the Implementation of the International Financial Reporting Standards

The Alberta Utilities Commission (AUC/Commission) has approved this rule on May 19, 2009.

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Definitions

1 In this rule,

- (a) “Existing Accounting Practice” means the accounting procedures and policies in use by a Utility, that have been approved by the Commission for rate-making purposes, immediately prior to the adoption of this Rule;
- (b) “Existing Canadian GAAP” means the widely accepted set of rules, conventions, standards, and procedures for reporting financial information, as established by the Accounting Standards Board;
- (c) “First IFRS-Compliant GRA/GTA” means the first General Rate Application/General Tariff Application filed by a Utility which includes the Utility’s IFRS Adoption Date in the forecast test period;
- (d) “IAS” or “International Accounting Standards” refers to the standards issued by the International Accounting Standards Committee from 1973 to 2000, when it was replaced by the International Accounting Standards Board (IASB), and as amended or replaced by the IASB;

- (e) “IASB” or “International Accounting Standards Board” is the independent standard-setting body of the International Accounting Standards Committee Foundation;
 - (f) “IFRIC” means the International Financial Reporting Interpretations Committee; the interpretative body of the International Accounting Standards Committee Foundation;
 - (g) “IFRS” means the entire body of IASB pronouncements, including standards and interpretations approved by the IASB, and the IAS and Standing Interpretations Committee Interpretations approved by the predecessor International Accounting Standards Committee;
 - (h) “IFRS Adoption Date” means the date by which a Utility determines it shall adopt IFRS as the basis of its forecast - either January 1, 2010 or January 1, 2011 - in accordance with the letter filed with the Commission by a Utility under subsection 2(2); for the filing of actual results, all Utilities adopting IFRS are required to file using IFRS effective January 1, 2011;
 - (i) “Regulatory Accounting” means the collective accounting guidelines, procedures, policies, and practices used by utilities when providing financial information to the AUC for rate-making purposes;
 - (j) “Regulatory Assets and Liabilities” are assets and liabilities that result from rate actions of regulatory agencies. For the purposes of this Rule, Regulatory Assets and Liabilities can specifically result from rate regulation as follows:
 - (i) Regulatory Assets arise when the regulator has previously ruled that certain previously incurred costs will be collected from customers either directly or through rates in a future period;¹ and
 - (ii) Regulatory Liabilities arise when a Utility collects from customers in rates amounts that the regulator has previously ruled must be refunded to customers either directly or through rates in a future period or that are intended to cover costs to be incurred in the future;²
- For the purposes of this definition, the term “costs” can include revenue shortfall, expenses, and gains and losses on sale of assets;³
- (k) “Uniform System of Accounts” means the system of accounts to be filed by an electric utility as set out in AUC Decision 2007-017, or by a gas utility as set out in Alberta Regulation 546/63 (Uniform Classification of Accounts for Gas Utilities); and
 - (l) “Utility” or “Utilities” means all Commission-regulated electric utilities and gas utilities, and includes regulated or default service providers of gas and electricity.

Application

- 2(1)** Subject to subsection (3), this Rule applies to all Utilities.
- (2)** Utilities shall, on or before October 1, 2009, file a letter with the AUC indicating whether or not they will be adopting IFRS, and if so, indicate what their IFRS Adoption date will be.
- (3)** Utilities that indicate that they will not be adopting IFRS in the letter filed under subsection (2) above, and will therefore not be following the Regulatory Accounting disclosure set out in this Rule, must indicate in that letter the reasons why they are not subject to IFRS.
- (4)** Utilities that indicate to the Commission under subsection (2) that they will be adopting IFRS shall adhere to the following schedule:

Fiscal Year	Year Filed	Actual / Forecast	Accounting/Reporting Standard to Use
2009	2010	Actual	Existing Accounting Practice is to be used for regulatory filings with the AUC; Existing Canadian GAAP for financial statements
2010	2011	Actual	Existing Accounting Practice is to be followed for regulatory filings with the AUC; Existing Canadian GAAP for financial statements
2011	2012	Actual	This Rule is to be followed for regulatory filings with the AUC, complete with 2010 comparatives prepared using this Rule; IFRS is to be used for financial statements, including 2010 comparatives prepared under IFRS
2012 & beyond	2013 & beyond	Actual	This Rule is to be followed for regulatory filings with the AUC; IFRS is to be followed for financial statements
2009 (first year in test period)	Up to December 31, 2010	Forecast	Existing Accounting Practice is to be used
2010 (first year in test period)	Up to December 31, 2010	Forecast	Utilities may elect to file forecasts using Existing Accounting Practice, or, this Rule commencing with either the 2010 or 2011 forecast year according to the election made in subsection 2(2) of this Rule
2011 (first year in test period) & beyond	2010 & beyond	Forecast	This Rule is to be used for forecasts filed with the AUC

Guiding Principles

- 3** The Guiding Principles in Appendix I will be used when considering any proposed changes to the existing provisions of this Rule or when developing and establishing any new provisions to this Rule.

Expected Regulatory Accounting Disclosure

- 4** For greater clarity, the applicable IFRS, IAS or IFRIC reference is provided for each following sections or subsections.

IFRS Initial Adoption Adjustments (IFRS 1)

- 5** Utilities shall disclose each IFRS adoption adjustment separately if the adjustment has an impact on a regulatory account. These adjustments shall be included in a Utility's First IFRS-Compliant GRA/GTA, along with the Utility's proposal for the method for settling each adjustment.⁴

Specific Regulatory Accounting Items

6(1) Regulatory Assets and Liabilities: Deferral Accounts

Utilities shall maintain the existing practice of applying to the Commission for approval of any deferral accounts that may be required for the purpose of establishing Regulatory Assets and Liabilities and proposing the mechanism for their disposition.⁵

(2) Property Plant & Equipment

(a) Revaluation Option (IAS 16.31-16.42)

Utilities shall maintain the Existing Accounting Practice of using historical costs to record property plant and equipment accounts.

(b) Capitalization/Non-Capitalization of Costs: General and Administrative Overhead (IAS 16.16 and 16.19(d))

Utilities shall adhere to the IFRS requirements for capitalization of costs that are not directly attributable to an asset.⁶ Any financial difference that arises as a result of the adoption of the IFRS requirements is to be identified in a Utility's First IFRS-Compliant GRA/GTA, and the Utility shall also propose in that rate application the method for settling the difference.⁷ In addition, the Utility will file a copy of its updated capitalization policy as a part of its First IFRS-Compliant GRA/GTA.⁸

(c) Capitalization/Non-Capitalization of Costs: Borrowing Costs/Equity Allowance for Funds used During Construction (AFUDC) (IAS 23)

- (i) Subject to subsection (ii), Utilities shall maintain the Existing Accounting Practice of including the debt and equity components of AFUDC when accounting for construction work in progress and plant in service.
- (ii) Utilities may submit an application to the AUC requesting approval to make their Regulatory Accounting practice the same as the practice under IFRS.⁹

- (d) Capitalization/Non-Capitalization of Costs: Depreciation of Assets Used in the Construction of Other Assets (IAS 16.48-16.49)

Utilities shall adhere to the IFRS requirement of capitalizing the depreciation of assets used in the construction of other assets.

- (e) Capitalization/Non-Capitalization of Costs: Asset Relocation Costs (IAS 6.20(c))

Utilities shall adhere to the IFRS requirements regarding the treatment of asset relocation costs.¹⁰ Any financial difference that arises as a result of the adoption of the IFRS requirements is to be identified in a Utility's First IFRS-Compliant GRA/GTA. The Utility shall also propose in that rate application the method for settling the difference.¹¹ In addition, the Utility shall file a copy of its updated capitalization policy as a part of its First IFRS-Compliant GRA/GTA.¹²

- (f) Capitalization/Non-Capitalization of Costs: Pre-Operating Costs (IAS 16.19, 16.20 (a) and 16.20(b))

Utilities shall adhere to the IFRS requirements regarding the treatment of pre-operating costs.¹³ Any financial difference that arises as a result of the adoption of the IFRS requirements is to be identified in a Utility's First IFRS-Compliant GRA/GTA. The Utility shall propose in that rate application the method for settling the difference.¹⁴ In addition, the Utility shall file a copy of its updated capitalization policy as a part of its First IFRS-Compliant GRA/GTA.¹⁵

- (g) Capitalization/Non-Capitalization of Costs: Training Costs (IAS 16.19 (c))

Utilities shall adhere to the IFRS requirements regarding the capitalization of training costs.¹⁶ Any financial difference that arises as a result of the adoption of the IFRS requirements is to be identified in a Utility's First IFRS-Compliant GRA/GTA. The Utility will propose in that rate application the method for settling the difference.¹⁷ In addition, the utility will file a copy of its updated capitalization policy as a part of its First IFRS-Compliant GRA/GTA.¹⁸

- (h) Capitalization/Non-Capitalization of Costs: Asset Commissioning Costs (IAS 16)

Utilities shall adhere to the IFRS requirements regarding the treatment of asset commissioning costs.¹⁹ Any financial difference that arises as a result of the adoption of the IFRS requirements is to be identified in a Utility's First IFRS-Compliant GRA/GTA. The Utility will propose in that rate application the method

for settling the difference.²⁰ In addition, the Utility will file a copy of its updated capitalization policy as a part of its First IFRS-Compliant GRA/GTA.²¹

- (i) Treatment of Gains and Losses upon Retirement or Disposal of Assets (IAS 16.68)

Utilities shall maintain the Existing Accounting Practice of recording gains and losses upon retirement or disposal of assets. Utilities shall identify and record any difference in accounting between the IFRS reporting requirements and these regulatory reporting requirements in a separate subsidiary accumulated depreciation account.

- (j) Componentization: Tracking, Depreciation Rates, Commencement of Depreciation (IAS 16.43-16.62)

- (i) Depreciation Rates

- A. Subject to subsection (B), Utilities shall continue to use the depreciation rates utilized under the Existing Accounting Practice.

- B. If the adoption of the IFRS requirements for external financial reporting results in depreciation rates that differ from Existing Accounting Practice or results in a difference in the timing of commencement of depreciation, or both, then a Utility may, by way of application to the AUC, request approval to account for regulatory depreciation in accordance with IFRS.²²

- (ii) Componentization of Major Overhauls

Utilities shall adhere to the IFRS requirements regarding the depreciation treatment of major overhauls.²³ Any financial difference that arises as a result of the adoption of the IFRS requirements is to be identified in a Utility's First IFRS-Compliant GRA/GTA. The Utility will propose in that rate application the method for settling the difference.²⁴ In addition, the Utility will file a copy of its updated capitalization policy as a part of its First IFRS-Compliant GRA/GTA.²⁵

- (iii) Componentization

- A. Subject to subsection (B), with respect to componentization, Utilities shall record assets at the level of detail being reported under the Existing Accounting Practice.

- B. If the adoption of IFRS requirements for external financial reporting results in a different level of componentization, then a Utility may, by way of application to the AUC, request

approval to account for regulatory componentization in accordance with IFRS.²⁶

- (k) Asset Retirement Obligations/Future Removal and Site Restoration Costs (IAS 16.16(c), 16.18 and IAS 37)
 - (i) Subject to subsection (ii), Utilities shall maintain the Existing Accounting Practice regarding the treatment of asset retirement obligations and future removal and site restoration costs.
 - (ii) Utilities may, by way of application to the AUC, request approval to account for asset retirement obligations and future removal and site restoration costs in accordance with IFRS.²⁷
- (l) Treatment of Insurance Proceeds (IAS 16.65-16.66)

Utilities shall identify any insurance proceeds received for a loss of an asset and record these in a separate deferral account.²⁸ Utilities shall propose in their First IFRS-Compliant GRA/GTA the method for settling the deferral account.²⁹
- (m) Impairment of Assets (IAS 16.63 and IAS 36)

Utilities shall maintain the Existing Accounting Practice of having no impairment (or impairment reversal) charges included when providing or reporting financial information to the AUC.
- (n) Deemed Finance Leases (IAS 17)

Utilities shall maintain the Existing Accounting Practice regarding the treatment of deemed finance leases.
- (o) Capital Inventories (IAS 2 and IAS 16)
 - (i) Subject to subsection (ii), Utilities shall maintain the Existing Accounting Practice of recognizing capital inventory and any associated depreciation.³⁰
 - (ii) If the adoption of the IFRS requirements for external financial reporting results in depreciation rates that differ from Existing Accounting Practice or results in a difference in the timing of commencement of depreciation, or both, then a Utility may, by way of application to the AUC, request approval to account for regulatory depreciation in accordance with IFRS.³¹
- (p) Treatment of Customer Contributions (IFRIC 18)

Utilities shall maintain the Existing Accounting Practice of recognizing customer contributions in their Property, Plant & Equipment accounts and including the amortization as an offset to depreciation.

(3) Accounting Method for Income Taxes (IAS 12)

Utilities shall maintain the Existing Accounting Practice for income taxes. Utilities shall include the future income tax regulatory asset or liability in their rate applications when necessary.³²

(4) Pension Costs/Other Employment Benefits (IAS 19)

Utilities shall maintain the Existing Accounting Practice of recognizing pension costs and other post-employment benefits. Utilities shall include the Regulatory Asset or Liability associated with the pension costs and other post-employment benefits in their rate applications when necessary.³³

(5) Intangible Assets (IAS 38)

Utilities shall maintain the Existing Accounting Practice of recognizing intangible assets as part of their Property, Plant & Equipment accounts.³⁴

(6) Debt Transaction Costs (IAS 23)

- (a) Subject to subsection (b), Utilities shall maintain the Existing Accounting Practice for amortizing debt costs.
- (b) Utilities may, by way of application to the AUC, request approval to account for debt transaction costs in regulatory applications in accordance with IFRS.³⁵

(7) Discount Rate

Utilities shall maintain the Existing Accounting Practice of having no impairment (or impairment reversal) charges included when determining rates.³⁶

(8) Reserves for General Damages and Self Insurance

Utilities shall maintain the Existing Accounting Practice regarding the treatment of reserves for general damage and self insurance.

(9) Business Combinations (IFRS 3)

Utilities shall maintain the Existing Accounting Practice regarding the treatment of business combinations.

Appendix I – Guiding Principles

These Guiding Principles are all equally important and are to be viewed as a collective set of principles rather than a list of individual statements.

- The methodologies used by the AUC to establish just and reasonable rates have not always been the same as those used for external financial reporting purposes. The Commission has and will retain the authority to establish Regulatory Accounting and regulatory reporting requirements and as such, IFRS requirements will not be the sole driver of regulatory requirements.
- Future Regulatory Accounting and regulatory reporting requirements established by the Commission will continue to be based on historical, sound regulatory principles. Examples of these principles can be found in statutes, regulatory and court decisions and regulatory texts and include intergenerational equity, minimizing rate volatility and use of historical costs rather than fair market, or any other values.
- Future Regulatory Accounting and regulatory reporting requirements established by the Commission will, in considering IFRS requirements, balance the effects on customer rates and shareholders' return. Any shifting of risk between customers and shareholders will be minimized.
- Future Regulatory Accounting and regulatory reporting requirements established by the Commission will be aligned as much as possible with IFRS. In establishing any future Regulatory Accounting and regulatory reporting requirements that deviate from IFRS, the Commission will ensure that any such deviations and their impact are in the public interest.
- Future Regulatory Accounting and regulatory reporting requirements established by the Commission will be universal and standardized for all utilities while still recognizing that utility-specific issues can be addressed through that utility's applications.

Appendix II – Notes

These Notes have been included for informational purposes only

-
- ¹ This can arise from the timing of collection of certain expenses in rates charged to customers that differs from the period in which the expense would be recognized under IFRS by companies that are not subject to rate regulation.
 - ² This can occur if costs are below a previously approved forecast or if they are collected from customers in a period before they are incurred. This can also arise when the revenue is recognized in a period that is different from the period that it would be recognized under IFRS by companies that are not subject to rate regulation;
 - ³ Regulatory Assets and Liabilities can arise from the approval by the regulator of a specific deferral account or the approval of a methodology for recovering costs such as using the cash method to recover income taxes and post employment benefit costs.
 - ⁴ For example, the establishment of a Regulatory Asset or Liability.
 - ⁵ Regulatory deferral accounts will continue regardless of the IFRS reporting standards. The AUC will continue to determine the process that the utilities must follow in order to have their deferral accounts approved as well as the process to have the deferral accounts recovered in a timely and effective manner. The Commission will consider including wording in future decisions that the approved methodologies that gave rise to the regulatory asset or liability will continue into the future. This will provide evidence on the high probability, subject to future regulatory review as required, of the collection or payment of regulatory assets and liabilities that may help utilities to record these items in their financial statements.
 - ⁶ IFRS does not allow the capitalization of costs that are not ‘directly attributable’ to the asset.
 - ⁷ For example, the establishment of a Regulatory Asset or Liability.
 - ⁸ The AUC and interested parties will review these proposals and capitalization policies as part of the rate-making process.
 - ⁹ This request would be subject to review by the AUC and interested parties as part of the AUC’s decision-making process.
 - ¹⁰ Under IFRS, the installation cost in the new location can be capitalized as long as the costs in the old location are retired. The cost of actually relocating existing assets has to be expensed as it is deemed to not provide future economic benefit.
 - ¹¹ For example, the establishment of a Regulatory Asset or Liability.
 - ¹² The AUC and interested parties will review these proposals and capitalization policies as part of the rate-making process.
 - ¹³ Certain pre-operating costs currently capitalized under generally accepted accounting principles would not be capitalized under IFRS.
 - ¹⁴ For example, the establishment of a Regulatory Asset or Liability.
 - ¹⁵ The AUC and interested parties will review these proposals and capitalization policies as part of the rate-making process.
 - ¹⁶ Certain training costs currently capitalized would not be capitalized under IFRS or under the early adoption of IFRS for intangible assets in 2009.

- ¹⁷ For example, the establishment of a Regulatory Asset or Liability.
- ¹⁸ The AUC and interested parties will review these proposals and capitalization policies as part of the rate-making process.
- ¹⁹ Certain asset commissioning costs currently capitalized under generally accepted accounting principles would not be capitalized under IFRS.
- ²⁰ For example, the establishment of a Regulatory Asset or Liability.
- ²¹ The AUC and interested parties will review these proposals and capitalization policies as part of the rate-making process.
- ²² These proposed depreciation rates would be subject to review by the AUC and interested parties as part of the AUC's regulatory process.
- ²³ IFRS requires that expected major overhauls be estimated and separately componentized upon initial recognition of an asset. This portion of the asset's cost would then be depreciated over a different period of time than the related asset.
- ²⁴ or example, the establishment of a Regulatory Asset or Liability.
- ²⁵ The AUC and interested parties will review these proposals and capitalization policies as part of the rate-making process.
- ²⁶ Such request would be subject to review by the AUC and interested parties as part of the rate-making process.
- ²⁷ Such request would be subject to review by the AUC and interested parties as part of the rate-making process.
- ²⁸ Under IFRS, insurance proceeds are treated as income. Currently insurance proceeds received for a loss of an asset are considered proceeds of disposition with the resulting gain or loss going to accumulated depreciation.
- ²⁹ The AUC and interested parties will review the proposal as part of the rate-making process.
- ³⁰ Under IFRS, capital inventories will be classified as property plant and equipment and amortized when available for use.
- ³¹ These proposed depreciation rates would be subject to review by the AUC and interested parties as part of the AUC's regulatory process.
- ³² This future income tax Regulatory Asset or Liability will have no impact on the revenue requirement as it will be offset by the future income tax liability or asset.
- ³³ This Regulatory Asset or Liability will have no impact on the revenue requirement as it will be offset by the pension liability or asset.
- ³⁴ Under IFRS, software development costs and land rights will be classified as intangible assets.
- ³⁵ This request would be subject to review by the AUC and interested parties as part of the AUC's regulatory process.
- ³⁶ Consequently, the issue of differing discount rates will not affect regulatory reporting.

CAC/MSOS/MH II-96

Subject: OM&A per customer and IFRS

**Reference: CAC/MSOS/MH I-17(a)
Volume 1, Appendix 4.4, page 2
Appendix 32**

Preamble: After having reviewed all the material filed, to date, regarding OM&A per customer, it is not clear, on the record how the year over year changes to this statistic have arisen.

With respect to OM&A per customer, MH states:

Year over year increases are primarily due to domestic load growth, aging infrastructure, cost escalation and wage settlements, as well as changes to accounting standards which require more costs to be recognized as current period costs.

d) If the confirmation sought in (c) is not provided, please provide a copy of the pronouncement and authority that requires the rate regulated entities in Alberta to provide its forecasts, for the purpose of determining rates, using adherence to IFRS.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-96(c).

CAC/MSOS/MH II-96

Subject: OM&A per customer and IFRS

**Reference: CAC/MSOS/MH I-17(a)
Volume 1, Appendix 4.4, page 2
Appendix 32**

Preamble: After having reviewed all the material filed, to date, regarding OM&A per customer, it is not clear, on the record how the year over year changes to this statistic have arisen.

With respect to OM&A per customer, MH states:

Year over year increases are primarily due to domestic load growth, aging infrastructure, cost escalation and wage settlements, as well as changes to accounting standards which require more costs to be recognized as current period costs.

- e) In reference to the quote above, for each year where data of OM&A cost data is provided in this proceeding, please provide a table which shows the amounts of increase associated with each of the factors identified by MH (i.e. domestic load growth, aging infrastructure, cost escalation and wage settlements) or confirm that MH does not know what amounts are attributable to each of these factors.**

ANSWER:

The following table indicates the amount of increase associated with wage settlements and accounting changes for fiscal years 2004/05 through 2011/12. Specific amounts attributable to domestic load growth and aging infrastructure cannot be identified and are included in the category "Other Operating Changes". This category also reflects the impacts of vacancies, growth in trainee levels, changes in capitalization, cost saving measures etc.

OM&A COST CHANGES

	Actuals					Forecast		
	2003/04 to <u>2004/05</u>	2004/05 to <u>2005/06</u>	2005/06 to <u>2006/07</u>	2006/07 to <u>2007/08</u>	2007/08 to <u>2008/09</u>	2008/09 to <u>2009/10</u>	2009/10 to <u>2010/11</u>	2010/11 to <u>2011/12</u>
Opening OM&A	\$ 283	\$ 299	\$ 311	\$ 323	\$ 323	\$ 360	\$ 372	\$ 380
Wage Settlements (net of capitalization)	7	8	10	10	10	13	4	13
<u>Accounting Changes:</u>								
CICA adjustment reducing stores overhead capitalized					5			
CICA adjustment reducing capitalization of intangibles						4		
CICA adjustment reducing A&G capitalized						2		
Waterways mgmt program reclassify to operating								5
Funding agreement reclassify to capital & other taxes						(5)		
Accounting change re transfer of wire & telecom to subsidiaries					3			
Provision for IFRS								15
Less: Allocation to Gas Operations						(1)		
Total Accounting Changes	-	-	-	-	8	1	-	20
Other Operating Changes , net of cost savings & changes in capital activity	9	4	2	(10)	19	(2)	4	(10)
Closing OM&A	\$ 299	\$ 311	\$ 323	\$ 323	\$ 360	\$ 372	\$ 380	\$ 403

CAC/MSOS/MH II-96

Subject: OM&A per customer and IFRS
Reference: CAC/MSOS/MH I-17(a)
Volume 1, Appendix 4.4, page 2
Appendix 32

Preamble: After having reviewed all the material filed, to date, regarding OM&A per customer, it is not clear, on the record how the year over year changes to this statistic have arisen.

With respect to OM&A per customer, MH states:

Year over year increases are primarily due to domestic load growth, aging infrastructure, cost escalation and wage settlements, as well as changes to accounting standards which require more costs to be recognized as current period costs.

- f) Provide a table that clearly identifies, for each year in the test period, each period cost description and associated cost amount that MH considers is required to be recognized as a current period cost together with a description of the accounting treatment prior to the change.**

ANSWER:

The following table provides the amounts Manitoba Hydro considered are to be recognized as a period cost for the test period:

ACCOUNTING CHANGES
(in millions of \$)

	Forecast		
	<u>2010/11</u>	<u>2011/12</u>	<u>Accounting Treatment</u>
<u>Accounting Changes:</u>			
CICA adjustment reducing capitalization of intangible	4	4	Period Expense - Previously Eligible for Capitalization
CICA adjustment reducing A&G capitalized	2	2	Period Expense - Previously Eligible for Capitalization
Provision for IFRS		15	Period Expense - Previously Eligible for Capitalization
Waterways mgmt program reclassify to operating		5	Period Expense - Previously Eligible for Capitalization
Funding Agreement reclassification	(5)	(5)	Period Expense - Reclassification

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

- a) Confirm that the “economic downturn” is not terminology used in the Economic Outlook in Appendix 5.1.**

ANSWER:

It is confirmed that the specific terminology “economic downturn” was not used in the Spring 2009 Economic Outlook provided in Appendix 5.1. However the terms “meltdown” and “economic slowdown” were used on pages 9 and 15, respectively, of the Spring 2009 Economic Outlook.

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

b) If the confirmation sought in (a) is not provided, please provide each of the references to the term “economic downturn” contained in the Economic Outlook document in Appendix 5.1.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-97(a).

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

- c) For clarity, please provide a list of each of the key components, statistics and data, from the Economic Outlook, that MH relied on to frame the term “economic downturn” for the purpose of using that terminology.**

ANSWER:

The terms economic downturn or economic slowdown have been widely used in the media in the recent past and reflect common prevailing knowledge of recent economic conditions.

The definition of a recession according to Statistics Canada is a period of declining economic activity measured by output and employment. An economic downturn, or slowdown in economic activity, is evidenced in data provided in the 2009 Economic Outlook including real gross domestic product (GDP) and unemployment rates for Manitoba and Canada.

Real GDP is published quarterly by Statistics Canada and is the official measure of output. Canada experienced 3 quarters of negative growth in real GDP from 2008:Q4 to 2009:Q2. Quarterly Manitoba real GDP statistics are not published officially. The table on page 6 of the 2009 Economic Outlook revealed projected real GDP of -0.7% and -1.9% for Manitoba and Canada in 2009, respectively.

Rising unemployment rates reflect job losses that are consistent with an economic downturn or slowdown. Unemployment rates for Manitoba were projected to be 5.8% and 6.5% for 2009 and 2010, respectively, relative to 4.2% in 2008. Unemployment rates for Canada were projected to be 8.1% and 8.5% for 2009 and 2010, respectively, relative to 6.1% in 2008.

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

d) For clarity, and for the purpose to of this proceeding, please provide MH’s understanding of the time period the economic downturn was forecast to last as described in its current GRA.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-97(c).

The 2009 Spring Economic Outlook filed as Appendix 5.1 of this GRA predicted a modest recovery in real GDP for Manitoba and Canada in 2010 with stronger growth in 2011. Unemployment rates were predicted to improve by 2011 for both Manitoba and Canada as well.

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

- e) **For clarity, and for the purpose to of this proceeding, please provide a list of the key factors from MH’s Economic Outlook that MH used to forecast an “economic downturn” that is referenced in its GRA filings.**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-97(c).

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

f) Please provide the release date of the document contained in Appendix 5.1.

ANSWER:

The 2009 Economic Outlook filed in Appendix 5.1 of this GRA was released in May 2009.

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

g) Please indicate how often this document is updated.

ANSWER:

Please see Manitoba Hydro’s response to PUB/MH I-46(a).

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

h) Please provide the most recent version of this document.

ANSWER:

Please see Manitoba Hydro’s response to PUB/MH II-203(a).

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

- i) Please provide the expected release date of the Spring 2010 version of this document.**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-97(h).

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

- j) When the Economic Outlook version for Spring 2010 is issued, please provide a copy for the purposes of the record of this proceeding.**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-97(h).

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

k) Please provide the actual amounts for 09/10 associated with the Base Case – Fiscal forecast on page 3 and the Base Case – Calendar on page 6.

ANSWER:

The following data is based on information available as of April 30 2010.

	Fiscal	Calendar
Manitoba	09/10	2009
Real GDP (%)*	na	-0.9
CPI (%)	0.7	0.6
Population (000's)	1225.7	1222.0
Residential Customers (000's)	444	441
Unemployment Rate (%)	5.3	5.2
Canada	09/10	2009
Real GDP (%)**	na	-2.6
CPI (%)	0.4	0.3
GDP Deflator (%)**	na	-1.9
90 Day T-Bill (%)	0.22	0.35
GOC 10 Yr+ Rate (%)	3.89	3.77
U.S. Exchange Rate (C\$/US\$)	1.09	1.14
Unemployment Rate (%)	8.4	8.3

	Fiscal	Calendar
United States	09/10	2009
Real GDP (%)***	-1.0	-2.4
CPI (%)	0.2	-0.4
GDP Deflator (%)***	0.8	1.2
90 Day T-Bill (%)	0.12	0.15
GOC 10 Yr+ Rate (%)	3.93	3.66
Unemployment Rate (%)	9.7	9.3

Note: * Manitoba Real GDP estimates are provided on an annual basis.

2009 Manitoba Real GDP was obtained from the March 23 Provincial Manitoba Budget.

** Canadian Real GDP & GDP Deflator are available on a quarterly basis.

2010:Q1 estimates will be available on May 31st 2010.

*** United States Real GDP & GDP Deflator are available on a quarterly basis.

2010:Q1 estimates were released on April 30th 2010.

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

- 1) Please confirm that the organizations listed on page i of Appendix 5.1 (i.e. Global Insight, Conference Board of Canada, Infometrica, Consensus Forecast, Manitoba Bureau of Statistics, the several banking and financial institutions) have published updated or new reports in 2010.**

ANSWER:

Refer to response to CAC/MSOS/MH I-30(a) for the list of sources reviewed for the 2009 Economic Outlook. The sources reviewed in ongoing preparations of the 2010 Economic Outlook are the same with the exception of Manitoba Bureau of Statistics, Consensus Economics, Province of B.C. and Federal Finance. Manitoba Bureau of Statistics did not publish an updated forecast before the 2010 Economic Outlook was finalized and therefore their information was not utilized. Forecasts from Consensus Economics, Province of B.C. and Federal Finance were not utilized in the preparation of the 2010 Economic Outlook as those sources are not considered statistically independent. With the exception of these four, it is confirmed that the other sources noted in the response to CAC/MSOS/MH I-30(a) provided updated reports in 2010.

CAC/MSOS/MH II-97

Subject: Summary and Reasons for Application

Reference: CAC/MSOS/MH I-103(a)

Preamble: In the above noted IR response, MH addressed its reference to “the economic downturn specified in its Economic Outlook”. From recent media reports, it appears that the economic outlook may be very different than that contained in the MH filings to date. The Economic Outlook document filed in this GRA (Appendix 5.1) is referenced as Spring 2009. As of the date of these IRs, currently, we are well into Spring 2010.

m) Please provide copies of the latest economic forecasts of the organizations listed on page i of Appendix 5.1 (i.e. Global Insight, Conference Board of Canada, Infometrica, Consensus Forecast, Manitoba Bureau of Statistics, the several banking and financial institutions) that MH relied on in formulating its Spring 2009 Economic Outlook.

ANSWER:

Refer to Manitoba Hydro’s response to CAC/MSOS/MH II-97(1) for the names of the sources used in the 2010 Economic Outlook.

Please see Appendix 52 for the latest economic forecasts of the sources used in the 2010 Economic Outlook with the exception of Spatial Economics who did not give Manitoba Hydro permission to share its most recent forecasts of economic and financial variables for reasons of confidentiality.

CAC/MSOS/MH II-98

Subject: Risk

Reference: CAC/MSOS/MH I – 103(k)

Preamble: In the above noted question, CAC/MSOS asked:

Please describe each of the risks and changes to those risks as a result of an economic downturn, such as the one described by MH in this GRA.

In the response, MH stated:

The economic downturn has served to highlight two risks which Manitoba Hydro must manage.

- a) Please confirm that the two risks identified in the above noted IR are risk associated with domestic requirements for electricity and risk associated with prices received for power in the export market.**

ANSWER:

Confirmed. Also note that lower export prices and lower domestic demand have also reduced the cost for power and fuel purchases.

CAC/MSOS/MH II-98

Subject: Risk

Reference: CAC/MSOS/MH I – 103(k)

Preamble: In the above noted question, CAC/MSOS asked:

Please describe each of the risks and changes to those risks as a result of an economic downturn, such as the one described by MH in this GRA.

In the response, MH stated:

The economic downturn has served to highlight two risks which Manitoba Hydro must manage.

b) If the confirmation sought in (a) is not provided, please provide a clarification.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-98(a).

CAC/MSOS/MH II-98

Subject: Risk

Reference: CAC/MSOS/MH I – 103(k)

Preamble: In the above noted question, CAC/MSOS asked:

Please describe each of the risks and changes to those risks as a result of an economic downturn, such as the one described by MH in this GRA.

In the response, MH stated:

The economic downturn has served to highlight two risks which Manitoba Hydro must manage.

- c) Please provide the economic impact associated with the realization of these risks for each of the test years relative to 2008/09.**

ANSWER:

The impact of the economic downturn for the test year 2009/10 vs actual 2008/09 results is approximately \$149 million. This is comprised of a \$14 million reduction in general service revenues and a \$135 million reduction in net export revenues.

The impact of the economic downturn for the two test years (2009/10 and 2010/11) vs actual 2008/09 results is approximately \$208 million. This is comprised of a \$14 million reduction in general service revenues and a \$194 million reduction in net export revenues.

CAC/MSOS/MH II-99

Subject: Risk

Reference: CAC/MSOS/MH I – 103(k)

Preamble: In the above noted response, MH stated:

Domestic requirements for electricity would likely increase. The reduction in electricity available for export due to the increase in domestic demand would likely be offset by higher fuel prices with an overall increase in export revenues.

The response is not clear.

- a) Please clarify how a reduction in electricity available for export due to the increase in domestic demand would likely be offset by higher fuel prices which would lead to an overall increase in export revenues. Please include in your discussion the derivation of the assumption of higher fuel prices in the context of this question.**

ANSWER:

Market fuel prices are expected to follow the principles of supply and demand. In an economic upturn market prices are expected to increase in response to increased demand and decreased supply. The response to CAC/MSOS/MH I-103(1) makes the assumption that the potential increase in fuel prices (and thus export prices) is likely to offset the reduction in the volumes of exports. For example if export volumes decrease by 10% due to an increased domestic demand in an economic upturn, it is judged that export prices will likely increase by more than 10% and this would result in increased export revenue. The increased cost of fuel and power purchases would partially offset this increase in export revenue. It is not certain that export prices will increase at a greater rate than the reduction in export volumes but the assumption was made that this is a likely possibility.

CAC/MSOS/MH II-100

Subject: Risk

**Reference: CAC/MSOS/MH I – 89
CAC/MSOS/MH I – 120(a), Attachment 1
CAC/MSOS/MH I – 144(b), Attachment 1, page 3 of 9
CAC/MSOS/MH I – 174
Volume 4, Appendix 12.2, ICF Report**

Preamble: MH addresses its unique set of risks throughout the filings. Included in that discussion

MH states:

Manitoba Hydro’s long-standing target for the debt/equity ratio has been 75:25. The adequacy of this target and the level of equity (or retained earnings) at any given time depends upon the risks the Corporation faces and the tolerance that the Board of Manitoba Hydro has for risk in consideration of the current and projected circumstances.

The ICF report states:

Manitoba Hydro is the sole provider of electricity and the largest provider of natural gas in the Manitoba province. The utility is owned by the province, i.e., it’s a “Crown” Corporation. Earnings from export sales are used to lower rates and/or maintain an adequate level of retained earnings to keep rates stable.

- a) Please describe any risks faced by an investor owned utility that are not faced by a crown owned utility.**

ANSWER:

The risks faced by an investor owned utility in similar circumstances to Manitoba Hydro are the same as the risks faced by a crown owned utility with one main exception. An investor owned utility is probably more challenged in its ability to raise capital since a crown corporation's borrowing ability is backed by the guarantee of the government.

CAC/MSOS/MH II-100

Subject: Risk

**Reference: CAC/MSOS/MH I – 89
CAC/MSOS/MH I – 120(a), Attachment 1
CAC/MSOS/MH I – 144(b), Attachment 1, page 3 of 9
CAC/MSOS/MH I – 174
Volume 4, Appendix 12.2, ICF Report**

Preamble: MH addresses its unique set of risks throughout the filings. Included in that discussion

MH states:

Manitoba Hydro’s long-standing target for the debt/equity ratio has been 75:25. The adequacy of this target and the level of equity (or retained earnings) at any given time depends upon the risks the Corporation faces and the tolerance that the Board of Manitoba Hydro has for risk in consideration of the current and projected circumstances.

The ICF report states:

Manitoba Hydro is the sole provider of electricity and the largest provider of natural gas in the Manitoba province. The utility is owned by the province, i.e., it’s a “Crown” Corporation. Earnings from export sales are used to lower rates and/or maintain an adequate level of retained earnings to keep rates stable.

b) Please describe any risks faced by a crown owned utility that are not faced by an investor owned utility.

ANSWER:

The risks faced by a crown owned utility are the same as those faced by an investor owned utility, except as noted to the response to CAC/MSOS/MH II-100(a).

CAC/MSOS/MH II-100

Subject: Risk

**Reference: CAC/MSOS/MH I – 89
CAC/MSOS/MH I – 120(a), Attachment 1
CAC/MSOS/MH I – 144(b), Attachment 1, page 3 of 9
CAC/MSOS/MH I – 174
Volume 4, Appendix 12.2, ICF Report**

Preamble: MH addresses its unique set of risks throughout the filings. Included in that discussion

MH states:

Manitoba Hydro’s long-standing target for the debt/equity ratio has been 75:25. The adequacy of this target and the level of equity (or retained earnings) at any given time depends upon the risks the Corporation faces and the tolerance that the Board of Manitoba Hydro has for risk in consideration of the current and projected circumstances.

The ICF report states:

Manitoba Hydro is the sole provider of electricity and the largest provider of natural gas in the Manitoba province. The utility is owned by the province, i.e., it’s a “Crown” Corporation. Earnings from export sales are used to lower rates and/or maintain an adequate level of retained earnings to keep rates stable.

c) Please describe any risks faced by a competitive commodity (i.e. energy) service provider that are not faced by a monopoly service provider.

ANSWER:

The risks faced by a competitive commodity (i.e. energy) service provider are basically the same except for the following:

- Ability to raise capital
- Market competition.

CAC/MSOS/MH II-100

Subject: Risk

**Reference: CAC/MSOS/MH I – 89
CAC/MSOS/MH I – 120(a), Attachment 1
CAC/MSOS/MH I – 144(b), Attachment 1, page 3 of 9
CAC/MSOS/MH I – 174
Volume 4, Appendix 12.2, ICF Report**

Preamble: MH addresses its unique set of risks throughout the filings. Included in that discussion

MH states:

Manitoba Hydro’s long-standing target for the debt/equity ratio has been 75:25. The adequacy of this target and the level of equity (or retained earnings) at any given time depends upon the risks the Corporation faces and the tolerance that the Board of Manitoba Hydro has for risk in consideration of the current and projected circumstances.

The ICF report states:

Manitoba Hydro is the sole provider of electricity and the largest provider of natural gas in the Manitoba province. The utility is owned by the province, i.e., it’s a “Crown” Corporation. Earnings from export sales are used to lower rates and/or maintain an adequate level of retained earnings to keep rates stable.

d) The ICF report states “lost revenue risk is similar for firm and non firm sales”, but also states:

The terms and conditions in the proposed new firm contracts are different from the terms of the current contracts and more favorable to Manitoba Hydro. For example, under the binding term sheets executed with __ and __ , Manitoba Hydro has the right to curtail supply __, thereby reducing supply of firm energy by __ percent.

Explain and reconcile the two quoted statements from the ICF report and clarify the effective dates of contracts which have the right to curtail vs. ones that do not.

ANSWER:

The first statement reflects that in times of drought, Manitoba Hydro is exposed to the loss of revenue from both firm and non-firm sales. In addition however, a key risk in making long-term firm sales is that in the event of a drought, there are some circumstances in which Manitoba Hydro might need to produce fossil power or buy marketplace replacement power to replace the shortfall in hydro power to serve sales obligations (in addition to local demand). The cost to produce or purchase replacement power is in addition to lost revenue from lower sales.

The second statement is in reference to terms and conditions in the proposed new contracts that will help to mitigate the additional cost of having to produce or purchase replacement power. This includes the right to curtail, thereby reducing the supply of firm energy required.

The proposed long-term contracted energy supply and curtailment provisions under drought conditions for the new contracts are shown in Exhibit 7-6 of the ICF report on p. 101. If the contracts are signed, delivery and the right to curtail would be effective starting in 2018 and 2020.

CAC/MSOS/MH II-100

Subject: Risk

**Reference: CAC/MSOS/MH I – 89
CAC/MSOS/MH I – 120(a), Attachment 1
CAC/MSOS/MH I – 144(b), Attachment 1, page 3 of 9
CAC/MSOS/MH I – 174
Volume 4, Appendix 12.2, ICF Report**

Preamble: MH addresses its unique set of risks throughout the filings. Included in that discussion

MH states:

Manitoba Hydro’s long-standing target for the debt/equity ratio has been 75:25. The adequacy of this target and the level of equity (or retained earnings) at any given time depends upon the risks the Corporation faces and the tolerance that the Board of Manitoba Hydro has for risk in consideration of the current and projected circumstances.

The ICF report states:

Manitoba Hydro is the sole provider of electricity and the largest provider of natural gas in the Manitoba province. The utility is owned by the province, i.e., it’s a “Crown” Corporation. Earnings from export sales are used to lower rates and/or maintain an adequate level of retained earnings to keep rates stable.

e) The ICF report stated:

Even in the event of a five year drought, the company has plans to achieve an equity cushion sufficient to accommodate the reduced cash flow due to drought without having to raise rates.

However, in the 2008 GRA, MH stated:

Retained earnings do not represent cash, but rather a recording of the accumulation of net income. As such, they provide the equity against which Manitoba Hydro can borrow when a negative contingency is encountered.

Please reconcile the two statements, in particular the two different references to cash.

ANSWER:

As noted in the MH statement, retained earnings does not represent cash. It does represent an accumulation of net income and the equity ownership of the Corporation's net assets. The level of equity is a key factor in determining amounts the Corporation can borrow.

The ICF statement is more fully explained on p. 23 under "equity cushion" where it states:

"To protect its financial stability, the Corporation maintains retained earnings and short-term liquidity to tide over the adverse financial consequences of a drought. The decrease in the revenue is offset either by Manitoba Hydro's borrowing or liquidity. This ability is heavily tied to its equity if it is to limit its reliance on rate hikes."

Stated another way, what this means is that in the event of a severe drought, Manitoba Hydro plans to maintain sufficient equity levels to be able to borrow funds to cover reduced cash flows without needing to raise rates.

CAC/MSOS/MH II-100

Subject: Risk

**Reference: CAC/MSOS/MH I – 89
CAC/MSOS/MH I – 120(a), Attachment 1
CAC/MSOS/MH I – 144(b), Attachment 1, page 3 of 9
CAC/MSOS/MH I – 174
Volume 4, Appendix 12.2, ICF Report**

Preamble: MH addresses its unique set of risks throughout the filings. Included in that discussion

MH states:

Manitoba Hydro’s long-standing target for the debt/equity ratio has been 75:25. The adequacy of this target and the level of equity (or retained earnings) at any given time depends upon the risks the Corporation faces and the tolerance that the Board of Manitoba Hydro has for risk in consideration of the current and projected circumstances.

The ICF report states:

Manitoba Hydro is the sole provider of electricity and the largest provider of natural gas in the Manitoba province. The utility is owned by the province, i.e., it’s a “Crown” Corporation. Earnings from export sales are used to lower rates and/or maintain an adequate level of retained earnings to keep rates stable.

- f) The ICF report makes numerous references to “drought”, but does not define the term and yet it defines a number of other terms in its report. Recognizing that drought can have different meanings depending on the context of agriculture, meteorology, hydrology and hydro-electric generation, please provide ICF’s understanding of the definition of drought for the purpose of its report. Please provide MH’s understanding of the definition of drought for the purpose of this application, and compare and contrast the two definitions.**

ANSWER:

It is Manitoba Hydro's understanding that the definition of drought utilized by ICF is similar to that used by Manitoba Hydro. For a hydroelectric utility, drought can be defined as a period of below average water flow conditions, and consequently below average energy production. A drought event is characterized by the duration and severity of a low flow period. The severity of a drought event is determined by the degree to which streamflows and energy production are below average. The duration of a drought event is determined by the period of time during which streamflows and energy production are consistently below average. Manitoba Hydro determines the consequences of low flow periods by estimating the reduction in net revenues relative to expected revenues over the range of all flow conditions. ICF utilized information that Manitoba Hydro provided on the financial consequence of various drought events each having a different severity and duration.

CAC/MSOS/MH II-101

Subject: Debt Equity

Reference: CAC/MSOS/MH I – 105(a) & (b)

Preamble: MH indicated various sources for the derivation of the 75:25 target. CAC/MSOS requested copies of each internal or external study, work paper or other analysis used or relied on by MH to determine the debt equity of 75:25. MH did not provide the requested material.

- a) For the purpose of this proceeding, please provide a copy of all of the analysis conducted by the corporation referred to in the first sentence of the above noted response.**

ANSWER:

Manitoba Hydro respectfully declines to provide the requested documents on the basis that the analysis requested is not relevant to current financial targets due to the length of the time that has passed since the initial approval of financial targets in 1995.

CAC/MSOS/MH II-101

Subject: Debt Equity

Reference: CAC/MSOS/MH I – 105(a) & (b)

Preamble: MH indicated various sources for the derivation of the 75:25 target. CAC/MSOS requested copies of each internal or external study, work paper or other analysis used or relied on by MH to determine the debt equity of 75:25. MH did not provide the requested material.

b) For the purpose of this proceeding, please provide a copy of all of the documents MH relied on in the review of the debt equity in each of i) the 2002 Status Update Hearing, ii) the 2004 GRA, and iii) the 2008 GRA.

ANSWER:

Manitoba Hydro respectfully declines to provide the requested documents on the basis that the materials supporting financial targets have been reviewed extensively throughout past PUB proceedings and in Order No. 90/08, the PUB stated that it “reconfirms the validity of the targeted debt/equity ratio of 75:25...” (page 4).

Manitoba Hydro reviewed the financial targets in 2009 based on current and projected financial conditions, and as CAC/MSOS/MH I-105(a) indicates, Manitoba Hydro revised the debt/equity ratio target to maintain a minimum debt/equity ratio of 75:25. Maintaining a minimum debt/equity ratio of 75:25 will provide long-term rate stability by gradually increasing the amount of equity that the Corporation can draw down in the event of a severe drought or other adverse event. Maintaining the ratio at a minimum of 75:25 remains in line with comparable Canadian utilities and is a prudent and fiscally responsible target for the Corporation.

CAC/MSOS/MH II-102

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(d)

Preamble: Reference is to page 20 of IFFF09-1, page 20. On that page a +1% increase in rates gives rise to an increase in retained earnings in 2011/12 and a decrease in earnings in 2015/16 and 2019/20. As well, a -1% increase in rates gives rise to a decrease in retained earnings in 2011/12 and an increase in earnings in 2015/16 and 2019/20.

- a) Please clarify whether the changes are relative to revenue amounts approved by the Board in this current proceeding or a prior proceeding and the revenues assumed in the base.**

ANSWER:

The measurement of impacts on retained earnings assume that revenues are held constant from the base case, which includes PUB approved rates prior to March 31, 2010, the interim approved rate of 2.9% effective April 1, 2010, the proposed rate increase of 2.9% effective April 1, 2011 and projected annual rate increases thereafter.

CAC/MSOS/MH II-102

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(d)

Preamble: Reference is to page 20 of IFFF09-1, page 20. On that page a +1% increase in rates gives rise to an increase in retained earnings in 2011/12 and a decrease in earnings in 2015/16 and 2019/20. As well, a -1% increase in rates gives rise to a decrease in retained earnings in 2011/12 and an increase in earnings in 2015/16 and 2019/20.

b) Please explain the apparent inconsistency, for the changes from one period to the next, for each case (+1% and -1%).

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH I-180(a) for an explanation of the changes from one period to the next for the interest rate risk scenarios shown in the table in Tab 12 for IFF09-1, Appendix 5.2, page 20.

CAC/MSOS/MH II-102

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(d)

Preamble: Reference is to page 20 of IFFF09-1, page 20. On that page a +1% increase in rates gives rise to an increase in retained earnings in 2011/12 and a decrease in earnings in 2015/16 and 2019/20. As well, a -1% increase in rates gives rise to a decrease in retained earnings in 2011/12 and an increase in earnings in 2015/16 and 2019/20.

c) For each case, please describe how MH tested the results of its sensitivity analysis for reasonableness together with an example of that testing.

ANSWER:

Reliability and accuracy of forecast and sensitivity analysis results are ensured through two means. First, the model used to produce forecasts and sensitivity analysis imposes rigor in the development of forecasts through its modular structure and variable logic. Secondly, results are reviewed utilizing two tests of reasonableness:

1. The results of the sensitivity analyses are systematically examined and evaluated by breaking down each line item of the three main projected financial statements into its component parts to verify and understand the interrelationships of factors and assumptions. Comparisons are made between the sensitivity case and the base case and measured against a benchmark of the expected range of sensitivity results. Results are also compared to the results of previous years' sensitivity analysis.
2. Sensitivity analysis results are also analyzed for trends involving a comparison of each line item over the forecast period (time series analysis) to detect general pattern of a relationship between associated factors or variables and examining and evaluating any variability occurring from that pattern.

Any unexpected changes or patterns are investigated further and revised, if required.

Based on the schedule of changes to finance expense and other operating statement items for the interest +1% sensitivity provided in the response to CAC/MSOS/MH I-180(a), the following schedule illustrates the proof of the results for that sensitivity.

**Proof of Change in Net Finance Expense
Interest +1% Sensitivity vs IFF09-1**

For the year ended March 31

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
New LTD issues IFF09	400	800	600	600	1,600	1,400	1,800	1,800	1,800	1,400	1,000
400	-	-	-	-	-	-	-	-	-	-	-
800		4	8	8	8	8	8	8	8	8	8
600			3	6	6	6	6	6	6	6	6
600				3	6	6	6	6	6	6	6
1600					8	16	16	16	16	16	16
1400						7	14	14	14	14	14
1800							9	18	18	18	18
1800								9	18	18	18
1800									9	18	18
1400										7	14
1000											5
Change in new LTD interest due to rate	-	4	11	17	28	43	59	77	95	111	123
Incremental new LTD issues compared to IFF09	-	-	-	-	-	-	200	-	200	200	-
Cumulative incremental new LTD issues	-	-	-	-	-	-	200	200	400	600	600
Change in new LTD interest due to new issues							7	14	21	36	43
Total change in new LTD interest	-	4	11	17	28	43	66	91	116	147	166
Incremental cash flow requirements (gross finance expense + capital tax)	(0)	3	12	17	29	47	64	88	108	136	177
Cumulative incremental cash flow requirements	(0)	2	14	31	60	107	171	259	367	503	680
Cumulative incremental CF req after new LTD issues	(0)	2	14	31	60	107	(29)	59	(33)	(97)	80
Total change in short term interest	(0)	0	0	1	2	5	2	1	1	(4)	(0)
	6.45%	6.71%	6.95%	7.11%	7.04%	7.04%	7.04%	7.04%	7.04%	7.04%	7.04%
	6.45%	7.71%	7.95%	8.11%	8.04%	8.04%	8.04%	8.04%	8.04%	8.04%	8.04%
Construction in progress balance IFF09	1,949	2,460	1,343	1,820	2,840	3,856	5,534	6,950	6,161	6,448	4,170
Change in interest capitalized during construction	-	(22)	(19)	(16)	(24)	(34)	(48)	(64)	(67)	(65)	(55)
Total change in net finance expense per est. above	(0)	(18)	(8)	2	7	13	20	28	50	78	110
Total change in net finance expense per comparison of case statements	(1)	(17)	(8)	(0)	7	16	19	26	41	71	117

CAC/MSOS/MH II-102

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(d)

Preamble: Reference is to page 20 of IFFF09-1, page 20. On that page a +1% increase in rates gives rise to an increase in retained earnings in 2011/12 and a decrease in earnings in 2015/16 and 2019/20. As well, a -1% increase in rates gives rise to a decrease in retained earnings in 2011/12 and an increase in earnings in 2015/16 and 2019/20.

d) Please provide a numerical example, showing all calculations and assumptions, of the change in +1% assuming the Board approves the requested revenue amount.

ANSWER:

Please refer to schedule presented in CAC/MSOS/MH I-180(a) for a breakdown of the impacts of the change in interest rates of +1%.

CAC/MSOS/MH II-102

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(d)

Preamble: Reference is to page 20 of IFFF09-1, page 20. On that page a +1% increase in rates gives rise to an increase in retained earnings in 2011/12 and a decrease in earnings in 2015/16 and 2019/20. As well, a -1% increase in rates gives rise to a decrease in retained earnings in 2011/12 and an increase in earnings in 2015/16 and 2019/20.

- e) Please provide a numerical example, showing all calculations and assumptions, of the change in -1% assuming the Board approves the requested revenue amount.**

ANSWER:

Please refer to schedule presented in CAC/MSOS/MH I-180(a) for a breakdown of the impacts of the change in interest rates of -1%.

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

a) The factors do not change for the year 2009/10 except for factor viii) Medium High Electric forecast. Please explain why this changes and the other factors do not, why MH adopted the assumption and how MH tested that assumption for reasonableness.

ANSWER:

In the sensitivity analysis for a medium high load forecast it was assumed that there was no change in load until the year 2011/12. The table in the response to CAC/MSOS/MH I-106(e) was not correct in indicating a change in load forecast for medium high load conditions for the years 2009/10 and 2010/11. With this clarification, the sensitivity for factor viii) (Medium High Electric forecast) is consistent with the other factors in that it is not effective in the first two years. Please see PUB/MH II-48(d) for updated 20 year tables and revised medium high load numbers in 2009/10 and 2010/11.

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

b) Please explain why MH did not change the factor for vii) Net export revenue for 5 year drought for 2010/11 (\$147M for both IFF09-1 and IFF09-1 Risk scenario), why MH adopted the assumption and how MH tested that assumption for reasonableness.

ANSWER:

There is no change in 2010/11 because Manitoba Hydro has adopted the practice of undertaking a drought sensitivity analysis starting in the third year of IFF estimates. There are many possibilities for a start date for a five year drought and the second year of the IFF estimate is not selected because the estimate in that year is based on median flows whereas the following years are based on the average of all flow conditions. It is noted that the third year of the IFF estimates (2010/11) was the start date of a 5-year drought in IFF08-1.

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

c) According to the IFF09-1 Risk Analysis (Appendix 5.2, Section 9.0), it appears that it was assumed that the five year drought was to start in 2011/12. Explain why that year was selected as the start year at the time this report was released in November 2009.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-103(b).

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

d) Please explain why MH did not change the factor for v) Net export revenue for low export prices for 2010/11 (\$147M for both IFF09-1 and IFF09-1 Risk scenario), why MH adopted the assumption and how MH tested that assumption for reasonableness.

ANSWER:

There is no change in 2010/11 because Manitoba Hydro has adopted the practice of undertaking a sensitivity analysis starting in the third year of IFF estimates. It is noted that the third year of the IFF estimates (2010/11) was the start date of the sensitivity in IFF08-1.

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

e) Please explain why MH did not change the factor for vi) Net export revenue for high export prices for 2010/11 (\$147M for both IFF09-1 and IFF09-1 Risk scenario), why MH adopted the assumption and how MH tested that assumption for reasonableness.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-103(d).

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

f) In comparing the long term interest rates with those provided in Coalition/MH II-77 (c), attached to CAC/MSOS/MH I – 175(a), the rate for 2011/12 of 7.45% (6.45% + 1.00%) for the IFF07-1 Risk Scenario does not align with the 6.10% for the same year under IFF07-1. Which one is correct/incorrect? What is the source of the error/inconsistency?

ANSWER:

The rate of 6.10% provided in COALITION/MH II-77(c) for 2011/12 is correct. The 2012/13 rate of 6.45% was incorrect for 2011/12 in CAC/MSOS/MH I-106(e). The schedules are restated below.

Interest Rates Increase 1 Percent:

	MH Cdn New Short Term Debt Rate*			MH Cdn New Long Term Debt Rate*		
	IFF09-1	IFF09-1 Risk Scenario	IFF07-1 Risk Scenario	IFF09-1	IFF09-1 Risk Scenario	IFF07-1 Risk Scenario
2007/08	-	-	5.70%	-	-	6.15%
2008/09	-	-	5.70%	-	-	6.60%
2009/10	0.45%	0.45%	5.60%	4.60%	4.60%	6.75%
2010/11	1.40%	2.40%	5.60%	4.65%	5.65%	6.95%
2011/12	3.60%	4.60%	5.60%	5.20%	6.20%	7.10%
2012/13	4.30%	5.30%	5.60%	5.70%	6.70%	7.45%
2017/18	4.45%	5.45%	5.60%	6.10%	7.10%	7.45%
2019/20	4.45%	5.45%	-	6.10%	7.10%	-

* Excluding Provincial Guarantee Fee of 1.0%

Interest Rates Decrease 1 Percent:

	MH Cdn New Short Term Debt Rate*			MH Cdn New Long Term Debt Rate*		
	IFF09-1	IFF09-1 Risk Scenario	IFF07-1 Risk Scenario	IFF09-1	IFF09-1 Risk Scenario	IFF07-1 Risk Scenario
2007/08	-	-	3.70%	-	-	4.15%
2008/09	-	-	3.70%	-	-	4.60%
2009/10	0.45%	0.45%	3.60%	4.60%	4.60%	4.75%
2010/11	1.40%	0.40%	3.60%	4.65%	3.65%	4.95%
2011/12	3.60%	2.60%	3.60%	5.20%	4.20%	5.10%
2012/13	4.30%	3.30%	3.60%	5.70%	4.70%	5.45%
2017/18	4.45%	3.45%	3.60%	6.10%	5.10%	5.45%
2019/20	4.45%	3.45%	-	6.10%	5.10%	-

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

g) Provide MH's latest forecasts for the 2010/2011 year for each of:

- i. MH Cdn New Short Term Debt Rates**
- ii. MH Cdn New Long Term Debt Rates**
- iii. CDN\$/US\$ Exchange Rate**
- iv. Net Export Revenue**
- v. Net Firm Energy (GW.h)**
- vi. Net Total Peak (MW)**

ANSWER:

The latest forecasts for i), ii) and iii) are below. Updates for iv)-vi) are not available at this time.

- i. MH Cdn New Short Term Interest Rates = 2.20%**
- ii. MH Cdn New Long Term Interest Rates = 5.65%**
- iii. CDN\$/US\$ Exchange Rate = 1.02**

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

h) Provide MH's actual rates and amounts for 2009/10 year for each of:

- i. MH Cdn New Short Term Debt Rates**
- ii. MH Cdn New Long Term Debt Rates**
- iii. CDN\$/US\$ Exchange Rate**

ANSWER:

Manitoba Hydro's actual rates for the 2009/10 year are as follows:

i. MH Cdn New Short Term Interest Rates	0.45%
ii. MH Cdn New Long Term Interest Rates	4.62%
iii. CDN\$/US\$ Exchange Rate	\$1.09

The actual short term interest rate was the average of the daily 3 month Bloomberg BA rates (CDOR03) for the 2009/10 year. The actual long term interest rate was calculated by averaging the daily yields for the Manitoba 10 and 30 year bonds (C30210Y and C30230Y) for the 2009/10 year. The short term and long term interest rates are exclusive of the Provincial Guarantee Fee of 1.0%. The CDN\$/US\$ exchange rate was calculated by averaging the Bank of Canada daily foreign exchange rates for the 2009/10 year.

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

h) Provide MH's actual rates and amounts for 2009/10 year for each of:

- iv. Net Export Revenue**
- v. Net Firm Energy (GW.h)**
- vi. Net Total Peak (MW)**

ANSWER:

iv. Manitoba Hydro is unable to provide the 2009/10 Net Export Revenue numbers as these numbers are not available until the Annual Report has been approved for release.

v. 2009/10 Net Firm Energy (GW.h): 23275

vi. 2009/10 Net Total Peak (MW): 4359

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

i) Clarify whether MH has updated its risk scenario from the IFF09-1 Risk Scenario produced in November 2009.

ANSWER:

Medium high electric forecast is the only risk scenario that has been refiled in response to CAC/MSOS/MH I-62(c). Please see the revised risk table and projected financials below.

	2011/12	2015/16	2019/20	Incremental Annual Rate Increase/(Decrease) *	
	Incremental Increase/(Decrease) in Retained Earnings (in millions of dollars)			Electric	Gas
IFF09-1 Baseline	2,396	2,997	4,059	-	-
+ 1% Interest Rates	26	(14)	(279)	0.23%	0.06%
- 1% Interest Rates	(24)	13	254	-0.23%	-0.06%
Cdn \$ down \$0.10 US	33	142	358	-0.34%	N/A
Cdn \$ up \$0.10 US	(26)	(115)	(286)	0.27%	N/A
Low Export Prices	(54)	(363)	(920)	1.05%	N/A
High Export Prices	113	712	1,713	-2.10%	N/A
5 Year Drought (starting in 2011/12)	N/A	(2,405)	N/A	3.37%	N/A
Medium High Electric Load Forecast	0	(74)	(167)	0.19%	N/A

CONSOLIDATED PROJECTED OPERATING STATEMENT (IFF09-1)
MEDIUM HIGH DOMESTIC LOAD
(In Millions of Dollars)

For the year ended March 31

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
REVENUES											
General Consumers	1,652	1,670	1,771	1,848	1,918	2,009	2,093	2,174	2,260	2,348	2,436
Extraprovincial	414	383	521	543	555	550	633	653	662	818	986
	2,066	2,054	2,292	2,391	2,473	2,559	2,726	2,827	2,922	3,166	3,423
Cost of Gas Sold	351	332	340	346	342	349	350	351	352	353	352
	1,715	1,722	1,953	2,046	2,131	2,210	2,376	2,476	2,570	2,814	3,071
Other	28	29	31	32	32	33	34	34	35	36	36
	1,742	1,751	1,984	2,077	2,163	2,243	2,409	2,510	2,605	2,849	3,107
EXPENSES											
Operating and Administrative	446	456	482	492	501	512	522	532	555	568	589
Finance Expense	454	451	510	569	571	591	578	596	640	727	933
Depreciation and Amortization	394	415	438	469	481	502	513	519	540	573	607
Water Rentals and Assessments	120	110	111	113	113	114	115	116	115	116	125
Fuel and Power Purchased	103	131	247	257	276	297	314	359	381	453	433
Capital and Other Taxes	97	99	100	104	109	116	125	134	140	147	151
	1,613	1,663	1,887	2,003	2,051	2,132	2,166	2,256	2,373	2,584	2,838
Non-controlling Interest	-	-	1	1	(2)	(5)	(9)	(11)	(12)	(15)	(14)
Net Income	129	88	98	76	110	107	235	243	220	250	255
Additional General Consumers Revenue											
General electricity rate increases		2.90%	2.90%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
General gas rate increases		0.00%	1.50%	0.00%	1.00%	0.00%	1.00%	0.00%	1.00%	1.00%	0.00%
Financial Ratios											
Debt	74%	75%	76%	76%	78%	79%	80%	81%	81%	81%	80%
Interest Coverage	1.24	1.15	1.15	1.11	1.15	1.13	1.27	1.24	1.20	1.22	1.19
Capital Coverage	1.39	1.09	1.14	1.27	1.19	1.49	1.81	1.76	1.85	2.12	2.48

CONSOLIDATED PROJECTED BALANCE SHEET (IFF09-1)
MEDIUM HIGH DOMESTIC LOAD
(In Millions of Dollars)

For the year ended March 31

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ASSETS											
Plant in Service	13,097	13,626	15,691	16,213	16,654	17,387	17,844	18,579	21,071	22,401	25,835
Accumulated Depreciation	(4,800)	(5,171)	(5,562)	(5,985)	(6,414)	(6,864)	(7,320)	(7,787)	(8,275)	(8,799)	(9,357)
Net Plant in Service	8,297	8,455	10,129	10,228	10,240	10,523	10,524	10,792	12,796	13,602	16,478
Construction in Progress	1,949	2,460	1,343	1,820	2,840	3,856	5,534	6,950	6,183	6,580	4,454
Current and Other Assets	2,421	2,374	2,503	2,551	2,294	2,436	2,673	2,968	3,248	3,042	3,464
Goodwill	107	107	107	107	107	107	107	107	107	107	107
	12,775	13,397	14,082	14,705	15,482	16,922	18,838	20,817	22,335	23,331	24,504
LIABILITIES AND EQUITY											
Long-Term Debt	7,816	8,613	9,071	8,786	10,366	11,522	13,140	14,629	15,563	16,846	14,764
Current and Other Liabilities	2,246	2,000	2,187	2,990	2,165	2,368	2,465	2,736	3,111	2,578	5,579
Contributions in Aid of Construction	293	291	285	280	276	273	272	270	268	267	267
Retained Earnings	2,227	2,315	2,396	2,472	2,582	2,688	2,923	3,166	3,387	3,637	3,892
Accumulated Other Comprehensive Income	192	178	143	178	94	71	38	17	6	3	3
	12,775	13,397	14,082	14,705	15,482	16,922	18,838	20,817	22,335	23,331	24,504
Debt Ratio	74%	75%	76%	76%	78%	79%	80%	81%	81%	81%	80%

CONSOLIDATED PROJECTED CASH FLOW STATEMENT (IFF09-1)
MEDIUM HIGH DOMESTIC LOAD
(In Millions of Dollars)

For the year ended March 31

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
OPERATING ACTIVITIES											
Cash Receipts from Customers	2,171	2,159	2,400	2,496	2,579	2,666	2,833	2,935	3,032	3,276	3,533
Cash Paid to Suppliers and Employees	(1,175)	(1,227)	(1,363)	(1,390)	(1,430)	(1,470)	(1,510)	(1,580)	(1,633)	(1,727)	(1,742)
Interest Paid	(474)	(445)	(504)	(568)	(578)	(577)	(582)	(601)	(670)	(764)	(950)
Interest Received	29	22	14	16	14	4	15	26	36	39	33
	<u>552</u>	<u>510</u>	<u>547</u>	<u>554</u>	<u>585</u>	<u>624</u>	<u>756</u>	<u>780</u>	<u>765</u>	<u>824</u>	<u>874</u>
FINANCING ACTIVITIES											
Proceeds from Long-Term Debt	900	800	600	600	1,600	1,400	1,800	2,000	1,800	1,600	1,200
Sinking Fund Withdrawals	262	227	27	103	483	-	3	-	-	456	171
Retirement of Long-Term Debt	(448)	(304)	(27)	(183)	(849)	(100)	(262)	(201)	(530)	(869)	(321)
Other	(36)	(12)	19	(10)	(13)	(11)	(13)	(14)	(14)	(26)	(15)
	<u>678</u>	<u>712</u>	<u>619</u>	<u>509</u>	<u>1,220</u>	<u>1,289</u>	<u>1,529</u>	<u>1,785</u>	<u>1,255</u>	<u>1,161</u>	<u>1,035</u>
INVESTING ACTIVITIES											
Property, Plant and Equipment, net of contributions	(1,151)	(1,117)	(1,046)	(1,035)	(1,495)	(1,774)	(2,163)	(2,173)	(1,745)	(1,767)	(1,452)
Sinking Fund Payment	(94)	(99)	(98)	(116)	(176)	(108)	(201)	(159)	(242)	(200)	(256)
Other	(36)	(20)	(16)	(17)	(17)	(31)	(29)	(41)	(28)	(27)	(27)
	<u>(1,281)</u>	<u>(1,236)</u>	<u>(1,160)</u>	<u>(1,168)</u>	<u>(1,687)</u>	<u>(1,913)</u>	<u>(2,393)</u>	<u>(2,372)</u>	<u>(2,014)</u>	<u>(1,994)</u>	<u>(1,735)</u>
Net Increase (Decrease) in Cash	(52)	(15)	7	(105)	119	(0)	(107)	194	6	(9)	174
Cash at Beginning of Year	(32)	(84)	(99)	(92)	(197)	(78)	(79)	(186)	8	14	5
Cash at End of Year	<u>(84)</u>	<u>(99)</u>	<u>(92)</u>	<u>(197)</u>	<u>(78)</u>	<u>(79)</u>	<u>(186)</u>	<u>8</u>	<u>14</u>	<u>5</u>	<u>179</u>

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

- j) If the risk scenario from the IFF09-1 Risk Scenario produced in November 2009 has been enhanced/revised/ or otherwise changed, please provide a copy of the updated version of the risk scenario.**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-103(i).

CAC/MSOS/MH II-103

Subject: Risk

Reference: CAC/MSOS (MH) I – 106(e)

Manitoba GRA, IFF09-1, dated November 2009, Appendix 5.2, page 20

Preamble: MH shows factors assumed for the following:

- i. Interest rates increase 1%**
- ii. Interest rates decrease 1%**
- iii. Canadian dollar increases \$0.10**
- iv. Canadian dollar decreases \$0.10**
- v. Net export revenue for low export prices**
- vi. Net export revenue for high export prices**
- vii. Net export revenue for 5 year drought**
- viii. Medium High Electric forecast**

k) If the risk scenario from the IFF09-1 Risk Scenario produced in November 2009 has not been enhanced/revised or otherwise changed, please indicate when MH intends to make any enhancements/revisions/changes to the IFF09-1 Risk Scenario.

ANSWER:

As part of the annual IFF process Manitoba Hydro will update its risk scenarios with the preparation of IFF10 in the fall of 2010.

CAC/MSOS/MH II-104

Subject: Integrated Financial Forecasters

Reference: CAC/MSOS (MH) I – 107(b)

Preamble: MH provided a comparison of forecast and actual export sales. CAC/MSOS would like to better understand the data supporting these amounts.

- a) Please provide the corresponding dates of issue for each “First Forecast” and each “Second Forecast.**

ANSWER:

The table provided in CAC/MSOS/MH I-107(b) is expanded below to include the corresponding dates when the underlying forecasts were issued internal to Manitoba Hydro.

EXPORTED ENERGY “EXPORT LOAD”									
Fiscal Year	Actual	Second Forecast	Second Forecast Variance	Second Forecast Variance	Second Forecast Issue Date	First Forecast	First Forecast Variance	First Forecast Variance	First Forecast Issue Date
	GWh	GWh	GWh	%	mmm-yy	GWh	GWh	GWh	mmm-yy
1999/00	10,881	10,704	177	2%	Sep-99	9,148	1,733	19%	Sep-98
2000/01	12,150	12,010	140	1%	Sep-00	10,383	1,767	17%	Sep-99
2001/02	12,293	12,676	-383	-3%	Sep-01	10,651	1,642	15%	Sep-00
2002/03	9,900	9,843	57	1%	Sep-02	10,578	-678	-6%	Sep-01
2003/04	6,975	6,220	755	12%	Sep-03	10,542	-3,567	-34%	Sep-02
2004/05	10,798	10,188	610	6%	Oct-04	8,731	2,067	24%	Sep-03
2005/06	15,290	13,597	1,693	12%	Aug-05	8,864	6,426	72%	Oct-04
2006/07	11,061	11,067	-6	0%	Aug-06	8,934	2,127	24%	Aug-05
2007/08	11,788	11,152	636	6%	Nov-07	7,707	4,081	53%	Aug-06
2008/09	10,008	10,279	-271	-3%	Sep-08	7,549	2,459	33%	Nov-07

CAC/MSOS/MH II-104

Subject: Integrated Financial Forecasters

Reference: CAC/MSOS (MH) I – 107(b)

Preamble: MH provided a comparison of forecast and actual export sales. CAC/MSOS would like to better understand the data supporting these amounts.

b) Please provide the document reference to where each “First Forecast” and each “Second Forecast” was provided.

ANSWER:

The “first forecast” reference document is the IFF two years prior, i.e. in September, 1998 the “first forecast” for FY1999/00 was prepared. The “second forecast” reference document is the IFF one year prior, i.e. in September, 1999 the “second forecast” was prepared (which was an update of the first forecast and included a partial year of actual results).

CAC/MSOS/MH II-104

Subject: Integrated Financial Forecasters

Reference: CAC/MSOS (MH) I – 107(b)

Preamble: MH provided a comparison of forecast and actual export sales. CAC/MSOS would like to better understand the data supporting these amounts.

- c) If not otherwise provided in this proceeding, please provide copies of all previous IFFs beginning in 1999/2000. To the extent these IFF's were provided in this proceeding, please provide the references and the IFFs that were not provided as per this IR.**

ANSWER:

IFF09-1 and IFF08-1 have been filed in appendices 5.2 and 21 respectively in this proceeding. Please see the response to part d for the specific references to previously filed IFFs.

CAC/MSOS/MH II-104

Subject: Integrated Financial Forecasters

Reference: CAC/MSOS (MH) I – 107(b)

Preamble: MH provided a comparison of forecast and actual export sales. CAC/MSOS would like to better understand the data supporting these amounts.

d) For each IFF filed since 1999/2000, please indicate whether the IFF was filed in a GRA and provide the reference to its submission (volume, appendix, IR#, etc).

ANSWER:

Please see the following table for the submission reference for each IFF filed since 1999/2000.

IFF	Filing	Exhibit
IFF09-1	2010/11 GRA	Appendix 5.2
IFF08-1	2010/11 GRA	Appendix 21
IFF08-1	Status Report RE: Order 116/08 and 150/08 Directives	Appendix 4.2
IFF07-1	2008/09 GRA	Appendix 22
IFF06-3	2008/09 GRA	Appendix 5.2
IFF05-1	2008/09 GRA	Appendix 5.3
IFF04-1	Conditional Rate Increase April 1, 2005	Appendix 2
IFF03-1	2004/05 GRA	Appendix 4.1
IFF02-1	2004/05 GRA	Appendix 4.2
IFF01-1	Status Update Filing February 2002	Appendix 4
IFF00-1	-	-
IFF99-1	-	-

CAC/MSOS/MH II-105

Subject: Debt/Equity
Reference: CAC/MSOS (MH) I – 108(a) & (b)
CAC/MSOS (MH) I – 8(a)

Preamble: MH states:

The benefit of a 75:25 debt/equity capital structure is to provide a level of equity sufficient to withstand the financial impacts of risks faced by Manitoba Hydro such as severe drought, significant infrastructure damage, loss of access to export markets, variability in earnings during a period of system expansion and other adverse events while alleviating the need for sudden large compensating rate increases. [emphasis added]

CAC/MSOS requested:

Please clearly articulate how the 75:25 debt equity translates into benefits to MH domestic customers.

MH referred CAC/MSOS to other responses (including CAC/MSOS (MH) I – 108(a)) which do not articulate how the 75:25 debt equity translates into benefits to MH domestic customers. [emphasis added]

- a) **Please clarify what MH means by the term “withstand” in the above context, including specific references to what impacts are being referred to including (but not limited to) the impacts on borrowing costs (specific impact on interest rate costs to MH) and ability to obtain debt financing (specific dollar impact on ability to obtain debt financing).**

ANSWER:

In the context of risk and equity levels, the term “withstand” means to hold off or resist implementing significant, sudden rate increases to compensate for the cost of risks faced by the corporation. Rather, the financial impacts of unexpected decreases in revenues and/or increases in expenses and the resulting increases to finance expense could be absorbed by retained earnings. This allows the corporation greater flexibility to defer or smooth any

resulting necessary rate increases over a period of time. Given sufficient equity levels, it is not expected that fluctuations in earnings would lead to an adverse impact to Manitoba Hydro's ability to maintain financial self-sufficiency and thereby impact the attractive rates of borrowing or funding available to Manitoba Hydro.

CAC/MSOS/MH II-105

Subject: Debt/Equity
Reference: CAC/MSOS (MH) I – 108(a) & (b)
CAC/MSOS (MH) I – 8(a)

Preamble: MH states:

The benefit of a 75:25 debt/equity capital structure is to provide a level of equity sufficient to withstand the financial impacts of risks faced by Manitoba Hydro such as severe drought, significant infrastructure damage, loss of access to export markets, variability in earnings during a period of system expansion and other adverse events while alleviating the need for sudden large compensating rate increases. [emphasis added]

CAC/MSOS requested:

Please clearly articulate how the 75:25 debt equity translates into benefits to MH domestic customers.

MH referred CAC/MSOS to other responses (including CAC/MSOS (MH) I – 108(a)) which do not articulate how the 75:25 debt equity translates into benefits to MH domestic customers. [emphasis added]

- b) Above MH outlines, what it describes elsewhere as “major risks” (i.e. severe drought, significant infrastructure damage, loss of access to export markets). In this IR, MH has included a new term in this list (“variability in earnings during a period of system expansion”).**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-105(c).

CAC/MSOS/MH II-105

Subject: Debt/Equity
Reference: CAC/MSOS (MH) I – 108(a) & (b)
CAC/MSOS (MH) I – 8(a)

Preamble: MH states:

The benefit of a 75:25 debt/equity capital structure is to provide a level of equity sufficient to withstand the financial impacts of risks faced by Manitoba Hydro such as severe drought, significant infrastructure damage, loss of access to export markets, variability in earnings during a period of system expansion and other adverse events while alleviating the need for sudden large compensating rate increases. [emphasis added]

CAC/MSOS requested:

Please clearly articulate how the 75:25 debt equity translates into benefits to MH domestic customers.

MH referred CAC/MSOS to other responses (including CAC/MSOS (MH) I – 108(a)) which do not articulate how the 75:25 debt equity translates into benefits to MH domestic customers. [emphasis added]

- c) Confirm this description is not included in the MH annual report for 2009/10 and explain why it is not addressed in that annual report.**

ANSWER:

Manitoba Hydro does not consider “variability in earnings” to be a new term or risk as demonstrated by the analysis of sensitivity of earnings to factors including drought, export price, interest rates, foreign exchange rates and load growth contained in the Risk Analysis section of IFF09-1 (Appendix 5.2, page 20). Manitoba Hydro only seeks to emphasize with this statement that more than one risk may occur at any one time and earnings sensitivity to any of these risks increases during a period of system expansion. The risk analysis in IFF09-1 shows the importance of maintaining sufficient levels of equity consistent with the

Corporation's financial targets and that there is no detrimental impact to Manitoba Hydro's ability to maintain financial self-sufficiency.

CAC/MSOS/MH II-105

Subject: Debt/Equity
Reference: CAC/MSOS (MH) I – 108(a) & (b)
CAC/MSOS (MH) I – 8(a)

Preamble: MH states:

The benefit of a 75:25 debt/equity capital structure is to provide a level of equity sufficient to withstand the financial impacts of risks faced by Manitoba Hydro such as severe drought, significant infrastructure damage, loss of access to export markets, variability in earnings during a period of system expansion and other adverse events while alleviating the need for sudden large compensating rate increases. [emphasis added]

CAC/MSOS requested:

Please clearly articulate how the 75:25 debt equity translates into benefits to MH domestic customers.

MH referred CAC/MSOS to other responses (including CAC/MSOS (MH) I – 108(a)) which do not articulate how the 75:25 debt equity translates into benefits to MH domestic customers. [emphasis added]

- d) Confirm this description is not included in the MH IFF09-1 for 2009/10 - 2019/20 and explain why it is not addressed in that IFF.**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-105(c).

CAC/MSOS/MH II-105

Subject: Debt/Equity
Reference: CAC/MSOS (MH) I – 108(a) & (b)
CAC/MSOS (MH) I – 8(a)

Preamble: MH states:

The benefit of a 75:25 debt/equity capital structure is to provide a level of equity sufficient to withstand the financial impacts of risks faced by Manitoba Hydro such as severe drought, significant infrastructure damage, loss of access to export markets, variability in earnings during a period of system expansion and other adverse events while alleviating the need for sudden large compensating rate increases. [emphasis added]

CAC/MSOS requested:

Please clearly articulate how the 75:25 debt equity translates into benefits to MH domestic customers.

MH referred CAC/MSOS to other responses (including CAC/MSOS (MH) I – 108(a)) which do not articulate how the 75:25 debt equity translates into benefits to MH domestic customers. [emphasis added]

- e) **Confirm this description is not included in the MH Corporate Risk Management Report (Appendix 12.1) and explain why it is not addressed in that report.**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-105(c).

CAC/MSOS/MH II-105

Subject: Debt/Equity
Reference: CAC/MSOS (MH) I – 108(a) & (b)
CAC/MSOS (MH) I – 8(a)

Preamble: MH states:

The benefit of a 75:25 debt/equity capital structure is to provide a level of equity sufficient to withstand the financial impacts of risks faced by Manitoba Hydro such as severe drought, significant infrastructure damage, loss of access to export markets, variability in earnings during a period of system expansion and other adverse events while alleviating the need for sudden large compensating rate increases. [emphasis added]

CAC/MSOS requested:

Please clearly articulate how the 75:25 debt equity translates into benefits to MH domestic customers.

MH referred CAC/MSOS to other responses (including CAC/MSOS (MH) I – 108(a)) which do not articulate how the 75:25 debt equity translates into benefits to MH domestic customers. [emphasis added]

- f) Please provide specific details as to how a level of equity and or retained earnings would withstand financial impacts and, thereby alleviate rate increases. Please be specific about the mechanics as to how that would work and provide a numerical example to allow the Board and interveners to understand the process and mechanics of an impact on rates.**

ANSWER:

Equity ratios lower than the target 25% indicate that greater levels of assets would be financed through debt. If all things were equal, higher debt levels would result in higher finance expense over the forecast period diminishing the corporation's ability to offset unforeseen losses with internally generated funds and capitalize on returns generated by leverage. Reductions to internally generated funds must be replaced by increases to

borrowed funds resulting in the higher finance expenses, or alternatively, increases to rates charged to customers to cover operational and debt service costs. Higher equity levels allow greater flexibility for moderate increases in debt levels in order to alleviate some of the pressure on customers.

As an estimate of the impacts, an artificial reduction of the corporation's retained earnings of more than \$480 million in 2010/11 results in a debt/equity ratio of 80:20 in 2010/11. The increase in finance expense ranges from \$13 million per year in 2010/11 up to \$57 million per year by 2019/20 compared to MH09-1. Assuming no adjustments to customer rates are implemented, the debt/equity ratio rises to 85:15 and retained earnings is over \$1 billion lower by 2019/20 compared to MH09-1. The corporation would require incremental annual rate increases of 1.1% in addition to the 3.5% annual rate increases (or a total of 4.6% annually) projected in MH09-1 just to return to approximately the same level of equity by 2019/20. If the corporation experienced a drought of the same magnitude as the worst five year drought on record under this hypothetical weaker financial position, the estimated \$2.4 billion cost of a drought would completely eliminate retained earnings and a substantial portion of the cost of a drought would have to be borne by the customer. The 5 year drought scenario in IFF09-1 indicates that if the full costs of drought are borne by the customer, additional annual rate increases could be 3.4% higher than the projected rate increases in IFF09-1 (or a total of 6.9% annually) or even higher under a higher export price scenario.

CAC/MSOS/MH II-105

Subject: Debt/Equity
Reference: CAC/MSOS (MH) I – 108(a) & (b)
CAC/MSOS (MH) I – 8(a)

Preamble: MH states:

The benefit of a 75:25 debt/equity capital structure is to provide a level of equity sufficient to withstand the financial impacts of risks faced by Manitoba Hydro such as severe drought, significant infrastructure damage, loss of access to export markets, variability in earnings during a period of system expansion and other adverse events while alleviating the need for sudden large compensating rate increases. [emphasis added]

CAC/MSOS requested:

Please clearly articulate how the 75:25 debt equity translates into benefits to MH domestic customers.

MH referred CAC/MSOS to other responses (including CAC/MSOS (MH) I – 108(a)) which do not articulate how the 75:25 debt equity translates into benefits to MH domestic customers. [emphasis added]

- g) It is not clear what is meant by the description “sudden large compensating rate increases”. Please provide a range of rate increases that illustrate that description.**

ANSWER:

As indicated in the response to CAC/MSOS/MH II-105(f), higher equity levels provide greater flexibility to smooth required rate increases to offset decreases in expected earnings. In the corporation’s recent history, rate increases implemented have been in line with inflation and much lower than the rate increases which are approaching double digits in other Canadian jurisdictions [see MIPUG/MH I-1(c)]. In the absence of sufficient equity levels, it may be necessary for the corporation to implement large rate increases similar to or greater than those implemented by other jurisdictions at the time a loss is experienced.

CAC/MSOS/MH II-105

Subject: Debt/Equity
Reference: CAC/MSOS (MH) I – 108(a) & (b)
CAC/MSOS (MH) I – 8(a)

Preamble: MH states:

The benefit of a 75:25 debt/equity capital structure is to provide a level of equity sufficient to withstand the financial impacts of risks faced by Manitoba Hydro such as severe drought, significant infrastructure damage, loss of access to export markets, variability in earnings during a period of system expansion and other adverse events while alleviating the need for sudden large compensating rate increases. [emphasis added]

CAC/MSOS requested:

Please clearly articulate how the 75:25 debt equity translates into benefits to MH domestic customers.

MH referred CAC/MSOS to other responses (including CAC/MSOS (MH) I – 108(a)) which do not articulate how the 75:25 debt equity translates into benefits to MH domestic customers. [emphasis added]

- h) What magnitude of “sudden large compensating rate increase” can be offset? Please provide a range for each 5% of equity together with supporting calculations.**

ANSWER:

The scenarios included in the Risk Analysis section of IFF09-1 (Appendix 5.2, page 20) provide a representative range of potential risk impacts on the corporation. The table below is modified from Appendix 5.2, page 20 to show the increase or decrease in the equity ratio by 2019/20 under each scenario (replacing the retained earnings impact) along with the equal annual rate increases over and above the projected rate increases assumed in IFF09-1 necessary to offset the risks tested. However, the actual magnitude of rate increases that may be offset will be dependent upon many other factors existing at that time.

Incremental Increase/(Decrease)	2019/20	Annual Rate
	Equity Ratio	Increase 2011/12 to 2019/20
IFF09-1 Baseline	21%	2.9%, 3.5%
+ 1% Interest Rates	-2%	0.23%
- 1% Interest Rates	2%	-0.23%
Cdn\$ down \$0.10 US	1%	-0.34%
Cdn\$ up \$0.10 US	-1%	0.27%
Low Export Prices	-4%	1.05%
High Export Prices	8%	-2.10%
5 Year Drought	-15%	3.37%
Medium High Electric Load Forecast	-1%	0.19%

CAC/MSOS/MH II-105

Subject: Debt/Equity
Reference: CAC/MSOS (MH) I – 108(a) & (b)
CAC/MSOS (MH) I – 8(a)

Preamble: MH states:

The benefit of a 75:25 debt/equity capital structure is to provide a level of equity sufficient to withstand the financial impacts of risks faced by Manitoba Hydro such as severe drought, significant infrastructure damage, loss of access to export markets, variability in earnings during a period of system expansion and other adverse events while alleviating the need for sudden large compensating rate increases. [emphasis added]

CAC/MSOS requested:

Please clearly articulate how the 75:25 debt equity translates into benefits to MH domestic customers.

MH referred CAC/MSOS to other responses (including CAC/MSOS (MH) I – 108(a)) which do not articulate how the 75:25 debt equity translates into benefits to MH domestic customers. [emphasis added]

- i) To the extent that MH considers that there is an ability to provide a benefit, is MH prepared to make that a commitment to provide the described benefit. If so, please quantify the commitment. If not, explain why the commitment would not be forthcoming.**

ANSWER:

Manitoba Hydro customers currently benefit from the strong financial position of the corporation. Manitoba Hydro's steady progress towards its financial targets and recent achievement of the 75:25 debt/equity has been accomplished with moderate customer rate increases that are much lower than other comparative Canadian jurisdictions. As an example, the low water flow conditions from 2002/03 to 2003/04 had the financial effect of increasing the debt/equity ratio from 77:23 to 80:20. The Corporation was able to recover within three

years to approximately the same level of debt/equity prior to the drought and continue its progress towards 75:25 largely due to the favourable water conditions and export prices immediately following the drought with only a moderate adjustment to customer rates. In a weaker financial position at the outset of the drought, the corporation may have implemented greater rate increases to compensate for the loss experienced.

It would not be prudent for Manitoba Hydro to commit to any specific future benefits other than as articulated by Manitoba Hydro's goal to have the lowest retail electricity rates in North America.

CAC/MSOS/MH II-106

Subject: Debt/Equity

Reference: CAC/MSOS (MH) I – 108(c)

Preamble: MH states:

The 5 year drought scenario included in IFF09-1 (Appendix 5.2, p. 20 and Appendix 14, p. 20) shows that an extended period of low flows is projected to change debt/equity up to 95:15 assuming no rate adjustments. In order to achieve the same level of retained earnings in 2019/20 as in MH09-1, additional annual rate increases of 3.37% would need to be implemented from 2012/13 to 2019/20. [emphasis added]

It is not clear from this response where the reference to debt/equity of 95:15 exists. It appears this quantification may be in error.

- a) Please provide the reference to the debt/equity of 95:15. If this quantification is in error, please provide the correct quantification and the reference to where the correct quantification can be found in the MH filings with respect to the context addressed in the above quote. If there is a correction, please also make corrections, if any, to other amounts and references in the above quote.**

ANSWER:

The reference to the debt/equity ratio of 95:15 was a typographical error. The statement provided in CAC/MSOS/MH I-108(c) should have indicated a debt/equity ratio of **95:05**. All quantifications provided with respect to this risk scenario in the Manitoba Hydro filings are correct.

CAC/MSOS/MH II-107

Subject: Debt Equity

Reference: CAC/MSOS (MH) I – 108(c) & (d)

Preamble: MH's responses did not provide the clarification sought.

- a) Confirm that the cost of debt is not impacted by the change in debt equity in the three scenarios presented in CAC/MSOS (MH) I – 108(c) i), ii) and iii).**

ANSWER:

The response to CAC/MSOS/MH I-108(d) clearly states that it is not anticipated that there will be any negative impact to Manitoba Hydro's cost of debt to the extent that Manitoba Hydro's debt continues to be viewed to be self-supporting by the credit rating agencies. The response to CAC/MSOS/MH I-108(c) further reinforces the benefit of moderate rate increases and favourable export revenues in order to maintain financial strength.

CAC/MSOS/MH II-107

Subject: Debt Equity

Reference: CAC/MSOS (MH) I – 108(c) & (d)

Preamble: MH's responses did not provide the clarification sought.

- b) If the confirmation sought in (a) is not provided, please provide the calculation that demonstrates the impact on the cost of debt in the three scenarios presented in CAC/MSOS (MH) I – 108(c) i, ii and iii).**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-107(a).

CAC/MSOS/MH II-107

Subject: Debt Equity

Reference: CAC/MSOS (MH) I – 108(c) & (d)

Preamble: MH's responses did not provide the clarification sought.

- c) If the confirmation sought in (a) is not provided, please provide supporting documents and evidence that demonstrates that the cost of debt is impacted by each of the three scenarios presented in CAC/MSOS (MH) I – 108(c) i), ii) and iii)., together with the quantification of the impacts from each of the three scenarios presented in CAC/MSOS (MH) I – 108(c) i), ii) and iii).**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-107(a).

CAC/MSOS/MH II-108

Subject: Debt and Debt Equity
Reference: CAC/MSOS (MH) I – 108(e)

Preamble: MH states:

All short term debt is funded through the use of the Manitoba Hydro \$500 million dollar commercial paper program. When Manitoba Hydro requires short term financing to meet liquidity needs or to bridge financing between long term debt issues, Manitoba Hydro transacts directly with Canadian financial institutions to issue short term notes. The short term debt is guaranteed by the Province of Manitoba, but Manitoba Hydro arranges this financing directly with the financial markets as required.

- a) Confirm that the services provided by the Province of Manitoba, described above, with respect to short term debt are that of a guarantee of MH's arrangements with a third party financial institution.**

ANSWER:

Confirmed. Manitoba Hydro's short term debt is guaranteed by the Province of Manitoba.

CAC/MSOS/MH II-108

Subject: Debt and Debt Equity
Reference: CAC/MSOS (MH) I – 108(e)

Preamble: MH states:

All short term debt is funded through the use of the Manitoba Hydro \$500 million dollar commercial paper program. When Manitoba Hydro requires short term financing to meet liquidity needs or to bridge financing between long term debt issues, Manitoba Hydro transacts directly with Canadian financial institutions to issue short term notes. The short term debt is guaranteed by the Province of Manitoba, but Manitoba Hydro arranges this financing directly with the financial markets as required.

b) If the confirmation sought in (a), is not provided, please clarify.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-108(a).

CAC/MSOS/MH II-108

Subject: Debt and Debt Equity
Reference: CAC/MSOS (MH) I – 108(e)

Preamble: MH states:

All short term debt is funded through the use of the Manitoba Hydro \$500 million dollar commercial paper program. When Manitoba Hydro requires short term financing to meet liquidity needs or to bridge financing between long term debt issues, Manitoba Hydro transacts directly with Canadian financial institutions to issue short term notes. The short term debt is guaranteed by the Province of Manitoba, but Manitoba Hydro arranges this financing directly with the financial markets as required.

- c) Confirm that the services provided by the Province of Manitoba, described above, with respect to long term debt are NOT that of a guarantee of MH's arrangements with a third party investor/debtholder.

ANSWER:

All of Manitoba Hydro's long term debt is guaranteed by the Province of Manitoba, with the exception of Manitoba Hydro-Electric Board Bonds issued for mitigation purposes.

CAC/MSOS/MH II-108

Subject: Debt and Debt Equity
Reference: CAC/MSOS (MH) I – 108(e)

Preamble: MH states:

All short term debt is funded through the use of the Manitoba Hydro \$500 million dollar commercial paper program. When Manitoba Hydro requires short term financing to meet liquidity needs or to bridge financing between long term debt issues, Manitoba Hydro transacts directly with Canadian financial institutions to issue short term notes. The short term debt is guaranteed by the Province of Manitoba, but Manitoba Hydro arranges this financing directly with the financial markets as required.

d) If the confirmation sought in (c), is not provided, please clarify.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-108(c).

CAC/MSOS/MH II-109

Subject: Debt and Debt Equity
Reference: CAC/MSOS/MH I – 108(i)

Preamble: MH stated the reasons could be found at “Dection” [sic] 2.2 of Tab 2. CAC/MSOS could not distinguish from that reference what factors and metrics are demonstrating the need for the rate increase.

The proposed rate increases are expected to generate approximately \$33 million for 2010/11 and approximately \$69 million for 2011/12. It would be helpful to understand what proportion of those increases are being driven by each component of revenue, each component of expense and net income.

- a) Please provide the list of each factor and component that is giving rise to the each of the above noted dollar amounts associated with proposed rate increases in this application, including that being required as a result of the change in debt equity.**

ANSWER:

Under the cost of service methodology that is employed to set electric rates, Manitoba Hydro cannot disaggregate the proposed rate increase into discrete components.

Manitoba Hydro’s rate proposals are developed considering the current forecast of revenues and expenses and the maintenance of reasonable financial targets, including ensuring that there is an adequate level of retained earnings to protect against the risks that are faced by the Corporation. Tab 4 of the Application and subsequent information requests provide extensive material on the actual and projected revenues and costs of the Corporation as well as the factors that are influencing these revenues and costs. Tab 5 of the Application provides information on the most current Integrated Financial Forecast, MH09-1 and the projected financial targets over the IFF period. As was noted in Tab 2 of the Application, there has been a significant reduction in projected net income between MH08-1 and MH09-1 of \$241 million for the three fiscal years ending March 31, 2012 which is primarily due to decreased revenues. As a result, the debt/equity ratio is projected to rise to 76:24 by the end of 2012 versus the 75:25 that was projected in IFF08 and the interest coverage and capital

coverage ratios are projected to be slightly below target levels. The proposed rate increases are necessary to maintain the financial ratios within a reasonable range in 2010/11 and 2011/12 and have been maintained at the 2.9% level that was projected in MH08-1 despite the above noted reduction in projected net income in MH09-1.

The rate proposals also consider the current economic circumstances, the impacts on customers and the objective to have relatively stable electricity rates in Manitoba through gradual rate increases over time. Manitoba Hydro's proposed rate increases are considerably lower than rate increases in most other jurisdictions in Canada which in accordance with the information provided in the responses to MIPUG/MH I-1(c) and CAC/MSOS/MH I-2(a) have currently ranged from approximately 7% to 9.28%.

In consideration of the above noted factors, the proposed rate increases are designed to achieve an appropriate balance between customer sensitivity and fiscal responsibility.

CAC/MSOS/MH II-110

Subject: Debt Equity

**Reference: CAC/MSOS (MH) I – 113(c)
2008 GRA, Coalition (MH) I – 86(f)**

Preamble: In response to CAC/MSOS (MH) I – 113(c), which specifically addressed debt equity during the period referred to by MH as the “decade of investment”, MH states:

With the recent achievement of the 75:25 debt/equity ratio target, Manitoba Hydro is well positioned to undertake planned capital investments which are projected to provide immediate and long term benefits to Manitoba consumers while still being able to absorb the financial impacts of adverse events.

During the period of so-called “decade of investment”, the equity component of debt equity is forecast to be 22% or less for seven years and at 20% for five years.

In response to 2008 GRA, Coalition (MH) I – 86(f), MH stated:

The 80:20 debt ratio indicates greater levels of the Corporation’s assets are financed through debt rather than equity. If all other things were equal an 80:20 debt ratio would result in increased finance expense versus the 75:25 target. At an 80:20 debt/equity ratio, this increase in finance expense over that in a 75:25 scenario would range from \$2 million in the early years of the forecast up to \$71 million per year by the end of the forecast period. A debt ratio of 80:20 diminishes the Corporation’s ability to mitigate risks such as drought. Increasing the level of retained earnings provides the advantages of having the ability to offset losses with internally generated funds, while also capitalizing on increased returns generate by leverage.

- a) **Please reconcile the apparent inconsistency regarding MH's ability to absorb the financial impacts of adverse events, during the decade of investment which includes 5 years of debt equity of 80:20, with the MH statement that a “debt ratio of 80:20 diminishes the Corporation’s ability to mitigate risks such as drought”.**

ANSWER:

A higher debt/equity ratio generally indicates a lower amount of equity from which the Corporation can draw down in the event of a severe or other adverse event. However, retained earnings are higher in IFF09-1 compared to projections supporting the 2008 GRA due largely to recent favourable water conditions. While the debt/equity ratio slips to 80:20 in IFF09-1, retained earnings are projected to continue to grow quite substantially from \$2 billion at March 2009 to over \$4 billion over the decade of investment to 2020. This level of equity provides an adequate cushion to absorb financial losses for a time without affecting the financial self-sufficiency of the corporation or requiring the need to implement sudden large rate increases. During the decade of returns, growth of retained earnings is projected to increase while the level of debt to finance these assets declines. While a temporary rise in the debt/equity ratio is viewed by the Corporation as manageable, a long-term strategy of a lower debt/equity target such as 80:20 will certainly increase the exposure to risks faced by Manitoba Hydro.

CAC/MSOS/MH II-111

Subject: Risk

Reference: CAC/MSOS/MH I – 114(a)

Preamble: With respect, the reply to CAC/MSOS/MH I – 114(a) was unresponsive. CAC/MSOS requested calculations to support MH’s quantification of risk contained in document filed in the current GRA. CAC/MSOS did not ask descriptions provided. Rather it specifically requested the mechanical calculations together with assumptions used in those calculations.

- a) Please provide the requested calculations together with a complete list of assumptions.**

ANSWER:

As noted in the response to CAC/MSOS/MH I-114(a), the quantification of the risks listed in the Risk Management section of The Manitoba Hydro-Electric Board 58th Annual Report is based on the Risk Analysis section of the 2008 Integrated Financial Forecast (see Appendix 21), with the exception of infrastructure risk. Further explanation of the assumptions and methodology used are provided below. Copies of the IFF risk scenarios supporting the risk quantification are also attached. Please note that the provision of further detailed calculations is not possible to replicate as the IFF model is formula driven and performs multiple reiterations in arriving at results.

Drought - \$2.2 Billion net reduction in export revenues

As described on p. 20 of IFF 08 under water conditions,

“A drought sensitivity has been prepared based on an assumed recurrence of the worst five year drought on record. This drought sensitivity replicates the water flows of the historic five year drought period between April 1987 and March 1992 beginning in the forecast year 2010/11 and extending to 2014/2015. The impacts of the drought on export revenues and thermal and import costs assume expected market conditions. Over the five year drought period, net export revenue would be reduced by \$2.2 billion compared to IFF08-1. The impact could be greater due to financing

costs and will be dependent upon the timing and magnitude of the rate increases implemented to address the drought impacts. If a drought of this magnitude (or the even larger 1936 - 1943 drought) were to coincide with a period of high prices for thermal and import purchases the impact would be even greater.” See the attached IFF08 risk scenario for drought on page 2 of Attachment 1.

Loss of export market - Up to 30% of electric revenues

This simply represents a total loss of export sales which is approximately 30% of base case forecasted electric revenues.

Interest Rates - Up to \$115 million for a 1% change over a 10 year period

As described on p. 19 of IFF08, 1% changes in interest rates were applied to all new long and short-term debt issues and to new sinking fund instruments. The worst case impact over a 10 year period is \$115 million, as shown on the table on p. 18. See the attached IFF08 risk scenario for interest rates on page 3 of Attachment 1.

Foreign Exchange Rates - Up to \$144 million for a \$.10 US change over a 10 year period

US exchange rate changes of \$.10 were applied to forecast US dollar revenues, fuel and power purchases, and interest payments. The worst case impact over a ten year period is \$144 million, as shown in the table on p. 18 of IFF08. See the attached IFF08 risk scenario for interest rates on page 4 of Attachment 1.

Infrastructure - Greater than \$2.0 billion for a major facility long term outage

This is based on a worst case scenario where a major facility was out of service for an extended period resulting in a loss of generation and the need to purchase imported power and fuel for meet firm commitments. This resulted in a reduction to net export revenues, increased power and fuel costs and reduced water rental. The impact increases to above \$2.0 billion over the next ten years due to financing costs. See the attached IFF risk scenario for major power shortage on attachment 2.

CONSOLIDATED PROJECTED OPERATING STATEMENT (IFF08-1)
Base Case
(In millions of Dollars)

For year ending March 31:

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
REVENUES											
General Consumers Revenue	1,678	1,803	1,890	1,958	2,021	2,068	2,125	2,179	2,234	2,301	2,371
Extraprovincial	619	546	465	477	498	509	524	624	649	651	800
Other	32	25	26	27	27	28	28	29	29	30	30
	<u>2,330</u>	<u>2,373</u>	<u>2,381</u>	<u>2,462</u>	<u>2,546</u>	<u>2,605</u>	<u>2,677</u>	<u>2,832</u>	<u>2,913</u>	<u>2,982</u>	<u>3,201</u>
EXPENSES											
Finance Expense	434	461	470	517	579	553	568	541	553	629	732
Operating & Administrative	418	429	437	452	461	470	480	489	499	522	534
Depreciation & Amortization	377	403	425	470	501	509	527	533	535	566	607
Water Rentals & Assessments	121	112	107	110	113	114	114	115	116	116	121
Fuel & Power Purchased	149	198	199	213	210	226	240	252	267	291	354
Capital & Other Taxes	89	95	98	99	101	106	113	122	132	139	147
Cost of Gas Sold	427	450	463	463	461	460	459	457	456	455	454
	<u>2,016</u>	<u>2,149</u>	<u>2,198</u>	<u>2,324</u>	<u>2,427</u>	<u>2,437</u>	<u>2,501</u>	<u>2,510</u>	<u>2,558</u>	<u>2,717</u>	<u>2,949</u>
Noncontrolling Interest	0	0	0	2	2	0	(2)	(5)	(7)	(9)	(12)
Net Income (Loss)	<u>314</u>	<u>225</u>	<u>183</u>	<u>140</u>	<u>122</u>	<u>168</u>	<u>174</u>	<u>317</u>	<u>348</u>	<u>256</u>	<u>240</u>

CONSOLIDATED PROJECTED OPERATING STATEMENT (IFF08-1)
5 Year Drought
(In millions of Dollars)

For year ending March 31:

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
REVENUES											
General Consumers Revenue	1,678	1,804	1,891	1,959	2,022	2,070	2,120	2,180	2,235	2,302	2,367
Extraprovincial	619	546	267	212	300	366	361	624	649	651	800
Other	32	25	26	27	27	28	28	29	29	30	30
	<u>2,330</u>	<u>2,374</u>	<u>2,184</u>	<u>2,198</u>	<u>2,349</u>	<u>2,463</u>	<u>2,510</u>	<u>2,833</u>	<u>2,914</u>	<u>2,983</u>	<u>3,197</u>
EXPENSES											
Finance Expense	434	462	480	569	680	678	729	728	753	846	966
Operating & Administrative	418	429	437	452	461	470	480	489	499	522	534
Depreciation & Amortization	377	403	424	470	500	508	526	534	535	566	607
Water Rentals & Assessments	121	112	82	76	96	95	99	115	116	116	121
Fuel & Power Purchased	149	198	503	762	332	467	378	252	267	291	354
Capital & Other Taxes	89	95	98	99	101	105	112	122	130	137	145
Cost of Gas Sold	427	450	463	463	461	460	459	457	456	455	454
	<u>2,016</u>	<u>2,149</u>	<u>2,487</u>	<u>2,889</u>	<u>2,630</u>	<u>2,783</u>	<u>2,782</u>	<u>2,697</u>	<u>2,757</u>	<u>2,933</u>	<u>3,181</u>
Noncontrolling Interest	0	0	0	2	2	(0)	(2)	(5)	(7)	(9)	(12)
Net Income (Loss)	<u>314</u>	<u>225</u>	<u>(303)</u>	<u>(689)</u>	<u>(279)</u>	<u>(320)</u>	<u>(274)</u>	<u>131</u>	<u>150</u>	<u>41</u>	<u>3</u>
Net Income (Loss) - Change from base case			(487)	(829)	(401)	(488)	(448)				(2,652)

CONSOLIDATED PROJECTED OPERATING STATEMENT (IFF08-1)
Interest Rate Increase 1%
(In millions of Dollars)

For year ending March 31:

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
REVENUES											
General Consumers Revenue	1,678	1,804	1,891	1,959	2,022	2,070	2,120	2,180	2,235	2,302	2,367
Extraprovincial	619	546	465	477	498	509	524	624	649	651	800
Other	32	25	26	27	27	28	28	29	29	30	30
	<u>2,330</u>	<u>2,374</u>	<u>2,382</u>	<u>2,463</u>	<u>2,547</u>	<u>2,606</u>	<u>2,672</u>	<u>2,833</u>	<u>2,914</u>	<u>2,983</u>	<u>3,197</u>
EXPENSES											
Finance Expense	432	447	456	513	583	555	578	552	568	666	802
Operating & Administrative	418	429	437	452	461	470	480	489	499	522	534
Depreciation & Amortization	377	403	425	470	501	509	527	536	537	571	614
Water Rentals & Assessments	121	112	107	110	113	114	114	115	116	116	121
Fuel & Power Purchased	149	198	199	213	210	226	240	252	267	291	354
Capital & Other Taxes	89	95	98	99	101	106	113	122	132	139	147
Cost of Gas Sold	427	450	463	463	461	460	459	457	456	455	454
	<u>2,015</u>	<u>2,134</u>	<u>2,185</u>	<u>2,320</u>	<u>2,431</u>	<u>2,439</u>	<u>2,511</u>	<u>2,523</u>	<u>2,576</u>	<u>2,760</u>	<u>3,025</u>
Noncontrolling Interest	0	0	0	4	5	3	1	(2)	(5)	(7)	(10)
Net Income (Loss)	<u>315</u>	<u>240</u>	<u>197</u>	<u>146</u>	<u>121</u>	<u>170</u>	<u>162</u>	<u>308</u>	<u>334</u>	<u>216</u>	<u>162</u>
Net Income (Loss) - Change from base case	2	15	14	6	(1)	3	(12)	(9)	(14)	(39)	(78) (114)

CONSOLIDATED PROJECTED OPERATING STATEMENT (IFF08-1)
CAD\$ Increased \$0.10
(In millions of Dollars)

For year ending March 31:

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
REVENUES											
General Consumers Revenue	1,678	1,804	1,891	1,959	2,022	2,070	2,120	2,180	2,235	2,302	2,367
Extraprovincial	563	497	424	436	455	466	480	571	595	596	731
Other	32	25	26	27	27	28	28	29	29	30	30
	<u>2,273</u>	<u>2,326</u>	<u>2,341</u>	<u>2,422</u>	<u>2,504</u>	<u>2,563</u>	<u>2,628</u>	<u>2,780</u>	<u>2,859</u>	<u>2,928</u>	<u>3,128</u>
EXPENSES											
Finance Expense	409	439	449	504	567	521	544	511	527	599	710
Operating & Administrative	418	429	437	452	461	470	480	489	499	522	534
Depreciation & Amortization	377	403	424	470	500	508	526	534	535	566	607
Water Rentals & Assessments	121	112	106	110	113	113	114	114	115	115	121
Fuel & Power Purchased	144	188	187	201	199	214	228	239	254	276	333
Capital & Other Taxes	89	95	98	99	101	105	112	122	131	137	145
Cost of Gas Sold	427	450	463	463	461	460	459	457	456	455	454
	<u>1,986</u>	<u>2,117</u>	<u>2,165</u>	<u>2,298</u>	<u>2,402</u>	<u>2,391</u>	<u>2,463</u>	<u>2,466</u>	<u>2,517</u>	<u>2,671</u>	<u>2,904</u>
Noncontrolling Interest	0	0	0	2	2	(0)	(2)	(5)	(7)	(9)	(12)
Net Income (Loss)	<u>288</u>	<u>209</u>	<u>176</u>	<u>126</u>	<u>104</u>	<u>172</u>	<u>163</u>	<u>309</u>	<u>335</u>	<u>248</u>	<u>212</u>
Net Income (Loss) - Change from base case	(26)	(15)	(7)	(14)	(18)	4	(11)	(8)	(13)	(8)	(28) (143)

ELECTRIC OPERATIONS (MH03-1)
PROJECTED OPERATING STATEMENT
Base Case
(In millions of dollars)

For year ending March 31:	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
REVENUES:											
General Consumers Revenue											
at approved rates	901	917	923	931	939	946	953	960	968	976	985
additional *	-	28	51	77	103	130	158	187	217	249	282
Extraprovincial	394	451	430	435	448	480	491	583	621	653	660
Other	8	7	7	7	7	7	7	7	8	8	8
	<u>1,303</u>	<u>1,403</u>	<u>1,411</u>	<u>1,450</u>	<u>1,497</u>	<u>1,563</u>	<u>1,609</u>	<u>1,737</u>	<u>1,814</u>	<u>1,886</u>	<u>1,935</u>
EXPENSES:											
Finance Expense	471	504	529	539	565	579	582	639	666	662	638
Depreciation	274	288	298	309	323	336	342	361	374	382	390
Cost of Operations	304	307	309	315	321	330	337	348	355	362	370
Water Rentals	79	104	99	98	98	99	99	102	104	104	104
Tax Expense	51	53	55	58	60	62	64	65	65	65	65
Fuel & Power Purchased	480	106	91	101	112	127	141	143	150	160	169
	<u>1,659</u>	<u>1,362</u>	<u>1,381</u>	<u>1,420</u>	<u>1,479</u>	<u>1,533</u>	<u>1,565</u>	<u>1,658</u>	<u>1,714</u>	<u>1,735</u>	<u>1,736</u>
Noncontrolling Interest	-	-	-	-	-	-	-	(2)	(5)	(7)	(9)
Net Income (Loss)	<u>(356)</u>	<u>41</u>	<u>30</u>	<u>30</u>	<u>18</u>	<u>30</u>	<u>44</u>	<u>77</u>	<u>95</u>	<u>144</u>	<u>190</u>

ELECTRIC OPERATIONS (MH03-1)
PROJECTED OPERATING STATEMENT
Major Power Shortage in 2004/2005
(In millions of dollars)

For year ending March 31:	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
REVENUES:												
General Consumers Revenue												
at approved rates	901	917	923	931	939	946	953	960	968	976	985	
additional *	-	28	51	77	103	130	158	187	217	249	282	
Extraprovincial	394	293	430	435	448	480	491	583	621	653	660	
Other	8	7	7	7	7	7	7	7	8	8	8	
	<u>1,303</u>	<u>1,245</u>	<u>1,411</u>	<u>1,450</u>	<u>1,497</u>	<u>1,563</u>	<u>1,609</u>	<u>1,737</u>	<u>1,814</u>	<u>1,886</u>	<u>1,935</u>	
EXPENSES:												
Finance Expense	471	524	581	593	663	688	699	766	802	805	796	
Depreciation	274	288	298	309	323	336	342	361	374	382	390	
Cost of Operations	304	307	309	315	321	330	337	348	355	362	370	
Water Rentals	79	-	99	98	98	99	99	102	104	104	104	
Tax Expense	51	53	55	58	61	63	64	65	65	66	66	
Fuel & Power Purchased	480	1,151	91	101	112	127	141	143	150	160	169	
	<u>1,659</u>	<u>2,323</u>	<u>1,433</u>	<u>1,474</u>	<u>1,578</u>	<u>1,643</u>	<u>1,682</u>	<u>1,785</u>	<u>1,850</u>	<u>1,879</u>	<u>1,895</u>	
Noncontrolling Interest	-	-	-	-	-	-	-	(2)	(5)	(7)	(9)	
Net Income (Loss)	<u>(356)</u>	<u>(1,078)</u>	<u>(22)</u>	<u>(24)</u>	<u>(81)</u>	<u>(80)</u>	<u>(73)</u>	<u>(50)</u>	<u>(41)</u>	<u>-</u>	<u>31</u>	
Net Income (Loss) - Change from base case	-	(1,119)	(52)	(54)	(99)	(110)	(117)	(127)	(136)	(144)	(159)	(2,117)

CAC/MSOS/MH II-111

Subject: Risk

Reference: CAC/MSOS/MH I – 114(a)

Preamble: With respect, the reply to CAC/MSOS/MH I – 114(a) was unresponsive. CAC/MSOS requested calculations to support MH’s quantification of risk contained in document filed in the current GRA. CAC/MSOS did not ask descriptions provided. Rather it specifically requested the mechanical calculations together with assumptions used in those calculations.

b) Please confirm that MH does not have calculations to support its quantifications of risk published in the document filed in support of its current application.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-111(a).

CAC/MSOS/MH II-111

Subject: Risk

Reference: CAC/MSOS/MH I – 114(a)

Preamble: With respect, the reply to CAC/MSOS/MH I – 114(a) was unresponsive. CAC/MSOS requested calculations to support MH’s quantification of risk contained in document filed in the current GRA. CAC/MSOS did not ask descriptions provided. Rather it specifically requested the mechanical calculations together with assumptions used in those calculations.

- c) If the confirmation sought in (b) is not provided, describe the calculations to support MH’s quantification of risk.**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-111(a).

CAC/MSOS/MH II-111

Subject: Risk

Reference: CAC/MSOS/MH I – 114(a)

Preamble: With respect, the reply to CAC/MSOS/MH I – 114(a) was unresponsive. CAC/MSOS requested calculations to support MH’s quantification of risk contained in document filed in the current GRA. CAC/MSOS did not ask descriptions provided. Rather it specifically requested the mechanical calculations together with assumptions used in those calculations.

- d) Please provide copies of all work papers, analysis and support which clearly demonstrate how the amounts quantified for risk were derived.**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-111(a).

CAC/MSOS/MH II-112

Reference: CAC/MSOS/MH I – 114(b)
Volume 2, Appendix 4.1, page 81

Preamble: MH states:

Manitoba Hydro faces numerous risks in the fulfillment of its mandate and manages all identified risks through a systematic, proactive and integrated process designed to balance the following objectives:

- **to identify threats that affect the achievement of the Corporation’s mission and mandate;**
- **to mitigate the consequence of negative occurrences; and**
- **to take advantage of opportunities which provide benefits to all stakeholders. [emphasis added]**

MH also states:

Opportunities being pursued by Manitoba Hydro are captured in the Corporate Strategic Plan filed with the Application under Appendix 3.1. Opportunities are identified as goals and strategies which benefit stakeholders from a societal, environmental and financial perspective. [emphasis added]

- a) **Please confirm that there is no specific program or approach to identify opportunities, goals and strategies, benefits or the stakeholders for which the benefits are identified.**

ANSWER:

The Corporate Strategic Planning process and plan is the principal means by which the Corporation identifies and communicates opportunities, goals, strategies, etc.

CAC/MSOS/MH II-112

Reference: CAC/MSOS/MH I – 114(b)
Volume 2, Appendix 4.1, page 81

Preamble: MH states:

Manitoba Hydro faces numerous risks in the fulfillment of its mandate and manages all identified risks through a systematic, proactive and integrated process designed to balance the following objectives:

- **to identify threats that affect the achievement of the Corporation’s mission and mandate;**
- **to mitigate the consequence of negative occurrences; and**
- **to take advantage of opportunities which provide benefits to all stakeholders. [emphasis added]**

MH also states:

Opportunities being pursued by Manitoba Hydro are captured in the Corporate Strategic Plan filed with the Application under Appendix 3.1. Opportunities are identified as goals and strategies which benefit stakeholders from a societal, environmental and financial perspective. [emphasis added]

b) If the confirmation sought in (a) is not provided, given that “opportunities are identified as goals and strategies which benefit stakeholders”, please provide a table which identifies the following:

- i. The stakeholder**
- ii. The opportunity**
- iii. The goal**
- iv. The strategy**
- v. A description of the benefit**
- vi. A quantification of the benefit**
- vii. A statement of when the benefit was achieved or is forecast to be achieved**

ANSWER:

The following table provides a high level summary of the goals, strategies, stakeholders, benefits, etc contained within the Corporate Strategic Plan.

Goals / Strategies	Stakeholder	Benefits	Quantification (Measures and Targets)	Achievement Date
Safety in the work environment	Employees	Human health and wellness	High risk incidents / Accident severity and frequency rates	Ongoing
Exceptional Value for Customers	Customers	Provision of a reliable supply of power at reasonable rates	Electricity and gas rates / Customer outage times and frequency / CEA customer Service Index	Ongoing
Working Relationships with Aboriginal Peoples	Aboriginals	Aboriginal employment	% Aboriginal employment Corporate and Northern	Ongoing
Financial Strength	All Manitobans	Financial strength / sustainability	Interest coverage / Capital coverage / Debt: Equity	Ongoing
Maximizing Export Power Net Revenues	All Manitobans	Financial strength / low domestic rates	Firm energy available for export	Ongoing
Workforce Reflecting Manitoba Demographics	Employees / Potential Employees	Motivated employees / equal opportunity employer	Women , Persons with disabilities and Visible minorities	Ongoing

Goals / Strategies	Stakeholder	Benefits	Quantification (Measures and Targets)	Achievement Date
Protecting the Environment	All Manitobans	Environmental protection and sustainable energy supply and service	CEA Customer Service Index / Greenhouse gas emissions	Ongoing
Energy Conservation	All Manitobans	Energy Conservation	Demand Side Mgmt - Energy and capacity saved	Ongoing

CAC/MSOS/MH II-113

Subject: Credit Rating

**Reference: CAC/MSOS/MH I – 115(a)
CAC/MSOS/MH I – 108(h)
CAC/MSOS/MH I – 8(d), and Appendix 36**

Preamble: MH states:

Generally, the three credit rating agencies review Manitoba Hydro's key financial ratios (Debt/ Equity Ratio, Interest Coverage Ratio, Capital Coverage Ratio, and Net Income).

a) Please provide the references from the reports of the credit rating agencies to support the above noted statement.

ANSWER:

Manitoba Hydro's key financial ratios are accepted by the credit rating agencies as part of their overall review. Specific references to financial ratios can be found throughout their reports, including within the following sections:

- DBRS February 12, 2009 report: please see the Financial Information section on page 1 and the Key Financial Ratios on page 6 of the report.
- Moody's Investors Service February 8, 2010 report: please see pages 2, 3 and 4.
- Standard & Poor's November 20, 2008 report: please see Table 3 on page 5 of the report.

CAC/MSOS/MH II-113

Subject: Credit Rating

**Reference: CAC/MSOS/MH I – 115(a)
CAC/MSOS/MH I – 108(h)
CAC/MSOS/MH I – 8(d), and Appendix 36**

Preamble: MH states:

Generally, the three credit rating agencies review Manitoba Hydro's key financial ratios (Debt/ Equity Ratio, Interest Coverage Ratio, Capital Coverage Ratio, and Net Income).

- b) Confirm that total revenue used in the Proof of Revenue, in Tab 10.1, assumes the forecast revenue is derived from the sum of total expenses plus net income less extraprovincial and other revenue.**

ANSWER:

Confirmed.

CAC/MSOS/MH II-113

Subject: Credit Rating

**Reference: CAC/MSOS/MH I – 115(a)
CAC/MSOS/MH I – 108(h)
CAC/MSOS/MH I – 8(d), and Appendix 36**

Preamble: MH states:

Generally, the three credit rating agencies review Manitoba Hydro's key financial ratios (Debt/ Equity Ratio, Interest Coverage Ratio, Capital Coverage Ratio, and Net Income).

- c) If the confirmation sought in (b) is not provided, please clarify the derivation of revenue used for the purposes of the Proof of Revenue in Tab 10.1.**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-113(b).

CAC/MSOS/MH II-113

Subject: Credit Rating

**Reference: CAC/MSOS/MH I – 115(a)
CAC/MSOS/MH I – 108(h)
CAC/MSOS/MH I – 8(d), and Appendix 36**

Preamble: MH states:

Generally, the three credit rating agencies review Manitoba Hydro's key financial ratios (Debt/ Equity Ratio, Interest Coverage Ratio, Capital Coverage Ratio, and Net Income).

- d) With respect to Net Income contained in the GRA forecast (such as that provided in CAC/MSOS/MH I – 108(h)), please provide the following:**
- i. A description of how forecast Net Income amounts are derived.**
 - ii. A detailed calculation (showing all quantitative calculations) of the two forecast Net Income amounts, one for 2010/11 of \$78 million and one for 2011/12 of \$87 million.**
 - iii. If the derivation of forecast Net Income is a residual amount, please provide the formula used by MH to calculate the forecast Net Income.**
 - iv. A description of all parameters used to determine forecast Net Income.**

ANSWER:

Net income is derived from the forecast of revenues minus expense as provided in IFF09 (Appendix 5.2).

CAC/MSOS/MH II-114

Subject: Export Revenue

Reference: PUB/MH I – 10(c)

Preamble: MH provided Net Export Revenue as a % of Total Revenue. The ratio for 2008/09 is shown as 23%. The ratio shown in the annual report is 24.8%.

- a) Please show the calculations to derive each of these, clearly showing the separate components of the calculation and the precise references to where the data can be found in the filings.**

ANSWER:

Please see the following tables for the historical and forecast calculations of Net Export Revenue as a % of Total Revenue as reported in PUB/MH I-10(c).

HISTORICAL DATA

Fuel and Power Purchased

	2004/05	2005/06	2006/07	2007/08	2008/09
	Actual	Actual	Actual	Actual	Actual
Fuel and Power Purchased (as reported on Annual Report)	135	125	226	134	176
LESS: Diesel Costs (not applicable to exports)	2	3	3	3	4
Total Fuel and Power Purchased for Extraprovincial Power Sales	\$ 133	\$ 122	\$ 223	\$ 131	\$ 172

Water Rental Expense Allocated to Extraprovincial Power Sales

	2004/05	2005/06	2006/07	2007/08	2008/09
	Actual	Actual	Actual	Actual	Actual
System Supply Generation	31548	37620	32132	35354	34528
Manitoba Load a Generation	22452	22622	23327	23985	24285
Exports	9096	14998	8805	11369	10243
Portion to allocate to Extraprovincial Water Rentals and Assessments	0.28832	0.39867	0.27403	0.32158	0.29666
	112	131	112	124	123
Portion of Water Rentals for Extraprovincial Power Sales	\$ 32	\$ 52	\$ 31	\$ 40	\$ 36

Source: Annual Report Financial Statistics and Operating Statistics

Net Export Revenue as a % of Total Revenue Data Table

	2004/05	2005/06	2006/07	2007/08	2008/09
	Actual	Actual	Actual	Actual	Actual
Revenue					
General Consumers	939	984	1,024	1,075	1,127
Extraprovincial	554	827	592	625	623
Other	4	5	5	8	16
Total Revenue	\$ 1,497	\$ 1,816	\$ 1,621	\$ 1,707	\$ 1,765

Source: 2004/05 - 2008/09 data from 2008 GRA (less Subsidiary revenue) and Current 2010/11&2011/12 GRA

Net Export Revenue

Extraprovincial Revenue	554	827	592	625	623
Total Fuel and Power Purchased for Extraprovincial Power Sales (from above calc)	133	122	223	131	172
Portion of Water Rentals for Extraprovincial Power Sales (from above calc)	32	52	31	40	36
NET EXPORT REVENUE	389	653	338	454	414

**Net Export Revenue as a % of Total
Revenue**

26%	36%	21%	27%	23%
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FORECAST DATA

Fuel and Power Purchased

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
Total Fuel and Power Purchased	\$ 103	\$ 131	\$ 248	\$ 249	\$ 259	\$ 268	\$ 296	\$ 341	\$ 362	\$ 440
LESS: Costs not applicable to exports										
Thermal Costs		8	41	41	44	45	55	61	70	75
Water & Chemical Supply		0	0	0	0	0	0	0	0	0
Diesel	4	4	4	5	5	5	5	5	6	6
Fuel and Power Purchased for Extraprovincial Sales	\$ 99	\$ 118	\$ 202	\$ 202	\$ 210	\$ 217	\$ 236	\$ 274	\$ 286	\$ 358

Source: Fuel and Power Purchased (IFF-09)

Water Rental Expense Allocated to Extraprovincial Power Sales

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
System Supply Generation	33,276	30,684	33,114	33,802	33,998	33,964	34,089	34,326	34,186	35,136
Manitoba Load a Generation	23,968	24,346	24,728	25,075	25,413	26,030	26,439	26,790	26,743	26,929
Exports (System Supply less Manitoba Load)	9,308	6,338	8,386	8,727	8,585	7,934	7,650	7,536	7,443	8,207
Portion to allocate to Extraprovincial (export portion of system supply)	28%	21%	25%	26%	25%	23%	22%	22%	22%	23%
Water Rentals and Assessments (from IFF-09 Projected Operating Statement)	120	110	111	113	114	114	115	115	115	115
Portion of Water Rentals for Extraprovincial Power Sales	\$ 33	\$ 23	\$ 28	\$ 29	\$ 29	\$ 27	\$ 26	\$ 25	\$ 25	\$ 27

**Net Export Revenue as a % of Total Revenue
Data Table**

	2009/10 Forecast	2010/11 Forecast	2011/12 Forecast	2012/13 Forecast	2013/14 Forecast	2014/15 Forecast	2015/16 Forecast	2016/17 Forecast	2017/18 Forecast	2018/19 Forecast
Revenue										
General Consumers	1,160	1,193	1,246	1,305	1,365	1,441	1,510	1,582	1,653	1,725
Extraprovincial	414	383	554	583	615	590	701	729	742	894
Other	7	7	8	8	8	8	8	9	9	9
Total Revenue	\$ 1,581	\$ 1,584	\$ 1,808	\$ 1,895	\$ 1,987	\$ 2,039	\$ 2,219	\$ 2,320	\$ 2,404	\$ 2,628

Source: 2009/10 - 2018/19 data from MH09-01
Income Stmt

Net Export Revenue

Extraprovincial Revenue	414	383	554	583	615	590	701	729	742	894
Total Fuel and Power Purchased for Extraprovincial Power Sales (from above calc)	99	118	202	202	210	217	236	274	286	358
Portion of Water Rentals for Extraprovincial Power Sales (from above calc)	33	23	28	29	29	27	26	25	25	27
NET EXPORT REVENUE	282	243	324	351	376	346	439	430	432	509

Net Export Revenue as a % of Total Revenue	18%	15%	18%	19%	19%	17%	20%	19%	18%	19%
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CAC/MSOS/MH II-114

Subject: Export Revenue

Reference: PUB/MH I – 10(c)

Preamble: MH provided Net Export Revenue as a % of Total Revenue. The ratio for 2008/09 is shown as 23%. The ratio shown in the annual report is 24.8%.

b) To the extent that the calculation, the components of the calculation or the derivation of the 23% differs from those of the 24.8%, please replicate part (a) for all years presented in PUB/MH I – 10(c).

ANSWER:

The two main differences between the calculations are:

- For the 23% Extraprovincial Revenue was used in the Net Export Revenue calculation, for the 24.8% only Export Revenues were used (Extraprovincial revenue includes transmission credits)
- In calculating the Fuel and Power Purchased the 23% includes Transmission costs which were not included in the 24.8% calculation.

The following table outlines the differences in the two calculations.

Fuel and Power Purchased

	<u>2008/09 Actual</u>	<u>Annual Report</u>	
Fuel and Power Purchased (as reported on Annual Report)	176	147	includes gas, coal and power purchases, does not include Transmission costs
LESS: Diesel Costs (not applicable to exports)	4		
Total Fuel and Power Purchased for Extraprovincial Power Sales	<u>\$ 172</u>	<u>\$ 147</u>	

Water Rental Expense Allocated to Extraprovincial Power Sales

	<u>2008/09 Actual</u>		
System Supply Generation	34528		
Manitoba Load a Generation	24285		
Exports	10243		
Portion to allocate to Extraprovincial Water Rentals and Assessments	0.29666 <u>123</u>	0.26915 <u>115</u>	=(net metered interchange - total thermal)/total Hydraulic at Generation
Portion of Water Rentals for Extraprovincial Power Sales	<u>\$ 36</u>	<u>\$ 31</u>	

Net Export Revenue as a % of Total Revenue Data Table

	<u>2008/09 Actual</u>	<u>Annual Report</u>	
Revenue			
General Consumers	1,127	1,126	
Extraprovincial	623	601	
Other	16		
Total Revenue	<u>\$ 1,765</u>	<u>\$ 1,727</u>	
Net Export Revenue			
Extraprovincial Revenue	623	601	used Export Sales, does not include transmission credits
Total Fuel and Power Purchased for Extraprovincial Power Sales (from above calc)	172	147	not including transmission costs. \$24M
Portion of Water Rentals for Extraprovincial Power Sales (from above calc)	36	31	different water rental number than in annual report and portion allocation different
NET EXPORT REVENUE	<u>414</u>	<u>423</u>	
Net Export Revenue as a % of Total Revenue	23%	24.8%	

CAC/MSOS/MH II-115

Subject: Financial Results

Reference: PUB/MH I - 27

Preamble: The Board requested data beginning 2002/03. MH provided data beginning 2004/05.

a) Please provide the data requested by the Board beginning in 2002/03.

ANSWER:

The tables have been expanded to include 2003/04 and are attached. Fiscal year 2002/03 has not been included as it is not fully comparable due to the acquisition of Winnipeg Hydro mid way through the year.

**Electric Operations
Statement of Income**

(millions of dollars)

For the year ended March 31:	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Revenues						
General consumers revenue	918	939	984	1 024	1 075	1 127
Extraprovincial	351	554	827	592	625	623
Other	7	4	5	5	8	16
	<u>1 276</u>	<u>1 497</u>	<u>1 816</u>	<u>1 621</u>	<u>1 708</u>	<u>1 766</u>
Expenses						
Operating and administrative	284	299	311	323	323	360
Finance expense	453	468	468	467	401	401
Depreciation and amortization	274	290	301	311	324	346
Water rentals and assessments	71	112	131	113	124	123
Fuel and power purchased	569	135	125	226	135	176
Capital and other taxes	50	51	54	55	57	64
Corporate allocation	4	6	7	7	7	8
	<u>1 704</u>	<u>1 360</u>	<u>1 396</u>	<u>1 502</u>	<u>1 371</u>	<u>1 478</u>
Net Income (Loss)	<u>(428)</u>	<u>137</u>	<u>420</u>	<u>119</u>	<u>337</u>	<u>288</u>
Financial Ratios						
Debt Ratio*	0.87	0.85	0.81	0.80	0.73	0.77
Interest Coverage	0.12	1.27	1.83	1.24	1.73	1.60
Capital Coverage	(0.42)	1.20	2.52	1.12	1.65	1.87

* Debt Ratio for 2008 and 2009 has been restated as per CAC/MSOS/MH I-116(b)

**Electric Operations
Balance Sheet**

(millions of dollars)

As at March 31:	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Assets						
Plant in service	9 887	10 223	10 528	10 868	11 308	11 915
Accumulated depreciation	<u>3 068</u>	<u>3 267</u>	<u>3 475</u>	<u>3 734</u>	<u>3 987</u>	<u>4 231</u>
Net plant in service	6 819	6 956	7 053	7 134	7 321	7 684
Construction in progress	374	474	600	873	1 235	1 446
Current and other assets	2 056	1 858	2 092	2 210	2 503	2 493
Goodwill	<u>108</u>	<u>108</u>	<u>108</u>	<u>108</u>	<u>108</u>	<u>108</u>
	<u><u>9 357</u></u>	<u><u>9 396</u></u>	<u><u>9 853</u></u>	<u><u>10 325</u></u>	<u><u>11 167</u></u>	<u><u>11 731</u></u>
Liabilities and Retained Earnings						
Long-term debt	6 863	6 800	6 861	6 614	6 985	7 520
Current and other liabilities	1 549	1 487	1 462	2 058	1 813	2 030
Contributions in aid of construction	238	264	265	267	269	266
Share capital	0	0	0	0	0	0
Retained earnings	707	845	1 265	1 386	1 795	2 084
Accumulated other comprehensive income (loss)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>305</u>	<u>(169)</u>
	<u><u>9 357</u></u>	<u><u>9 396</u></u>	<u><u>9 853</u></u>	<u><u>10 325</u></u>	<u><u>11 167</u></u>	<u><u>11 731</u></u>

**Electric Operations
Statement of Cash Flows**

(millions of dollars)

For the year ended March 31:

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Operating Activities						
Cash receipts from customers	1 258	1 467	1 797	1 593	1 699	1 829
Cash paid to suppliers and employees	(945)	(580)	(608)	(668)	(597)	(694)
Interest paid	(516)	(510)	(510)	(539)	(536)	(504)
Interest received	46	29	33	32	33	35
	<u>(157)</u>	<u>406</u>	<u>712</u>	<u>418</u>	<u>599</u>	<u>666</u>
Financing Activities						
Proceeds from long-term debt	1 013	300	180	172	981	423
Sinking fund withdrawals	269	236	84	0	0	261
Retirement of long-term debt	(474)	(239)	(110)	(79)	(311)	(366)
Other	(56)	(58)	(111)	120	(189)	97
	<u>752</u>	<u>239</u>	<u>43</u>	<u>213</u>	<u>481</u>	<u>415</u>
Investing Activities						
Property, plant & equipment, net of contributions	(466)	(482)	(471)	(616)	(802)	(888)
Sinking fund payment	(106)	(100)	(103)	(100)	(96)	(124)
Other	(47)	(60)	(71)	(33)	(50)	(32)
	<u>(619)</u>	<u>(642)</u>	<u>(645)</u>	<u>(749)</u>	<u>(948)</u>	<u>(1 044)</u>
Net increase (decrease) in cash	(24)	3	110	(118)	132	37
Cash at beginning of year	30	6	9	119	1	133
Cash at end of year	<u>6</u>	<u>9</u>	<u>119</u>	<u>1</u>	<u>133</u>	<u>170</u>

CAC/MSOS/MH II-116

Reference: CAC/MSOS/MH I – 112(f)
CAC/MSOS/MH I – 21(d)

Preamble: CAC/MSOS requested actual information for the year preceding the two test years in the current application. In response, MH states:

Actual information related to 2009/10 will not be available until August 2010.

Public companies typically release results within 60 days. Also, as noted from CAC/MSOS/MH I – 21(d), MH was able to provide some actual 2009/10 data.

- a) **For the purpose of the record of this proceeding, please provide the actual results 2009/10 in the format of the IFF as soon as the results are released.**

ANSWER:

The 2009/10 actual results will be provided when they are approved for release.

CAC/MSOS/MH II-117 (REVISED)

Reference: CAC/MSOS/MH I-176(c), (d) and (e)
MSOS/MH I-176(e)

Preamble: In the preamble to CAC/MSOS/MH I-176(c), (d) and (e), we noted that Emera annual reports contained prospective comments on the forecast levels of floating rate debt. The examples referred to indicated for 2005 an 18% level.

In Table 17 of the NBF report, NBF appears to indicate a materially different level, being 5%, which, we learn in CAC/MSOS/MH I-176(e), was calculated by comparing the aggregate of the short term debt and current portion of LTD to the total debt, based on numbers drawn from the annual report.

CAC/MSOS observes that this methodology appears to suffer from the assumption that all long term debt is fixed. CAC/MSOS wishes to understand whether the NBF calculation is accurate.

- a) Are we correct in inferring that the methodology applied to the Emera analysis was based on the assumption that all long term debt [perhaps excluding the current portion] was fixed?

ANSWER:

NBF consistently utilized the audited financial statements as its data source for the purposes of determining an entity's fixed versus floating rate debt percentage.

It is important to recognize that due to the inherent limitations of comparing organizations that have varying operating and business environments, the purpose of the peer group analysis was to obtain general insight into the relevant peer group's choice of floating rate debt mix data. Any data variations inferred by the Intervener would not have affected the modeling performed by NBF, nor the following peer group observations:

- a) “Manitoba Hydro’s peers utilized market timing to adjust their fixed vs. floating rate debt mix to account for prevailing interest conditions [page 23, *NBF Report*], and that,
- b) “This analysis yielded a statistically significant correlation between the crown utility peers’ proportion of export revenues and their levels of floating rate debt” [page 4, *NBF Report*] and that “as revenues become more dependent on exports, the floating rate debt component becomes more prevalent” [page 28, *NBF Report*].

Emera’s audited financial reports provided no breakdown of fixed versus floating rate debt for each of their financial instruments. NBF was aware of Emera’s prospective comments on the floating rate debt portfolio, for example on page 44 of its *2007 Annual Financial Report*, but this was not of sufficient detail for NBF’s analysis as it was noted in the audited statements that the figure was prior to hedging. Therefore, as the prospective comments did not necessarily represent the actual floating rate debt percentage after hedging, and as NBF did not have transparency into Emera’s hedging activities, NBF made the assumption that all of Emera’s reported long term debt after hedging was fixed.

NBF was not engaged to drill deeper than the audited financial reports of the peers selected in their analysis, nor were they engaged to provide an evaluation of the peer group’s hedging activities. Therefore, no reconciliation was performed between Emera’s prospective comments and its audited results.

Note that the Emera data was not utilized for NBF’s peer group correlations. In Figure 8 on page 28 of the NBF report, a graph was provided depicting the peer group floating rate debt % (2008) versus export revenue % (crown utilities), and a correlation of $R^2 = 0.77$ was calculated by NBF for the charted data points.

Bloomberg DDIS queries (which do not include interest rate derivatives, lines of credit or bank facilities) would not have provided a complete representation of the entire debt portfolio nor the net result of Emera’s hedging activities, and hence were not utilized by NBF in their peer group analysis. Interest rate derivatives with the exception of futures, are bilateral contracts between a buyer and seller, and not traded on an exchange. As such, they are more of a private nature and would not be shown on Bloomberg DDIS queries.

CAC/MSOS/MH II-117

Reference: CAC/MSOS/MH I-176(c), (d) and (e)
MSOS/MH I-176(e)

Preamble: In the preamble to CAC/MSOS/MH I-176(c), (d) and (e), we noted that Emera annual reports contained prospective comments on the forecast levels of floating rate debt. The examples referred to indicated for 2005 an 18% level.

In Table 17 of the NBF report, NBF appears to indicate a materially different level, being 5%, which, we learn in CAC/MSOS/MH I-176(e), was calculated by comparing the aggregate of the short term debt and current portion of LTD to the total debt, based on numbers drawn from the annual report.

CAC/MSOS observes that this methodology appears to suffer from the assumption that all long term debt is fixed. CAC/MSOS wishes to understand whether the NBF calculation is accurate.

b) Was NBF aware of the prospective comments on the floating rate debt portfolio of Emera found, for example, on page 44 of the 2007 annual return?

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-117(a).

CAC/MSOS/MH II-117

Reference: CAC/MSOS/MH I-176(c), (d) and (e)
MSOS/MH I-176(e)

Preamble: In the preamble to CAC/MSOS/MH I-176(c), (d) and (e), we noted that Emera annual reports contained prospective comments on the forecast levels of floating rate debt. The examples referred to indicated for 2005 an 18% level.

In Table 17 of the NBF report, NBF appears to indicate a materially different level, being 5%, which, we learn in CAC/MSOS/MH I-176(e), was calculated by comparing the aggregate of the short term debt and current portion of LTD to the total debt, based on numbers drawn from the annual report.

CAC/MSOS observes that this methodology appears to suffer from the assumption that all long term debt is fixed. CAC/MSOS wishes to understand whether the NBF calculation is accurate.

- c) In what manner did NBF financial attempt to reconcile the significant difference between the prospective comments on the floating rate debt portfolio for 2008 and other years with the values it calculated?

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-117(a).

CAC/MSOS/MH II-117

Reference: CAC/MSOS/MH I-176(c), (d) and (e)
MSOS/MH I-176(e)

Preamble: In the preamble to CAC/MSOS/MH I-176(c), (d) and (e), we noted that Emera annual reports contained prospective comments on the forecast levels of floating rate debt. The examples referred to indicated for 2005 an 18% level.

In Table 17 of the NBF report, NBF appears to indicate a materially different level, being 5%, which, we learn in CAC/MSOS/MH I-176(e), was calculated by comparing the aggregate of the short term debt and current portion of LTD to the total debt, based on numbers drawn from the annual report.

CAC/MSOS observes that this methodology appears to suffer from the assumption that all long term debt is fixed. CAC/MSOS wishes to understand whether the NBF calculation is accurate.

d) Was the methodology applied to Emera consistently applied to the other “Peers”?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-117(a).

CAC/MSOS/MH II-117

Reference: CAC/MSOS/MH I-176(c), (d) and (e)
MSOS/MH I-176(e)

Preamble: In the preamble to CAC/MSOS/MH I-176(c), (d) and (e), we noted that Emera annual reports contained prospective comments on the forecast levels of floating rate debt. The examples referred to indicated for 2005 an 18% level.

In Table 17 of the NBF report, NBF appears to indicate a materially different level, being 5%, which, we learn in CAC/MSOS/MH I-176(e), was calculated by comparing the aggregate of the short term debt and current portion of LTD to the total debt, based on numbers drawn from the annual report.

CAC/MSOS observes that this methodology appears to suffer from the assumption that all long term debt is fixed. CAC/MSOS wishes to understand whether the NBF calculation is accurate.

- e) Does the NBF author of the report have access to a Bloomberg machine with the capacity to do a DDIS query on Emera debt to indicate its outstanding and matured issues and which would identify fixed and floating coupon issues and their indicated maturity?

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-117(a).

CAC/MSOS/MH II-118 (REVISED)

Reference: CAC/MSOS/MH I-176(a)
CAC/MSOS/MH I-176(b)

Preamble: In CAC/MSOS/MH I-176(a), we asked:

For the data points noted as being 2008 in Table 17, please provide the date of the financial statements for each of the “Peers” therein listed.

In CAC/MSOS/MH I-146(d), we obtained MH quarterly data, for the period March 2004 to December 2009 setting out the proportion of short term notes and floating rate debt for MH.

The table below compares the March 31 MH data from CAC/MSOS/MH I-146(d), to the MH data from Table 17.

	2004	2005	2006	2007	2008	
Table 17	17%	22%	19%	19%	19%	
CAC/MSOS/MH I-146(d)	21.90%	18.80%	16.60%	19.00%	20.50%	March data
CAC/MSOS/MH I-146(d)	19.30%	18.00%	18.20%	18.50%	20.90%	December data

CAC/MSOS wishes to better understand NBF methodology and the comparability of the data presented, in the “in-depth” analysis undertaken by NBF.

- a) Please provide the name of the source document, the date of the data, and the specific page reference to each of the data inputs which lead to the calculation of the 2004-2008 Manitoba Hydro values found in Table 17.

ANSWER:

Please see the response to PUB/MH I-174(a) wherein NBF filed a revised Table 17 such that the Manitoba Hydro information reconciles to the actual March 31 values in CAC/MSOS/MH I-146(d), as well as to Manitoba Hydro’s records for the fiscal years ending March 31, 2000 - 2003.

The footnote in the response to PUB/MH I-174(a) states “Historical financial data as per company reports, rounded to the nearest percentage point. NBF files this revision to Table 17 of its report, based on historical Manitoba Hydro data revised as per company information. This adjustment is for consistency purposes only and does not affect NBF’s findings in the report.”

In addition to Manitoba Hydro’s audited financial statements, NBF utilized internal information provided by Manitoba Hydro for the determination of Manitoba Hydro’s fixed versus floating rate debt percentages. The erroneous values contained in the original Table 17 are not supported by Manitoba Hydro data. Please see the attached schedule of Manitoba Hydro’s Floating Rate Debt Analysis for each of the periods noted in the preamble to this Information Request.

Floating Rate Debt Analysis - Treasury

Series	March 31, 2004			
	Rate	Par Value	Book Value	Percentage Floating Rate
Canadian Debt				
Floating Rate:				
HB7-FL	2.400%	6,866,400.00	6,866,400.00	
HB7-FLS1	2.447%	100,000,000.00	100,000,000.00	
HB7-FLS2	2.434%	100,000,000.00	100,000,000.00	
AZ	4.078%	200,630,770.00	200,630,770.00	
HB8-FL	3.150%	22,050,800.00	22,050,800.00	
BM	5.613%	254,960,000.00	254,960,000.00	
EM-1	3.085%	66,500,000.00	66,500,000.00	
EY2	2.559%	50,000,000.00	50,000,000.00	
EZ2	2.559%	54,000,000.00	54,000,000.00	
EZ3	1.067%	208,320,000.00	208,320,000.00	
EZ4	2.446%	55,500,000.00	55,500,000.00	
CO61	2.064%	30,000,000.00	30,000,000.00	
Short-Term		81,000,000.00	81,000,000.00	
Floating Rate Can Debt		1,229,827,970.00	1,229,827,970.00	16.43%
Fixed Rate Can Debt		3,055,670,530.00	3,055,670,530.00	40.83%
Total Can Debt		4,285,498,500.00	4,285,498,500.00	
US Debt				
Floating Rate:				
EM	1.780%	50,000,000.00	65,525,000.00	
EM-6	5.395%	100,000,000.00	131,050,000.00	
EP-2	1.466%	150,000,000.00	196,575,000.00	
Short-Term		9,500,000.00	12,449,750.00	
Floating Rate US Debt		309,500,000.00	405,599,750.00	5.42%
Fixed Rate US Debt		2,130,952,000.00	2,792,612,596.00	37.32%
Total US Debt		2,440,452,000.00	3,198,212,346.00	
Total Debt			7,483,710,846.00	100.00%
Total Floating Rate Debt			1,635,427,720.00	21.85%
Total Fixed Rate Debt			5,848,283,126.00	78.15%
Total Debt			7,483,710,846.00	100.00%
Short-Term Debt			93,449,750.00	
Long-Term Debt			7,390,261,096.00	
Total Debt			7,483,710,846.00	

Floating Rate Debt Analysis - Treasury

Series	December 31, 2004			
	Rate	Par Value	Book Value	Percentage Floating Rate
Canadian Debt				
Floating Rate:				
HB7-FL	2.250%	5,239,600.00	5,239,600.00	
			0.00	
AZ	3.455%	200,630,770.00	200,630,770.00	
HB8-FL	2.100%	15,329,900.00	15,329,900.00	
BM	5.662%	254,960,000.00	254,960,000.00	
EM-1	2.646%	66,500,000.00	66,500,000.00	
EY2	2.696%	50,000,000.00	50,000,000.00	
EZ2	2.745%	54,000,000.00	54,000,000.00	
EZ3	2.568%	208,320,000.00	208,320,000.00	
EZ4	2.744%	55,500,000.00	55,500,000.00	
CO61	2.554%	30,000,000.00	30,000,000.00	
Short-Term		110,000,000.00	110,000,000.00	
Floating Rate Can Debt		1,050,480,270.00	1,050,480,270.00	14.39%
Fixed Rate Can Debt		3,323,266,947.00	3,323,266,947.00	45.53%
Total Can Debt		4,373,747,217.00	4,373,747,217.00	
US Debt				
Floating Rate:				
EM	2.144%	50,000,000.00	60,180,000.00	
EM-6	5.759%	100,000,000.00	120,360,000.00	
EP-2	2.376%	150,000,000.00	180,540,000.00	
Short-Term		0.00	0.00	
Floating Rate US Debt		300,000,000.00	361,080,000.00	4.95%
Fixed Rate US Debt		2,130,952,000.00	2,564,813,827.00	35.14%
Total US Debt		2,430,952,000.00	2,925,893,827.00	
Total Debt			7,299,641,044.00	100.00%
Total Floating Rate Debt			1,411,560,270.00	19.34%
Total Fixed Rate Debt			5,888,080,774.00	80.66%
Total Debt			7,299,641,044.00	100.00%
Short-Term Debt			110,000,000.00	
Long-Term Debt			7,189,641,044.00	
Total Debt			7,299,641,044.00	

Floating Rate Debt Analysis - Treasury

Series	March 31, 2005			
	Rate	Par Value	Book Value	Percentage Floating Rate
Canadian Debt				
Floating Rate:				
HB7-FL	2.250%	5,237,100.00	5,237,100.00	
			0.00	
AZ	3.455%	200,630,770.00	200,630,770.00	
HB8-FL	2.100%	15,329,900.00	15,329,900.00	
BM	5.662%	254,960,000.00	254,960,000.00	
EM-1	2.646%	66,500,000.00	66,500,000.00	
EY2	2.696%	50,000,000.00	50,000,000.00	
EZ2	2.745%	54,000,000.00	54,000,000.00	
EZ3	2.568%	208,320,000.00	208,320,000.00	
EZ4	2.744%	55,500,000.00	55,500,000.00	
CO61	2.554%	30,000,000.00	30,000,000.00	
Short-Term		59,000,000.00	59,000,000.00	
Floating Rate Can Debt		999,477,770.00	999,477,770.00	13.76%
Fixed Rate Can Debt		3,322,752,055.00	3,322,752,055.00	45.75%
Total Can Debt		4,322,229,825.00	4,322,229,825.00	
US Debt				
Floating Rate:				
EM	2.144%	50,000,000.00	60,480,000.00	
EM-6	5.759%	100,000,000.00	120,960,000.00	
EP-2	2.376%	150,000,000.00	181,440,000.00	
Short-Term		0.00	0.00	
Floating Rate US Debt		300,000,000.00	362,880,000.00	5.00%
Fixed Rate US Debt		2,130,952,000.00	2,577,599,539.00	35.49%
Total US Debt		2,430,952,000.00	2,940,479,539.00	
Total Debt			7,262,709,364.00	100.00%
Total Floating Rate Debt			1,362,357,770.00	18.76%
Total Fixed Rate Debt			5,900,351,594.00	81.24%
Total Debt			7,262,709,364.00	100.00%
Short-Term Debt			59,000,000.00	
Long-Term Debt			7,203,709,364.00	
Total Debt			7,262,709,364.00	

Floating Rate Debt Analysis - Treasury

Series	December 31, 2005			
	Rate	Par Value	Book Value	Percentage Floating Rate
Canadian Debt				
Floating Rate:				
AZ	3.995%	200,630,770.00	200,630,770.00	
BM	6.208%	254,960,000.00	254,960,000.00	
CO61	3.534%	30,000,000.00	30,000,000.00	
EM-1	3.300%	66,500,000.00	66,500,000.00	
EY2	3.372%	50,000,000.00	50,000,000.00	
EZ2	3.420%	54,000,000.00	54,000,000.00	
EZ3	5.322%	208,320,000.00	208,320,000.00	
EZ4	3.419%	55,500,000.00	55,500,000.00	
FD-2	3.210%	4,000,000.00	4,000,000.00	
HB7-FL	2.250%	4,346,400.00	4,346,400.00	
HB8-FL	2.600%	12,119,000.00	12,119,000.00	
Short-Term		0.00	0.00	
Floating Rate Can Debt		940,376,170.00	940,376,170.00	13.12%
Fixed Rate Can Debt		3,390,907,241.90	3,390,907,241.90	47.31%
Total Can Debt		4,331,283,411.90	4,331,283,411.90	
US Debt				
Floating Rate:				
EM	4.216%	50,000,000.00	58,295,000.00	
EM-6	7.831%	100,000,000.00	116,590,000.00	
EP-2	4.329%	150,000,000.00	174,885,000.00	
Short-Term		0.00	0.00	
Floating Rate US Debt		300,000,000.00	349,770,000.00	4.88%
Fixed Rate US Debt		2,132,002,000.00	2,485,701,131.80	34.68%
Total US Debt		2,432,002,000.00	2,835,471,131.80	
Total Debt			7,166,754,543.70	100.00%
Total Floating Rate Debt			1,290,146,170.00	18.00%
Total Fixed Rate Debt			5,876,608,373.70	82.00%
Total Debt			7,166,754,543.70	100.00%
Short-Term Debt			0.00	
Long-Term Debt			7,166,754,544.00	
Total Debt			7,166,754,544.00	

Floating Rate Debt Analysis - Treasury

Series	March 31, 2006			
	Rate	Par Value	Book Value	Percentage Floating Rate
Canadian Debt				
Floating Rate:				
AZ	4.999%	200,630,770.00	200,630,770.00	
BM	7.213%	254,960,000.00	254,960,000.00	
CO61	3.966%	30,000,000.00	30,000,000.00	
EM-1	4.077%	66,500,000.00	66,500,000.00	
EY2	3.748%	50,000,000.00	50,000,000.00	
EZ3	5.328%	208,320,000.00	208,320,000.00	
EZ4	3.419%	9,500,000.00	9,500,000.00	
FD-2	3.210%	4,000,000.00	4,000,000.00	
HB7-FL	3.100%	4,341,400.00	4,341,400.00	
HB8-FL	2.600%	12,094,000.00	12,094,000.00	
Short-Term		0.00	0.00	
Floating Rate Can Debt	19.40%	840,346,170.00	840,346,170.00	11.72%
Fixed Rate Can Debt	80.60%	3,490,363,145.41	3,490,363,145.41	48.69%
Total Can Debt		4,330,709,315.41	4,330,709,315.41	
US Debt				
Floating Rate:				
EM	4.734%	50,000,000.00	58,355,000.00	
EM-6	8.329%	100,000,000.00	116,710,000.00	
EP-2	5.386%	150,000,000.00	175,065,000.00	
Short-Term		0.00	0.00	
Floating Rate US Debt	12.34%	300,000,000.00	350,130,000.00	4.88%
Fixed Rate US Debt	87.66%	2,132,002,000.00	2,488,259,534.20	34.71%
Total US Debt		2,432,002,000.00	2,838,389,534.20	
Total Debt			7,169,098,849.61	100.00%
Total Floating Rate Debt			1,190,476,170.00	16.61%
Total Fixed Rate Debt			5,978,622,679.61	83.39%
Total Debt			7,169,098,849.61	100.00%
Short-Term Debt			0.00	
Long-Term Debt			7,169,098,849.61	
Total Debt			7,169,098,849.61	

Floating Rate Debt Analysis - Treasury

Series	December 2006			
	Rate	Par Value	Book Value	Percentage Floating Rate
Canadian Debt				
Floating Rate:				
AZ	5.237%	200,630,770.00	200,630,770.00	
BM	7.457%	254,960,000.00	254,960,000.00	
CO61	3.966%	30,000,000.00	30,000,000.00	
EM-1	4.259%	66,500,000.00	66,500,000.00	
EY2	4.188%	50,000,000.00	50,000,000.00	
EZ3	6.020%	208,320,000.00	208,320,000.00	
EZ4	4.235%	9,500,000.00	9,500,000.00	
FD-2	4.304%	4,000,000.00	4,000,000.00	
HB9-FL	4.000%	71,709,900.00	71,709,900.00	
HB8-FL	2.600%	10,162,600.00	10,162,600.00	
Short-Term		80,000,000.00	80,000,000.00	
Floating Rate Can Det	21.89%	985,783,270.00	985,783,270.00	13.43%
Fixed Rate Can Debt	78.11%	3,518,183,451.00	3,518,183,451.00	47.94%
Total Can Debt		4,503,966,721.00	4,503,966,721.00	
US Debt				
Floating Rate:				
EM	5.121%	50,000,000.00	58,265,000.00	
EM-6	8.716%	100,000,000.00	116,530,000.00	
EP-2	5.385%	150,000,000.00	174,795,000.00	
Short-Term		0.00	0.00	
Floating Rate US Debt	12.34%	300,000,000.00	349,590,000.00	4.76%
Fixed Rate US Debt	87.66%	2,132,002,000.00	2,484,421,931.00	33.86%
Total US Debt		2,432,002,000.00	2,834,011,931.00	
Total Debt			7,337,978,652.00	100.00%
Total Floating Rate Debt			1,335,373,270.00	18.20%
Total Fixed Rate Debt			6,002,605,382.00	81.80%
Total Debt			7,337,978,652.00	100.00%
Short-Term Debt			80,000,000.00	
Long-Term Debt			7,257,978,651.00	
Total Debt			7,337,978,651.00	

Floating Rate Debt Analysis - Treasury

Series	March 31, 2007			
	Rate	Par Value	Book Value	Percentage Floating Rate
Canadian Debt				
Floating Rate:				
AZ		200,630,770.00	200,630,770.00	
BM		254,960,000.00	254,960,000.00	
CO61		30,000,000.00	30,000,000.00	
EM-1		66,500,000.00	66,500,000.00	
EY2		50,000,000.00	50,000,000.00	
EZ3		208,320,000.00	208,320,000.00	
EZ4		9,500,000.00	9,500,000.00	
FD-2		4,000,000.00	4,000,000.00	
HB9-FL		71,685,400.00	71,685,400.00	
HB8-FL		10,162,600.00	10,162,600.00	
Short-Term		148,000,000.00	148,000,000.00	
Floating Rate Can Debt	23.05%	1,053,758,770.00	1,053,758,770.00	14.29%
Fixed Rate Can Debt	76.95%	3,517,581,499.00	3,517,581,499.00	47.69%
Total Can Debt		4,571,340,269.00	4,571,340,269.00	
US Debt				
Floating Rate:				
EM		50,000,000.00	57,645,000.00	
EM-6		100,000,000.00	115,290,000.00	
EP-2		150,000,000.00	172,935,000.00	
Short-Term		0.00	0.00	
Floating Rate US Debt	12.34%	300,000,000.00	345,870,000.00	4.69%
Fixed Rate US Debt	87.66%	2,132,002,000.00	2,457,985,106.00	33.33%
Total US Debt		2,432,002,000.00	2,803,855,106.00	
Total Debt			7,375,195,375.00	100.00%
Total Floating Rate Debt			1,399,628,770.00	18.98%
Total Fixed Rate Debt			5,975,566,605.00	81.02%
Total Debt			7,375,195,375.00	100.00%
Short-Term Debt			148,000,000.00	
Long-Term Debt			7,227,195,375.00	
Total Debt			7,375,195,375.00	

Floating Rate Debt Analysis - Treasury

Series	December 31, 2007			
	Rate	Par Value	Book Value	Percentage Floating Rate
Canadian Debt				
Floating Rate:				
AZ		200,630,770	200,630,770	
BM		254,960,000	254,960,000	
EM-1		66,500,000	66,500,000	
EY2		50,000,000	50,000,000	
EZ3		208,320,000	208,320,000	
EZ4		9,500,000	9,500,000	
FD-2		4,000,000	4,000,000	
HB9-FL		34,375,800	34,375,800	
HB10-FL		34,451,600	34,451,600	
CO77-3		50,000,000	50,000,000	
CO40		50,000,000	50,000,000	
ER-2		50,000,000	50,000,000	
CO61		30,000,000	30,000,000	
Short-Term		15,000,000	15,000,000	
				0
Floating Rate Can Debt	21.55%	1,057,738,170	1,057,738,170	14.47%
Fixed Rate Can Debt	78.45%	3,851,476,171	3,851,476,171	52.67%
				3,851.48
Total Can Debt		4,909,214,341	4,909,214,341	
US Debt				
Floating Rate:				
EM		50,000,000	49,405,000	
EM-6		100,000,000	98,810,000	
FH-3		150,000,000	148,215,000	
Short-Term		0	0	
Floating Rate US Debt	12.34%	300,000,000	296,430,000	4.05%
Fixed Rate US Debt	87.66%	2,132,002,000	2,106,631,176	28.81%
Total US Debt		2,432,002,000	2,403,061,176	
Total Debt			7,312,275,517	385247.62%
Total Floating Rate Debt			1,354,168,170	18.52%
Total Fixed Rate Debt			5,958,107,347	81.48%
Total Debt			7,312,275,517	100.00%
Short-Term Debt			15,000,000	
Long-Term Debt			7,297,275,517	
Total Debt			7,312,275,517	

Floating Rate Debt Analysis - Treasury

Series	March 31, 2008			
	Rate	Par Value	Book Value	Percentage Floating Rate
Canadian Debt				
Floating Rate:				
AZ		200,630,770.00	200,630,770.00	
BM		254,960,000.00	254,960,000.00	
CO61		30,000,000.00	30,000,000.00	
EM-1		66,500,000.00	66,500,000.00	
EY2		50,000,000.00	50,000,000.00	
EZ3		208,320,000.00	208,320,000.00	
EZ4		9,500,000.00	9,500,000.00	
FD-2		4,000,000.00	4,000,000.00	
HB9-FL		34,375,800.00	34,375,800.00	
HB10-FL		34,451,600.00	34,451,600.00	
CO77-3		50,000,000.00	50,000,000.00	
CO40		50,000,000.00	50,000,000.00	
ER-2		50,000,000.00	50,000,000.00	
Short-Term		0.00	0.00	
Floating Rate Can Debt	21.31%	1,042,738,170.00	1,042,738,170.00	13.72%
Fixed Rate Can Debt	78.69%	3,851,050,834.00	3,851,050,834.00	50.68%
Total Can Debt		4,893,789,004.00	4,893,789,004.00	
US Debt				
Floating Rate:				
EM		50,000,000.00	51,395,000.00	
EM-6		100,000,000.00	102,790,000.00	
CO94		200,000,000.00	205,580,000.00	
EP-2		150,000,000.00	154,185,000.00	
Short-Term		0.00	0.00	
Floating Rate US Debt	19.00%	500,000,000.00	513,950,000.00	6.76%
Fixed Rate US Debt	81.00%	2,132,002,000.00	2,191,484,855.80	28.84%
Total US Debt		2,632,002,000.00	2,705,434,855.80	
Total Debt			7,599,223,859.80	100.00%
Total Floating Rate Debt			1,556,688,170.00	20.48%
Total Fixed Rate Debt			6,042,535,689.80	79.52%
Total Debt			7,599,223,859.80	100.00%
Short-Term Debt			0.00	
Long-Term Debt			7,599,223,859.80	
Total Debt			7,599,223,859.80	

Floating Rate Debt Analysis - Treasury

Series	December 31, 2008			
	Rate	Par Value	Book Value	Percentage Floating Rate
Canadian Debt				
Floating Rate:				
AZ		200,630,770.00	200,630,770.00	
BM		254,960,000.00	254,960,000.00	
EM-1		66,500,000.00	66,500,000.00	
CO40		50,000,000.00	50,000,000.00	
ER-2		50,000,000.00	50,000,000.00	
EY2		50,000,000.00	50,000,000.00	
EZ3		208,320,000.00	208,320,000.00	
EZ4		9,500,000.00	9,500,000.00	
CO61		30,000,000.00	30,000,000.00	
FD-2		4,000,000.00	4,000,000.00	
CO77-3		50,000,000.00	50,000,000.00	
HB9-FL		12,756,300.00	12,756,300.00	
HB10-FL		8,110,800.00	8,110,800.00	
			0.00	
Short-Term		100,000,000.00	100,000,000.00	
Floating Rate Can Debt	20.92%	1,094,777,870.00	1,094,777,870.00	13.43%
Fixed Rate Can Debt	79.080%	4,138,482,416.00	4,138,482,416.00	50.75%
Total Can Debt		5,233,260,286.00	5,233,260,286.00	
US Debt				
Floating Rate:				
EM-6		100,000,000.00	122,460,000.00	
EM		50,000,000.00	61,230,000.00	
FH-3		150,000,000.00	183,690,000.00	
CO94		200,000,000.00	244,920,000.00	
Short-Term		0.00	0.00	
Floating Rate US Debt	20.96%	500,000,000.00	612,300,000.00	7.51%
Fixed Rate US Debt	0.790401038	1,885,508,000.00	2,308,993,096.80	28.32%
Total US Debt		2,385,508,000.00	2,921,293,096.80	
Total Debt			8,154,553,382.80	1.00
Total Floating Rate Debt			1,707,077,870.00	20.93%
Total Fixed Rate Debt			6,447,475,512.80	79.07%
Total Debt			8,154,553,382.80	1.00
Short-Term Debt			100,000,000.00	
Long-Term Debt			8,054,553,382.80	
Total Debt			8,154,553,382.80	

CAC/MSOS/MH II-118

Reference: CAC/MSOS/MH I-176(a)
CAC/MSOS/MH I-176(b)

Preamble: In CAC/MSOS/MH I-176(a), we asked:

For the data points noted as being 2008 in Table 17, please provide the date of the financial statements for each of the “Peers” therein listed.

In CAC/MSOS/MH I-146(d), we obtained MH quarterly data, for the period March 2004 to December 2009 setting out the proportion of short term notes and floating rate debt for MH.

The table below compares the March 31 MH data from CAC/MSOS/MH I-146(d), to the MH data from Table 17.

	2004	2005	2006	2007	2008	
Table 17	17%	22%	19%	19%	19%	
CAC/MSOS/MH I-146(d)	21.90%	18.80%	16.60%	19.00%	20.50%	March data
CAC/MSOS/MH I-146(d)	19.30%	18.00%	18.20%	18.50%	20.90%	December data

CAC/MSOS wishes to better understand NBF methodology and the comparability of the data presented, in the “in-depth” analysis undertaken by NBF.

b) Please confirm the accuracy of the calculation of the earlier MH values presented in this table 17.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-118(a).

CAC/MSOS/MH II-119 (REVISED)

Reference: CAC/MSOS/MH I-146(d)

Preamble: In CAC/MSOS/MH I-146(d), we obtained MH quarterly data, for the period March 2004 to December 2009 setting out the proportion of short term notes and floating rate debt for MH. In Table 17 of the NBF report, NBF appears to indicate at certain points between 2000 and 2003, MH had less than 15% floating rate debt. CAC/MSOS wishes to understand whether the NBF calculation is accurate.

- a) If at any quarter end in the 2000-2003 period, MH had less than 15% short term notes and floating rate debt, calculated in the manner used to develop the table in CAC/MSOS/MH I-146(d), please identify the date, the percentage of floating rate debt (to the same level of decimal accuracy as presented in the table in CAC/MSOS/MH I-146(d)), and whether the 15% to 25% target range was in force on that date.

ANSWER:

The Table 17 information for Manitoba Hydro's actual end of period percentage of floating rate debt provided in response to PUB/MH I-174(a) is accurate and reconciles to the associated year end information provided by Manitoba Hydro in response to CAC/MSOS/MH I-146(d).

Note that Manitoba Hydro's floating rate policy does not state it is applicable for each quarter. It has been longstanding corporate practice to be in compliance with the target range at year-end. The 15 - 25% target range was in effect during the 2000-2003 period and there were no instances where Manitoba Hydro's consolidated actual year end percentage of short term notes and floating rate debt were outside the target range. Also note that there were two quarters where Manitoba Hydro's consolidated actual quarter end percentage of short term notes and floating rate debt was less than 15% between 2000 and 2003: June 30, 1999 (13.8%) and December 31, 2000 (14.3%).

CAC/MSOS/MH II-120

Reference: CAC/MSOS/MH I-175(g)

Preamble: In CAC/MSOS/MH I-175(g), we sought confirmation of the fact that financial statements of SaskPower did indicate that it had enjoyed low interest rate short term advances from the Province.

In CAC/MSOS/MH I-175(h), we inquired as to whether the statement that, SaskPower was unaffected by short-term rates, was correct or should be amended. In reply, we were told that *““Given the one-off (at time of the report), very brief, unaudited use of short term instruments by only one of Manitoba Hydro’s peers NBF confirms its original statement in Section 4.2.2.3.”* [Emphasis added].

CAC/MSOS observes that the NBF report was dated July 16, 2009 and that the then available September 30, 2008 SaskPower quarterly report, at page 19/24, notes two short term advances at rates of 2.65% and 2.75%. CAC/MSOS also observes that the March 31, 2004 SaskPower quarterly report provides the December 31, 2003 audited figures for balance sheet comparison, and also indicates that a \$30 million short term advance that was outstanding on December 31, 2003 was repaid during the first quarter. References to this 2003 short term advance can be found on pages 14, 30, 31 and 36, in the 2003 SaskPower annual report, which contains its audited financial statements.

These reports, and others, are available at <http://www.saskpower.com>. CAC/MSOS wishes to better understand the methodology of NBF.

- a) Please confirm that the September 30, 2008 quarterly report for SaskPower was available “at the time of the report” and that it discloses short term advances.

ANSWER:

In the analysis of Manitoba Hydro’s peers, NBF reviewed data available in audited financial statements and interim reports; however, NBF was not engaged to audit the financial reports of the peers selected in their analysis. For consistency among the peer group, NBF and

Manitoba Hydro chose during the execution of the engagement to utilize audited annual financial statements. Consequently, although unaudited quarterly reports such as SaskPower's September 30, 2008 financial statements were published prior to the submission of the NBF Report and periodically may have indicated the brief existence of short term advances, these interim financial reports were not formally utilized during the engagement.

CAC/MSOS/MH II-120 (REVISED)

Reference: CAC/MSOS/MH I-175(g)

Preamble: In CAC/MSOS/MH I-175(g), we sought confirmation of the fact that financial statements of SaskPower did indicate that it had enjoyed low interest rate short term advances from the Province.

In CAC/MSOS/MH I-175(h), we inquired as to whether the statement that, SaskPower was unaffected by short-term rates, was correct or should be amended. In reply, we were told that *““Given the one-off (at time of the report), very brief, unaudited use of short term instruments by only one of Manitoba Hydro’s peers NBF confirms its original statement in Section 4.2.2.3.”* [Emphasis added].

CAC/MSOS observes that the NBF report was dated July 16, 2009 and that the then available September 30, 2008 SaskPower quarterly report, at page 19/24, notes two short term advances at rates of 2.65% and 2.75%. CAC/MSOS also observes that the March 31, 2004 SaskPower quarterly report provides the December 31, 2003 audited figures for balance sheet comparison, and also indicates that a \$30 million short term advance that was outstanding on December 31, 2003 was repaid during the first quarter. References to this 2003 short term advance can be found on pages 14, 30, 31 and 36, in the 2003 SaskPower annual report, which contains its audited financial statements.

These reports, and others, are available at <http://www.saskpower.com>. CAC/MSOS wishes to better understand the methodology of NBF.

- b) Please confirm that the December 31, 2003 annual report for SaskPower was available “at the time of the report” and it discloses short term advances.

ANSWER:

Confirmed. SaskPower did have a small level of short term advance at December 31, 2003 which, as noted in the preamble was very brief in duration as it was repaid in the subsequent quarter.

This advance represented a relatively small amount, slightly over 1% of SaskPower's total debt as at December 31, 2003. As such, the observation in Section 4.2.2.3 of the NBF report remains materially correct. Further this information does not impact the modeling performed by NBF. Consequently, the data variation inferred by the Intervener would not affect the peer group observations noted in response to CAC/MSOS/MH II-117(a), nor the modeling performed by NBF.

CAC/MSOS/MH II-120

Reference: CAC/MSOS/MH I-175(g)

Preamble: In CAC/MSOS/MH I-175(g), we sought confirmation of the fact that financial statements of SaskPower did indicate that it had enjoyed low interest rate short term advances from the Province.

In CAC/MSOS/MH I-175(h), we inquired as to whether the statement that, SaskPower was unaffected by short-term rates, was correct or should be amended. In reply, we were told that *““Given the one-off (at time of the report), very brief, unaudited use of short term instruments by only one of Manitoba Hydro’s peers NBF confirms its original statement in Section 4.2.2.3.”* [Emphasis added].

CAC/MSOS observes that the NBF report was dated July 16, 2009 and that the then available September 30, 2008 SaskPower quarterly report, at page 19/24, notes two short term advances at rates of 2.65% and 2.75%. CAC/MSOS also observes that the March 31, 2004 SaskPower quarterly report provides the December 31, 2003 audited figures for balance sheet comparison, and also indicates that a \$30 million short term advance that was outstanding on December 31, 2003 was repaid during the first quarter. References to this 2003 short term advance can be found on pages 14, 30, 31 and 36, in the 2003 SaskPower annual report, which contains its audited financial statements.

These reports, and others, are available at <http://www.saskpower.com>. CAC/MSOS wishes to better understand the methodology of NBF.

- c) What efforts were undertaken in answering the question CAC/MSOS/MH I-175(g), to determine that the March short term advance, was a “one-off (at the time of the report)”?

ANSWER:

A review of annual reports was undertaken by NBF which indicated that SaskPower had almost exclusively utilized fixed rate financing. On occasion, SaskPower had secured short term advances for brief periods of time.

CAC/MSOS/MH II-120

Reference: CAC/MSOS/MH I-175(g)

Preamble: In CAC/MSOS/MH I-175(g), we sought confirmation of the fact that financial statements of SaskPower did indicate that it had enjoyed low interest rate short term advances from the Province.

In CAC/MSOS/MH I-175(h), we inquired as to whether the statement that, SaskPower was unaffected by short-term rates, was correct or should be amended. In reply, we were told that *““Given the one-off (at time of the report), very brief, unaudited use of short term instruments by only one of Manitoba Hydro’s peers NBF confirms its original statement in Section 4.2.2.3.”* [Emphasis added].

CAC/MSOS observes that the NBF report was dated July 16, 2009 and that the then available September 30, 2008 SaskPower quarterly report, at page 19/24, notes two short term advances at rates of 2.65% and 2.75%. CAC/MSOS also observes that the March 31, 2004 SaskPower quarterly report provides the December 31, 2003 audited figures for balance sheet comparison, and also indicates that a \$30 million short term advance that was outstanding on December 31, 2003 was repaid during the first quarter. References to this 2003 short term advance can be found on pages 14, 30, 31 and 36, in the 2003 SaskPower annual report, which contains its audited financial statements.

These reports, and others, are available at <http://www.saskpower.com>. CAC/MSOS wishes to better understand the methodology of NBF.

- d) Was it a term of the tender that NBF should not review data available in documents other than annual reports and audited financial statements in the analysis of the MH peers?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-120(a).

CAC/MSOS/MH II-121

Reference: CAC/MSOS/MH I-175(g)

Preamble: In CAC/MSOS/MH I-175(g), we sought confirmation of the fact that financial statements of SaskPower did indicate that it had enjoyed low interest rate short term advances from the Province. In reply, we were told that *“for consistency amongst the entire peer group, the floating proportion reported in the NBF report was based on SaskPower’s historical Annual Reports, where no floating debt was observed. Also the Q1 2008 report was unaudited.”* CAC/MSOS wishes to understand the importance of the use of audited statements to NBF.

a) In making the observation that the *“Q1 2008 report was unaudited”*, is NBF calling into question the accuracy of the document?

ANSWER:

NBF was not engaged to audit the financial reports of the peers selected in their analysis. For consistency among the peer group, NBF and Manitoba Hydro chose during the execution of the engagement to utilize audited annual financial statements.

CAC/MSOS/MH II-121

Reference: CAC/MSOS/MH I-175(g)

Preamble: In CAC/MSOS/MH I-175(g), we sought confirmation of the fact that financial statements of SaskPower did indicate that it had enjoyed low interest rate short term advances from the Province. In reply, we were told that *“for consistency amongst the entire peer group, the floating proportion reported in the NBF report was based on SaskPower’s historical Annual Reports, where no floating debt was observed. Also the Q1 2008 report was unaudited.”* CAC/MSOS wishes to understand the importance of the use of audited statements to NBF.

b) In making the observation that the *“Q1 2008 report was unaudited”*, is NBF suggesting that the data upon which it’s in depth analysis was contractually or professionally restricted to audited materials?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-121(a).

CAC/MSOS/MH II-122

Reference: CAC/MSOS/MH I-175(a)

Preamble: In CAC/MSOS/MH I-175(a), we requested that Coalition/MH II-77(d) would be added to the proceeding. In reply we received an amended response and Coalition/MH II-77(c) as an attachment. While we appreciate the inclusion of Coalition/MH II-77(c), CAC/MSOS observes that we lack the specific question posed in Coalition/MH II-77(d). As the preamble to parts (c) and (d) were the same, perhaps the reply could be most efficiently amended with the addition of the specific question paragraph to page 2 of 2 of the reply.

- a) Please amend page 2 of 2 of CAC/MSOS/MH I-175(a), to add the Coalition/MH II-77(d) question {but not the preamble} above the annotated reply.

ANSWER:

As was noted in the response to COALITION/MH I-84(e), Manitoba Hydro uses its short-term debt line to fund seasonal working capital requirements and bridge the timing between long-term debt issues. Manitoba Hydro's practice has been to issue long-term debt to repay the short-term debt line once it reaches \$200M-\$300M. Manitoba Hydro believes that its short-term debt limit of \$500M is appropriate for these purposes.

Please note that outstanding short-term debt is one component of Manitoba Hydro's total floating rate debt portfolio. The other component of Manitoba Hydro's floating rate debt portfolio is its long-term debt that has been issued as floating rate debt. When considering the appropriate balance between fixed and floating rate debt, it is necessary to consider both components of Manitoba Hydro's floating rate debt portfolio. For further information with respect to these components over the last three fiscal years, please see the response to COALITION/MH II-77(a).

CAC/MSOS/MH II-123

Reference: CAC/MSOS/MH I-162(a)

Preamble: In CAC/MSOS/MH I-162(a), the reply observes that there is “*an optimal mix of fixed and floating rate debt that minimizes net income volatility while maximizing returns.*”

a) What, based on your analysis for MH, is that “optimal mix of fixed and floating rate debt that minimizes net income volatility while maximizing returns”?

ANSWER:

The response provided by NBF in CAC/MSOS/MH I-151(a) states NBF’s view that there exists an “optimal range of portfolios.” Based on NBF’s modeling, Manitoba Hydro’s optimal range between the Minimum Variance and Fixed Equivalent portfolios is 14 - 27% floating rate debt. Subject to Manitoba Hydro’s level of risk tolerance, all portfolios within this range can be considered optimal, including Manitoba Hydro’s target range of 15 - 25% floating rate debt. It would be incorrect to assume that a singular point exists within the range that would be optimal for all circumstances and risk tolerances. According to NBF’s modeled results, sub-optimization occurs outside of the 14 - 27% range with portfolios that have less than 14% and greater than 27% floating rate debt.

CAC/MSOS/MH II-124 (REVISED)

Reference: CAC/MSOS/MH I-163(a)

Preamble: In CAC/MSOS/MH I-163(a), CAC/MSOS asked if there was “any reason why NBF believes that Manitoba Hydro should not expand the range” from 15-25% to 14-27%. The reply was not responsive in its observation that the existing range is “sufficiently close to optimal” in that it neither offered a reason nor explained its criteria.

CAC/MSOS wishes to understand the concept of sufficiency and why a 13% range does not permit a better balancing of risk and reward than a range that is 3/13ths smaller than the range derived from the NBF financial model.

- a) **Please identify what, if any, range would be viewed as being insufficiently close to optimal so as to earn a recommendation that a new range is established.**

ANSWER:

According to NBF’s modeled results, sub-optimization occurs outside of the 14 - 27% range with portfolios that have less than 14% and greater than 27% floating rate debt. As stated in response to CAC/MSOS/MH II-123(a), subject to Manitoba Hydro’s level of risk tolerance, all portfolios within NBF’s 14 - 27% modeled range of floating rate debt can be considered optimal for the Corporation, including Manitoba Hydro’s target range of 15 - 25% floating rate debt.

On this basis, and also due to the fact that the two ranges are similar, NBF reasserted in response to CAC/MSOS/MH I-163(a) “that Manitoba Hydro’s current guidance range of 15% to 25% floating rate debt represents a range that is sufficiently close to optimal under the asset/liability management framework.”

The fixed versus floating rate debt policy is a measure of an entity’s interest rate risk tolerance. The fact that Manitoba Hydro’s target range is slightly narrower than NBF’s theoretical range can be viewed as a measure of Manitoba Hydro’s level of risk tolerance.

As evidenced in response to CAC/MSOS/MH I-146(d), Manitoba Hydro's actual quarter-end range of floating rate debt in recent years has been between 16.6% - 21.9%. This demonstrates the fact that Manitoba Hydro maintained full compliance within its target range and kept the actual quarter end percentage of floating rate debt safely within the boundaries of the Corporation's risk tolerances. Manitoba Hydro views its existing target range as being appropriate, and sees no basis for the establishment of a new target range. Consequently, the CAC/MSOS request for either NBF or Manitoba Hydro to "identify what, if any, range would be viewed as being insufficiently close to optimal so as to earn a recommendation that a new range is established" is unnecessary.

CAC/MSOS/MH II-124

Reference: CAC/MSOS/MH I-163(a)

Preamble: In CAC/MSOS/MH I-163(a), CAC/MSOS asked if there was “any reason why NBF believes that Manitoba Hydro should not expand the range” from 15-25% to 14-27%. The reply was not responsive in its observation that the existing range is “sufficiently close to optimal” in that it neither offered a reason nor explained its criteria.

CAC/MSOS wishes to understand the concept of sufficiency and why a 13% range does not permit a better balancing of risk and reward than a range that is 3/13ths smaller than the range derived from the NBF financial model.

- b) Please discuss the logic of having the minimum variance point excluded from the recommended range.

ANSWER:

The minimum variance point is included as one of the boundaries in the 14 - 27% optimal range provided by NBF.

CAC/MSOS/MH II-125

Reference: CAC/MSOS/MH I-164(a)

Preamble: In reviewing the reply to CAC/MSOS/MH I-164(a), CAC/MSOS observes dramatic changes in the numbers presented in Table 14 of the NBF report. By way of example, only 2 numbers appear unchanged in each of the columns for 2001, 2002, 2004, and 2005. CAC/MSOS wishes to understand the background for the initial numbers and the source of the underlying new information.

a) Does NBF seek to amend its report?

ANSWER:

The original Table 14 in the NBF report contained typographical errors. Please see the response to CAC/MSOS/MH I-164(a) wherein NBF provided a revised Table 14 such that the Manitoba Hydro information for total debt, floating rate percentages, net income and interest coverage reconciles to the actual year end values for the fiscal years ending March 31, 2000 - 2008. For the actual proportion of floating rate debt percentages to one decimal place for the fiscal years ending 2004 - 2008, please see the response to CAC/MSOS/MH I-146(d).

The Table 14 footnote in response to CAC/MSOS/MH I-164(a) states “Historical Manitoba Hydro data revised as per company information and does not affect NBF’s findings in the report.” NBF is not aware of any other errors in its report that would affect their recommendations and does not seek to amend the report.

CAC/MSOS/MH II-125

Reference: CAC/MSOS/MH I-164(a)

Preamble: In reviewing the reply to CAC/MSOS/MH I-164(a), CAC/MSOS observes dramatic changes in the numbers presented in Table 14 of the NBF report. By way of example, only 2 numbers appear unchanged in each of the columns for 2001, 2002, 2004, and 2005. CAC/MSOS wishes to understand the background for the initial numbers and the source of the underlying new information.

b) Are there any other errors in its report of which NBF is aware at this time, and if so, please specify further change and the source of the new information?

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-125(a).

CAC/MSOS/MH II-125

Reference: CAC/MSOS/MH I-164(a)

Preamble: In reviewing the reply to CAC/MSOS/MH I-164(a), CAC/MSOS observes dramatic changes in the numbers presented in Table 14 of the NBF report. By way of example, only 2 numbers appear unchanged in each of the columns for 2001, 2002, 2004, and 2005. CAC/MSOS wishes to understand the background for the initial numbers and the source of the underlying new information.

- c) What was the source for the initial debt figures for each of 2000, 2001, 2002, 2003, 2004, 2005 and 2007, each of which appear to have changed?

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-125(a).

CAC/MSOS/MH II-125

Reference: CAC/MSOS/MH I-164(a)

Preamble: In reviewing the reply to CAC/MSOS/MH I-164(a), CAC/MSOS observes dramatic changes in the numbers presented in Table 14 of the NBF report. By way of example, only 2 numbers appear unchanged in each of the columns for 2001, 2002, 2004, and 2005. CAC/MSOS wishes to understand the background for the initial numbers and the source of the underlying new information.

- d) For 2000, where it appears that there is a \$500 million change in Total Debt; please provide both the initial calculation and the amended calculation showing the links to the annual financial statement line items.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-125(a).

CAC/MSOS/MH II-125

Reference: CAC/MSOS/MH I-164(a)

Preamble: In reviewing the reply to CAC/MSOS/MH I-164(a), CAC/MSOS observes dramatic changes in the numbers presented in Table 14 of the NBF report. By way of example, only 2 numbers appear unchanged in each of the columns for 2001, 2002, 2004, and 2005. CAC/MSOS wishes to understand the background for the initial numbers and the source of the underlying new information.

- e) Please discuss why the proportion of floating rate debt has changed, even in years when the total debt number has remained constant.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-125(a).

CAC/MSOS/MH II-125

Reference: CAC/MSOS/MH I-164(a)

Preamble: In reviewing the reply to CAC/MSOS/MH I-164(a), CAC/MSOS observes dramatic changes in the numbers presented in Table 14 of the NBF report. By way of example, only 2 numbers appear unchanged in each of the columns for 2001, 2002, 2004, and 2005. CAC/MSOS wishes to understand the background for the initial numbers and the source of the underlying new information.

- f) Please clarify whether the proportion of floating rate debt is a financial year end number or the annual average that would more properly be linked to the interest costs for that year?

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-125(a).

CAC/MSOS/MH II-125

Reference: CAC/MSOS/MH I-164(a)

Preamble: In reviewing the reply to CAC/MSOS/MH I-164(a), CAC/MSOS observes dramatic changes in the numbers presented in Table 14 of the NBF report. By way of example, only 2 numbers appear unchanged in each of the columns for 2001, 2002, 2004, and 2005. CAC/MSOS wishes to understand the background for the initial numbers and the source of the underlying new information.

- g) Please increase the accuracy of the proportion of floating rate debt percentages to show tenths of a percent.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-125(a).

CAC/MSOS/MH II-126

Reference: CAC/MSOS/MH I-164(d)

Preamble: In reviewing the reply to CAC/MSOS/MH I-164(d), CAC/MSOS is unsure if the question was sufficiently clear for the Company. CAC/MSOS wished to address the difference in the sum of the “Actual” and the sum of the “Fixed Equivalent” income presented in Table 14 of the NBF report.

- a) **Would it be correct to conclude from the data in Table 14, that the model shows that moving from the Actual to the modeled Fixed Equivalent level would have increased net income by \$150 million?**

ANSWER:

No, net income would not have increased by \$150 million.

NBF was not engaged to analyze the impact on the interest capitalization rate arising from changes in gross interest expense. Consequently, as stated in response to CAC/MSOS/MH I-164(b), the modeled net income differences were based “solely on a change in the gross interest expense.” Similarly, NBF references to “return” should be understood to be in reference to gross interest expense and not net income.

CAC/MSOS/MH II-127

Reference: CAC/MSOS/MH I-165(b)

Preamble: In CAC/MSOS/MH I-165(b), we enquired as to how models in the academic literature which assume “corporate debt is only represented by fixed corporate bonds” were of assistance in this task. NBF replies that “*The generic merits of the asset/liability model in the business context were derived from papers cited in footnotes 14 through 20 on page 16 of our report.*”

CAC/MSOS observes that the Chava, Smith, Froot and Hackbarth articles are all cited before NBF observed that in academic research “corporate debt is only represented by fixed corporate bonds”. The only new citation that follows that comment is Martellini. CAC/MSOS continues to be interested in the validity of NBF financial model and its academic underpinnings.

- a) For each of the “generic merits of the asset/liability model” please identify the passage or passages from each of the cited articles upon which each of the individual “generic merits” was derived.

ANSWER:

In the development of their asset liability model, NBF built upon the existing body of knowledge that has been evolving on this subject matter and included a section in their report entitled *Portfolio Theory Overview*. NBF provided 17 academic citations including Martellini as part of its academic research, with additional academic footnotes and references also included within the cited articles.

NBF also conducted an efficient frontier analysis using the modern portfolio theory (MPT), which generated a floating rate debt range of 12 - 23% using historical yield data for the period from 1999 - 2009 (see page 11 for the results of the analysis). The advantages and disadvantages of the MPT approach were then described in this section along with NBF’s assessment on page 13 that this methodology results “in an incomplete analysis.” The report then describes the asset liability methodology and provides the conclusion on page 17 that “the asset/liability management approach is the most appropriate framework for assessing

Manitoba Hydro's fixed vs. floating rate debt policy." The identification of Manitoba Hydro specific asset liability variables and volatility metrics, which form the basis for the proprietary nature of the customized modeling tool, were then described by NBF in the *Technical Analysis* section of their report. Note that if Manitoba Hydro adopted the MPT efficient frontier analysis approach using 10 years of historical interest rate data, then the optimal range would have been more conservative than with the asset liability approach (12 - 23% versus 14 - 27% respectively).

CAC/MSOS/MH II-128

Reference: CAC/MSOS/MH I-165(c)

Preamble: In the NBF report, we learn that Martellini and Milhau “obtain analytical expressions for the price of, and optimal allocation to, various forms of liabilities classes (fixed rate bonds, floating rate bonds and inflation indexed bonds ...).”

In CAC/MSOS/MH I-165(c), the reply suggests that the articles cited in the NBF report have “not provided any quantitative estimate of the optimal breakdown between various types of debt instruments.” CAC/MSOS observes that there may be some subtlety between the phrases “optimal allocation to” and “optimal breakdown between”.

- a) Please confirm that fixed rate bonds, floating rate bonds and inflation indexed bonds are types of debt instruments, or if unable to confirm, provide an explanation.

ANSWER:

Confirmed.

CAC/MSOS/MH II-128

Reference: CAC/MSOS/MH I-165(c)

Preamble: In the NBF report, we learn that Martellini and Milhau “obtain analytical expressions for the price of, and optimal allocation to, various forms of liabilities classes (fixed rate bonds, floating rate bonds and inflation indexed bonds ...).”

In CAC/MSOS/MH I-165(c), the reply suggests that the articles cited in the NBF report have “not provided any quantitative estimate of the optimal breakdown between various types of debt instruments.” CAC/MSOS observes that there may be some subtlety between the phrases “optimal allocation to” and “optimal breakdown between”.

- b) Please expand upon the description of the Martellini and Milhau article contained on page 16 of the NBF report so as to clarify why that article does not assist in the knowledge of optimal breakdown between various types of debt instruments.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-127(a).

CAC/MSOS/MH II-128

Reference: CAC/MSOS/MH I-165(c)

Preamble: In the NBF report, we learn that Martellini and Milhau “obtain analytical expressions for the price of, and optimal allocation to, various forms of liabilities classes (fixed rate bonds, floating rate bonds and inflation indexed bonds ...).”

In CAC/MSOS/MH I-165(c), the reply suggests that the articles cited in the NBF report have “not provided any quantitative estimate of the optimal breakdown between various types of debt instruments.” CAC/MSOS observes that there may be some subtlety between the phrases “optimal allocation to” and “optimal breakdown between”.

- c) If none of the papers listed provide a methodology for a quantitative estimate of the optimal breakdown between various types of debt instruments, is there an academic underpinning for that process contained in articles known to NBF.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-127(a).

CAC/MSOS/MH II-129

Reference: CAC/MSOS/MH I-166(a)

Preamble: With respect, the reply to CAC/MSOS/MH I-166(a) is unresponsive to the question asked. CAC/MSOS did not enquire whether the NBF model was, in its professional judgement, appropriate or inappropriate. CAC/MSOS requested that MH “compare and contrast the NBF model” to the Martellini model.

CAC/MSOS observes that the Martellini article is the link to “tie together these two separate strands” in the learned literature thought worthy of review in the NBF report. It also apparently, as we learn on page 16 of the NBF report, “considers the optimal allocation to various competing forms of liabilities”. The Martellini article provides pages of formulas that relate to the conclusions they have reached. As the Martellini article dates from 2008, it was available to the NBF authors of the report, but it is unclear whether the NBF “proprietary asset/liability model” predates Martellini, or benefited from the scholarship in some degree.

CAC/MSOS observes that the NBF report was not particularly descriptive as to which of the various periods of data presented in the report were used in the modeling, nor the work undertaken to select the most appropriate data series from the host of those available. CAC/MSOS is keenly interested in understanding the model used to derive the optimal debt portfolio.

- a) Please compare and contrast the NBF financial model to the Martellini and Milhau model.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-127(a).

CAC/MSOS/MH II-129

Reference: CAC/MSOS/MH I-166(a)

Preamble: With respect, the reply to CAC/MSOS/MH I-166(a) is unresponsive to the question asked. CAC/MSOS did not enquire whether the NBF model was, in its professional judgement, appropriate or inappropriate. CAC/MSOS requested that MH “compare and contrast the NBF model” to the Martellini model.

CAC/MSOS observes that the Martellini article is the link to “tie together these two separate strands” in the learned literature thought worthy of review in the NBF report. It also apparently, as we learn on page 16 of the NBF report, “considers the optimal allocation to various competing forms of liabilities”. The Martellini article provides pages of formulas that relate to the conclusions they have reached. As the Martellini article dates from 2008, it was available to the NBF authors of the report, but it is unclear whether the NBF “proprietary asset/liability model” predates Martellini, or benefited from the scholarship in some degree.

CAC/MSOS observes that the NBF report was not particularly descriptive as to which of the various periods of data presented in the report were used in the modeling, nor the work undertaken to select the most appropriate data series from the host of those available. CAC/MSOS is keenly interested in understanding the model used to derive the optimal debt portfolio.

- b) Please explain whether the NBF “proprietary asset/liability model” predates Martellini, or benefited from the Martellini scholarship in some degree.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-127(a).

CAC/MSOS/MH II-129

Reference: CAC/MSOS/MH I-166(a)

Preamble: With respect, the reply to CAC/MSOS/MH I-166(a) is unresponsive to the question asked. CAC/MSOS did not enquire whether the NBF model was, in its professional judgement, appropriate or inappropriate. CAC/MSOS requested that MH “compare and contrast the NBF model” to the Martellini model.

CAC/MSOS observes that the Martellini article is the link to “tie together these two separate strands” in the learned literature thought worthy of review in the NBF report. It also apparently, as we learn on page 16 of the NBF report, “considers the optimal allocation to various competing forms of liabilities”. The Martellini article provides pages of formulas that relate to the conclusions they have reached. As the Martellini article dates from 2008, it was available to the NBF authors of the report, but it is unclear whether the NBF “proprietary asset/liability model” predates Martellini, or benefited from the scholarship in some degree.

CAC/MSOS observes that the NBF report was not particularly descriptive as to which of the various periods of data presented in the report were used in the modeling, nor the work undertaken to select the most appropriate data series from the host of those available. CAC/MSOS is keenly interested in understanding the model used to derive the optimal debt portfolio.

c) If these models have differing functions, please discuss the differences.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-127(a).

CAC/MSOS/MH II-129

Reference: CAC/MSOS/MH I-166(a)

Preamble: With respect, the reply to CAC/MSOS/MH I-166(a) is unresponsive to the question asked. CAC/MSOS did not enquire whether the NBF model was, in its professional judgement, appropriate or inappropriate. CAC/MSOS requested that MH “compare and contrast the NBF model” to the Martellini model.

CAC/MSOS observes that the Martellini article is the link to “tie together these two separate strands” in the learned literature thought worthy of review in the NBF report. It also apparently, as we learn on page 16 of the NBF report, “considers the optimal allocation to various competing forms of liabilities”. The Martellini article provides pages of formulas that relate to the conclusions they have reached. As the Martellini article dates from 2008, it was available to the NBF authors of the report, but it is unclear whether the NBF “proprietary asset/liability model” predates Martellini, or benefited from the scholarship in some degree.

CAC/MSOS observes that the NBF report was not particularly descriptive as to which of the various periods of data presented in the report were used in the modeling, nor the work undertaken to select the most appropriate data series from the host of those available. CAC/MSOS is keenly interested in understanding the model used to derive the optimal debt portfolio.

- d) If the NBF “proprietary asset/liability model” does not rely upon the scholarship of Martellini, please identify the academic literature which would operate as support for the NBF model.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-127(a).

CAC/MSOS/MH II-130

Reference: CAC/MSOS/MH I-160(d)
PUB/MH I-35(h)
CAC/MSOS/MH I-21(c)
CAC/MSOS/MH I-160(e)

Preamble: In CAC/MSOS/MH I-160(d), we raised the matter of the term to maturity presented in table 10 in the NBF report. We were advised that data presented was due in part to “*Weighted average by amount outstanding.*” In PUB/MH I-35(h), a table is provided for March 31 dates, but CAC/MSOS observes the weighted average term to maturity values between 2004 and 2008 do not agree with the values presented in Table 10. CAC/MSOS wishes to understand the reason for the differences.

As at March 31, 2007, we are advised in CAC/MSOS/MH I-21(c) that there was \$148 million of short term debt outstanding. As the data in PUB/MH I-35(h) is described as including “long term debt balances” and the 2007 value is 12.9 years, while we learn, through CAC/MSOS/MH I-160(e), that the data in Table 10 includes short term debt and the current portion of long term debt, one might have expected that the 2007 values in Table 10 would be less than those in PUB/MH I-35(h) owing to the inclusion of the short term debt. The 2007 value from table 10 is 18.1 years.

- a) Please reconcile the term to maturity values in PUB/MH I-35(h) and Table 10 of the NBF Report.

ANSWER:

The values quoted in the preamble are not directly comparable as the 12.9 year term to maturity in PUB/MH I-35(h) is for Manitoba Hydro total long term debt portfolio at March 31, 2007 (which includes both fixed and floating rate long term debt for all denominations, but excludes short term debt); while the 18.1 year term to maturity in Table 10 of the NBF Report is for Manitoba Hydro’s total Canadian debt portfolio at March 31, 2007 (which includes both Canadian short and long term debt, but excludes the US debt portfolio).

Note that NBF stated in the narrative preceding Table 10 on page 31 that “Manitoba Hydro’s weighted average fixed term to maturity in 2008 was 14.7 years” and that “throughout its technical analysis, NBF assumes a fixed term to maturity of 15 years for fixed debt instruments.”

In CAC/MSOS/MH I-160(b) and (c), NBF was asked to explain how the analysis would have differed if a fixed term of 8.8 or 23.2 years had been used. The NBF response stated that the “distinction would have had no observable impact on our results or conclusions.” Therefore, Manitoba Hydro does not see a meaningful basis for providing a reconciliation of the various terms to maturities shown in PUB/MH I-35(h) and Table 10.

CAC/MSOS/MH II-131

Reference: CAC/MSOS/MH I-157(k), (l) and (m)
CAC/MSOS/MH I-157(j)
CAC/MSOS/MH I-158(a)

Preamble: In reply to questions CAC/MSOS/MH I-157(k, l, m), we are directed CAC/MSOS/MH I-157(j) which is, in part, a reference to CAC/MSOS/MH I-158(a). With respect, CAC/MSOS requests a proper reply to each of these questions.

In Centra proceedings, evidence was tendered to the effect that 1 month BA rates were a relevant proxy for MH short term note cost. While CAC/MSOS accepts that interest rates on many of the floating rate long term Canadian dollar denominated instruments may be referenced to 3 month BAs, there are a significant range in spreads attached to those instruments issued by MH.

CAC/MSOS observes that the spreads indicated on the table attached to CAC/MSOS/MH I-142(a) includes spreads of 0.0455%, 0.0469%, 0.0925%, 0.179%, 0.1875%, 0.192%, 0.40%, 0.484%, 1.08%, and 3.29%.

Firstly, this is a very large range of historic spreads from 3 month BAs. Secondly, the intention to undertake 30 year fixed rate financing as the assumption contained in IFF09 as discussed in CAC/MSOS/MH I-180(a), is quite different in term than a 15 year issue. Thirdly, the recent issues by MH with maturities in the 50 plus year range as discussed in PUB/MH I-35(e), are materially longer than a 15 year issue.

Reflecting on these three factors, it is patently unclear that the comparison of the 3 month BA index and the 15 year index contained in the NBF report are the most appropriate indexes to use in this modeling assignment, having regard to MH's debt intentions and recent issues.

CAC/MSOS wishes to understand why the Manitoba specific 3 month index is less appropriate than a "spread free" BA index, and how the use

of alternative data series might have affected the conclusions of the analysis.

- a) In light of the spreads that impact the Manitoba BA based borrowing, and with the availability of a Bloomberg Manitoba specific index, please explain why the Bloomberg Manitoba specific index is a less appropriate measure for the analysis of the NBF report.**

ANSWER:

All of Manitoba Hydro's BA-based floating long term debt utilizes the 3 month Bloomberg BA rate (CDOR03: Canadian Deposit Overnight Rate - 3 month). The use of the CDOR03 referencing is standard contractual practice for Canadian floating long term debt issues and represents a legal obligation on behalf of Manitoba Hydro with regard to its interest reset rates on this debt. It is inappropriate to utilize any other BA referencing. Therefore, NBF correctly utilized the CDOR03 measure for the engagement and there is no meaningful basis for substituting a 3 month Bloomberg Manitoba specific series (C3023M) for analytical purposes. Also, see the response to CAC/MSOS/MH I-158(a) for NBF's appropriate use of floating interest reset rates (CDOR03) versus any proxy for Manitoba Hydro's short term borrowing rates.

CAC/MSOS/MH II-131

Reference: CAC/MSOS/MH I-157(k), (l) and (m)
CAC/MSOS/MH I-157(j)
CAC/MSOS/MH I-158(a)

Preamble: In reply to questions CAC/MSOS/MH I-157(k, l, m), we are directed CAC/MSOS/MH I-157(j) which is, in part, a reference to CAC/MSOS/MH I-158(a). With respect, CAC/MSOS requests a proper reply to each of these questions.

In Centra proceedings, evidence was tendered to the effect that 1 month BA rates were a relevant proxy for MH short term note cost. While CAC/MSOS accepts that interest rates on many of the floating rate long term Canadian dollar denominated instruments may be referenced to 3 month BAs, there are a significant range in spreads attached to those instruments issued by MH.

CAC/MSOS observes that the spreads indicated on the table attached to CAC/MSOS/MH I-142(a) includes spreads of 0.0455%, 0.0469%, 0.0925%, 0.179%, 0.1875%, 0.192%, 0.40%, 0.484%, 1.08%, and 3.29%.

Firstly, this is a very large range of historic spreads from 3 month BAs. Secondly, the intention to undertake 30 year fixed rate financing as the assumption contained in IFF09 as discussed in CAC/MSOS/MH I-180(a), is quite different in term than a 15 year issue. Thirdly, the recent issues by MH with maturities in the 50 plus year range as discussed in PUB/MH I-35(e), are materially longer than a 15 year issue.

Reflecting on these three factors, it is patently unclear that the comparison of the 3 month BA index and the 15 year index contained in the NBF report are the most appropriate indexes to use in this modeling assignment, having regard to MH's debt intentions and recent issues.

CAC/MSOS wishes to understand why the Manitoba specific 3 month index is less appropriate than a "spread free" BA index, and how the use

of alternative data series might have affected the conclusions of the analysis.

- b) Please provide any analysis that the Bloomberg 3 month Manitoba specific index is a less representative of Manitoba Hydro short term borrowing costs than the 3 month BA index.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-131(a).

CAC/MSOS/MH II-131

Reference: CAC/MSOS/MH I-157(k), (l) and (m)
CAC/MSOS/MH I-157(j)
CAC/MSOS/MH I-158(a)

Preamble: In reply to questions CAC/MSOS/MH I-157(k, l, m), we are directed CAC/MSOS/MH I-157(j) which is, in part, a reference to CAC/MSOS/MH I-158(a). With respect, CAC/MSOS requests a proper reply to each of these questions.

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Firstly, this is a very large range of historic spreads from 3 month BAs. Secondly, the intention to undertake 30 year fixed rate financing as the assumption contained in IFF09 as discussed in CAC/MSOS/MH I-180(a), is quite different in term than a 15 year issue. Thirdly, the recent issues by MH with maturities in the 50 plus year range as discussed in PUB/MH I-35(e), are materially longer than a 15 year issue.

Reflecting on these three factors, it is patently unclear that the comparison of the 3 month BA index and the 15 year index contained in the NBF report are the most appropriate indexes to use in this modeling assignment, having regard to MH's debt intentions and recent issues.

CAC/MSOS wishes to understand why the Manitoba specific 3 month index is less appropriate than a "spread free" BA index, and how the use

of alternative data series might have affected the conclusions of the analysis.

- c) Please provide any working papers which may document the consideration of the use of alternative indices for use in this assignment.**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-131(a).

CAC/MSOS/MH II-131

Reference: CAC/MSOS/MH I-157(k), (l) and (m)
CAC/MSOS/MH I-157(j)
CAC/MSOS/MH I-158(a)

Preamble: In reply to questions CAC/MSOS/MH I-157(k, l, m), we are directed CAC/MSOS/MH I-157(j) which is, in part, a reference to CAC/MSOS/MH I-158(a). With respect, CAC/MSOS requests a proper reply to each of these questions.

In Centra proceedings, evidence was tendered to the effect that 1 month BA rates were a relevant proxy for MH short term note cost. While CAC/MSOS accepts that interest rates on many of the floating rate long term Canadian dollar denominated instruments may be referenced to 3 month BAs, there are a significant range in spreads attached to those instruments issued by MH.

CAC/MSOS observes that the spreads indicated on the table attached to CAC/MSOS/MH I-142(a) includes spreads of 0.0455%, 0.0469%, 0.0925%, 0.179%, 0.1875%, 0.192%, 0.40%, 0.484%, 1.08%, and 3.29%.

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Reflecting on these three factors, it is patently unclear that the comparison of the 3 month BA index and the 15 year index contained in the NBF report are the most appropriate indexes to use in this modeling assignment, having regard to MH's debt intentions and recent issues.

CAC/MSOS wishes to understand why the Manitoba specific 3 month index is less appropriate than a "spread free" BA index, and how the use

of alternative data series might have affected the conclusions of the analysis.

- d) Please discuss the extent to which NBF financial considered the 3 month BA spreads in its selection of the index to be used as the reference for short term borrowing rates.**

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-131(a).

CAC/MSOS/MH II-131

Reference: CAC/MSOS/MH I-157(k), (l) and (m)
CAC/MSOS/MH I-157(j)
CAC/MSOS/MH I-158(a)

Preamble: In reply to questions CAC/MSOS/MH I-157(k, l, m), we are directed CAC/MSOS/MH I-157(j) which is, in part, a reference to CAC/MSOS/MH I-158(a). With respect, CAC/MSOS requests a proper reply to each of these questions.

In Centra proceedings, evidence was tendered to the effect that 1 month BA rates were a relevant proxy for MH short term note cost. While CAC/MSOS accepts that interest rates on many of the floating rate long term Canadian dollar denominated instruments may be referenced to 3 month BAs, there are a significant range in spreads attached to those instruments issued by MH.

CAC/MSOS observes that the spreads indicated on the table attached to CAC/MSOS/MH I-142(a) includes spreads of 0.0455%, 0.0469%, 0.0925%, 0.179%, 0.1875%, 0.192%, 0.40%, 0.484%, 1.08%, and 3.29%.

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Reflecting on these three factors, it is patently unclear that the comparison of the 3 month BA index and the 15 year index contained in the NBF report are the most appropriate indexes to use in this modeling assignment, having regard to MH's debt intentions and recent issues.

CAC/MSOS wishes to understand why the Manitoba specific 3 month index is less appropriate than a "spread free" BA index, and how the use

of alternative data series might have affected the conclusions of the analysis.

- e) As the 3 month series used in the NBF report was other than the Bloomberg Manitoba specific series C3023M, please provide its mean yield, standard deviation, and the Correlation of that series to the 15 year Manitoba series used in the NBF analysis for each of the time periods used in Tables 3, 4 and 11 and Figure 1.

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-131(a).

CAC/MSOS/MH II-132

Reference: CAC/MSOS/MH I-157(a)
CAC/MSOS/MH I-180(a)

Preamble: In CAC/MSOS/MH I-157(a), we are advised that NBF used the Bloomberg 15 year index in its report. In CAC/MSOS/MH I-180(a), we are advised that “For the purposes of the forecast, all new long term debt is assumed to be Canadian dollar 30 year fixed rate financing.” CAC/MSOS wishes to understand whether NBF was aware of the IFF09 interest rate scenarios and how the use of the Bloomberg 30 year data series might have affected the conclusions of the analysis.

a) Was NBF was aware of the IFF09 interest rate scenarios and the fact that the IFF09 model assumes 30 year terms, and if not. why not?

ANSWER:

The IFF09 was produced subsequent to the issuance of the NBF report, and therefore NBF was not aware of the IFF09 interest rate scenarios.

CAC/MSOS/MH II-132

Reference: CAC/MSOS/MH I-157(a)
CAC/MSOS/MH I-180(a)

Preamble: In CAC/MSOS/MH I-157(a), we are advised that NBF used the Bloomberg 15 year index in its report. In CAC/MSOS/MH I-180(a), we are advised that “For the purposes of the forecast, all new long term debt is assumed to be Canadian dollar 30 year fixed rate financing.” CAC/MSOS wishes to understand whether NBF was aware of the IFF09 interest rate scenarios and how the use of the Bloomberg 30 year data series might have affected the conclusions of the analysis.

b) Please discuss the manner, if any, the use of the 30 year series, with potentially different statistical measures, would have affected the conclusions of the NBF report.

ANSWER:

As described in the report, NBF utilized the asset liability approach and customized their model by using variables and volatility metrics that were most appropriate for Manitoba Hydro. The use of IFF09 interest rate scenarios and the utilization of a 30 year series would have had no observable impact on NBF’s results or conclusions.

CAC/MSOS/MH II-133

Reference: CAC/MSOS/MH I-154(a)

Preamble: In CAC/MSOS/MH I-154(a), we raise the matter of different periods of data for analysis presented in tables in the NBF report. We were advised that the different periods of data presented was due in part to *“Lack of available public information for power prices prior to 2005 on Bloomberg.”* CAC/MSOS wishes to understand whether the conclusions presented are developed using a robust model with inputs covering a sufficiently extensive period to provide adequate samples of data.

a) For the model that gave rise to the curve presented in Figure 1, what time period was used for each of the Key Factor Volatility Metrics?

ANSWER:

The time period selected for each of the Key Factor Volatility Metrics was 2005 - 2009.

CAC/MSOS/MH II-133

Reference: CAC/MSOS/MH I-154(a)

Preamble: In CAC/MSOS/MH I-154(a), we raise the matter of different periods of data for analysis presented in tables in the NBF report. We were advised that the different periods of data presented was due in part to *“Lack of available public information for power prices prior to 2005 on Bloomberg.”* CAC/MSOS wishes to understand whether the conclusions presented are developed using a robust model with inputs covering a sufficiently extensive period to provide adequate samples of data.

- b) Please discuss how the negative yield correlation for the 2004-2009 period discussed on page 12 of the NBF report, might have altered the resulting ranges, as opposed to a positive correlation.

ANSWER:

NBF’s asset liability modeling was not affected by yield curve correlations. Therefore, although the last 5 years have witnessed a steepening of the yield curve, there would have been no impact to NBF’s conclusions regarding the modeled optimal range.

CAC/MSOS/MH II-133

Reference: CAC/MSOS/MH I-154(a)

Preamble: In CAC/MSOS/MH I-154(a), we raise the matter of different periods of data for analysis presented in tables in the NBF report. We were advised that the different periods of data presented was due in part to *“Lack of available public information for power prices prior to 2005 on Bloomberg.”* CAC/MSOS wishes to understand whether the conclusions presented are developed using a robust model with inputs covering a sufficiently extensive period to provide adequate samples of data.

- c) In light of the fact that the tender notes that the optimal relative weighting is to address a number of interest rate scenarios and market conditions including “increasing/ decreasing interest rate expectations, flat/ steep/ inverted yield curves”, please describe the market conditions which were reflected in the data streams which were modeled (perhaps a 2005 through 2009 period).

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-133(b).

CAC/MSOS/MH II-134

Reference: CAC/MSOS/MH I-153(a)
CAC/MSOS/MH I-17(b)

Preamble: In CAC/MSOS/MH I-153(a), we are provided with a reply that addressed the manner inflation was modeled to effect domestic utility rates and O&M Expenses. We learn that “operation and maintenance expenses are impacted by macroeconomic growth in the form of historical inflation rates and historical CPI rates were used to model this assumption.” In CAC/MSOS/MH I-17(b), we are provided with information on OM&A rates and CPI, a portion of which is set out below. The OM&A Change was calculated by simple division.

CAC/MSOS 1-17 (b)

Manitoba Hydro	2005	2006	2007	2008	2009
OM&A	299	311	323	323	360
OM&A Change [CAC calculation]		4.00%	3.90%	0.00%	11.50%
OM&A per customer		3.20%	2.70%	-1.10%	10.20%
Canadian CPI		2.30%	1.90%	2.10%	2.20%

CAC/MSOS wishes to understand information on OM&A and CPI that was available to the NBF and how it was applied in its methodology.

- a) Did NBF assume that each of domestic utility rates and O&M expenses would grow by the CPI rate?

ANSWER:

NBF was not engaged to evaluate Manitoba Hydro’s O&M expenditures, nor to perform an analysis of changes in Manitoba Hydro’s domestic utility rates and O&M with changes in the CPI rate. For comparability purposes, NBF utilized CPI as an estimator of inflation. This is an assumption NBF normally makes to model OM&A expenses for its valuation work. The optimal range determined in the NBF report would not have been affected by any of the variances derived from the question’s preamble.

CAC/MSOS/MH II-134

Reference: CAC/MSOS/MH I-153(a)
CAC/MSOS/MH I-17(b)

Preamble: In CAC/MSOS/MH I-153(a), we are provided with a reply that addressed the manner inflation was modeled to effect domestic utility rates and O&M Expenses. We learn that “operation and maintenance expenses are impacted by macroeconomic growth in the form of historical inflation rates and historical CPI rates were used to model this assumption.” In CAC/MSOS/MH I-17(b), we are provided with information on OM&A rates and CPI, a portion of which is set out below. The OM&A Change was calculated by simple division.

CAC/MSOS 1-17 (b)

Manitoba Hydro	2005	2006	2007	2008	2009
OM&A	299	311	323	323	360
OM&A Change [CAC calculation]		4.00%	3.90%	0.00%	11.50%
OM&A per customer		3.20%	2.70%	-1.10%	10.20%
Canadian CPI		2.30%	1.90%	2.10%	2.20%

CAC/MSOS wishes to understand information on OM&A and CPI that was available to the NBF and how it was applied in its methodology.

b) Did NBF distinguish between O&M and OM&A?

ANSWER:

No. NBF’s references to O&M can be understood to be synonymous with Manitoba Hydro’s OM&A.

CAC/MSOS/MH II-134

Reference: CAC/MSOS/MH I-153(a)
CAC/MSOS/MH I-17(b)

Preamble: In CAC/MSOS/MH I-153(a), we are provided with a reply that addressed the manner inflation was modeled to effect domestic utility rates and O&M Expenses. We learn that *“operation and maintenance expenses are impacted by macroeconomic growth in the form of historical inflation rates and historical CPI rates were used to model this assumption.”* In CAC/MSOS/MH I-17(b), we are provided with information on OM&A rates and CPI, a portion of which is set out below. The OM&A Change was calculated by simple division.

CAC/MSOS 1-17 (b)

Manitoba Hydro	2005	2006	2007	2008	2009
OM&A	299	311	323	323	360
OM&A Change [CAC calculation]		4.00%	3.90%	0.00%	11.50%
OM&A per customer		3.20%	2.70%	-1.10%	10.20%
Canadian CPI		2.30%	1.90%	2.10%	2.20%

CAC/MSOS wishes to understand information on OM&A and CPI that was available to the NBF and how it was applied in its methodology.

- c) **What analysis did NBF undertake to compare changes in domestic utility rates and O&M with changes in the CPI?**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-136(a).

CAC/MSOS/MH II-134

Reference: CAC/MSOS/MH I-153(a)
CAC/MSOS/MH I-17(b)

Preamble: In CAC/MSOS/MH I-153(a), we are provided with a reply that addressed the manner inflation was modeled to effect domestic utility rates and O&M Expenses. We learn that *“operation and maintenance expenses are impacted by macroeconomic growth in the form of historical inflation rates and historical CPI rates were used to model this assumption.”* In CAC/MSOS/MH I-17(b), we are provided with information on OM&A rates and CPI, a portion of which is set out below. The OM&A Change was calculated by simple division.

CAC/MSOS 1-17 (b)

Manitoba Hydro	2005	2006	2007	2008	2009
OM&A	299	311	323	323	360
OM&A Change [CAC calculation]		4.00%	3.90%	0.00%	11.50%
OM&A per customer		3.20%	2.70%	-1.10%	10.20%
Canadian CPI		2.30%	1.90%	2.10%	2.20%

CAC/MSOS wishes to understand information on OM&A and CPI that was available to the NBF and how it was applied in its methodology.

- d) How would be ranges determined in the NBF report be changed with the realization that there is considerable variance between changes in direction and magnitude of OM&A and CPI as indicated above?**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-136(a).

CAC/MSOS/MH II-135 (REVISED)

Reference: CAC/MSOS/MH I-152(a)

Preamble: In CAC/MSOS/MH I-152(a), we are provided with a copy of the tender for the NBF Report. That tender notes that the optimal relative weighting is to address a number of scenarios “increasing/ decreasing interest rate expectations, flat/ steep/ inverted yield curves”. Please indicate:

- a) **Did the data employed in the period used for analysis by the NBF internal model, involve a flat yield curve?**

ANSWER:

The statistical data utilized by NBF in their modeling included periods of upwardly sloping, flat and inverted yield curves. NBF also considered yield curve dynamics in their recommendation to adjust Manitoba Hydro’s “floating rate debt proportion within the identified optimal range in order to take advantage of the prevailing interest rate environment. This adjustment should take into account both the level and the slope of the yield curve” [page 7, NBF Report].

The range of yield curve dynamics are also addressed throughout the report including Section 2: Portfolio Theory Overview. NBF also conducted an efficient frontier analysis with the Modern Portfolio Theory (MPT) using historical yield data for the period from 1999 - 2009 that included flat, inverted and upwardly sloped yield curves, which generated a floating rate debt range of 12 - 23% (see page 11 for the results of the analysis). Note that had Manitoba Hydro adopted the MPT approach, the optimal range would have been more conservative than with the asset liability approach (12 - 23% versus 14 - 27% respectively).

CAC/MSOS/MH II-135

Reference: CAC/MSOS/MH I-152(a)

Preamble: In CAC/MSOS/MH I-152(a), we are provided with a copy of the tender for the NBF Report. That tender notes that the optimal relative weighting is to address a number of scenarios “increasing/ decreasing interest rate expectations, flat/ steep/ inverted yield curves”. Please indicate:

b) Did the data employed in the period used for analysis by the NBF internal model, involve a flat inverted curve?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-135(a).

CAC/MSOS/MH II-135

Reference: CAC/MSOS/MH I-152(a)

Preamble: In CAC/MSOS/MH I-152(a), we are provided with a copy of the tender for the NBF Report. That tender notes that the optimal relative weighting is to address a number of scenarios “increasing/ decreasing interest rate expectations, flat/ steep/ inverted yield curves”. Please indicate:

c) Where in the report do the authors address flat or inverted yield curves?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-135(a).

CAC/MSOS/MH II-135

Reference: CAC/MSOS/MH I-152(a)

Preamble: In CAC/MSOS/MH I-152(a), we are provided with a copy of the tender for the NBF Report. That tender notes that the optimal relative weighting is to address a number of scenarios “increasing/ decreasing interest rate expectations, flat/ steep/ inverted yield curves”. Please indicate:

d) If flat or inverted yield curves are not addressed, please explain why not.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-135(a).

CAC/MSOS/MH II-136

Reference: CAC/MSOS/MH I-152(a)

Preamble: In CAC/MSOS/MH I-152(a), we are provided with a copy of the tender for the NBF Report. That tender and paragraph # 5 on page one of the report each refer to an “implementation plan”.

- a) Please provide a copy of the implementation plan and identify “the necessary tools to assist Manitoba Hydro on an ongoing basis”.

ANSWER:

A recommended implementation plan was not required as Manitoba Hydro’s actual percentage of floating rate debt was within the optimal range, and Manitoba Hydro’s guideline to maintain its percentage of floating rate debt within the target range of 15 - 25% was concluded to be “both reasonable and appropriate” [page 7, *NBF Report*].

CAC/MSOS/MH II-136

Reference: CAC/MSOS/MH I-152(a)

Preamble: In CAC/MSOS/MH I-152(a), we are provided with a copy of the tender for the NBF Report. That tender and paragraph # 5 on page one of the report each refer to an “implementation plan”.

b) Where in the report do the authors address “the necessary tools”?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-136(a).

CAC/MSOS/MH II-137

Reference: CAC/MSOS/MH I-151(c)
CAC/MSOS/MH I-151(g)

Preamble: CAC/MSOS observes that a 7% change in the risk of the debt portfolio apparently can result in an approximate 50% change in shareholder return. We are also told in CAC/MSOS/MH I-151(c), that the “Minimum Variance” point would intersect the Return axis at 51%.

CAC/MSOS/MH I-151(g), pointed out that Table 2 uses the term “Adjusted Return” and sought clarification of the difference between the terms used in Figure 1 and Table 2. The reply does not clarify the adjustment particularly in that we are advised that the “Minimum Variance” adjusted return is 50 in Table 2, but 51 in CAC/MSOS/MH I-151(c). CAC/MSOS wishes to better understand the NBF methodology.

- a) Please confirm that in the NBF method, a 14% floating rate portfolio increases the return to shareholders by 51% as indicated in CAC/MSOS/MH I-151(c), or 50% as indicated in Table 2, or if unable to confirm, provide the explanation.

ANSWER:

The Table 2 value is confirmed to be 50%. As noted in response to CAC/MSOS/MH II-126(a), the return axis should be understood to be in reference to gross interest expense and not net income.

CAC/MSOS/MH II-138

Reference: CAC/MSOS/MH I-151(b)
CAC/MSOS/MH I-151(d)

Preamble: In CAC/MSOS/MH I-151(b), with respect to figure 1 in the NBF report, we learn that *“The units in the chart are on a percentage basis of the fixed equivalent portfolio.”* We are also told in CAC/MSOS/MH I-151(d), that the 25% upper limit would intersect the Return axis at 94.3%. CAC/MSOS wishes to better understand the NBF methodology.

- a) Please confirm that in the NBF method, a 25% floating rate portfolio captures 93.4% of the theoretical return available to shareholders of a theoretically blended fixed floating portfolio of equivalent risk to a theoretical 100% fixed portfolio, or if unable to confirm, provide the explanation.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-126(a) which states that the modeled net income differences were based “solely on a change in the gross interest expense.”

The values for changes in modeled gross interest expense in CAC/MSOS/MH I-151(d) are confirmed.

CAC/MSOS/MH II-139

Reference: CAC/MSOS/MH I-151(b)
CAC/MSOS/MH I-151(c)

Preamble: In CAC/MSOS/MH I-151(b), with respect to figure 1 in the NBF report, we learn that *“The units in the chart are on a percentage basis of the fixed equivalent portfolio.”* We are also told in CAC/MSOS/MH I-151(c), that the *“Minimum Variance”* point would intersect the Return axis at 51%. CAC/MSOS wishes to better understand the NBF methodology.

- a) Please confirm that in the NBF method, a 14% floating rate portfolio increases the return to shareholders to 51% of the theoretical 100% fixed portfolio, or if unable to confirm, provide the explanation.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-137(a).

CAC/MSOS/MH II-140

Reference: CAC/MSOS/MH I-151(a)

Preamble: In CAC/MSOS/MH I-151(a) we learn that “*The optimal range of portfolios contain a mix of fixed and floating rate debt that allows Manitoba Hydro to increase both its net income and returns to shareholders at a lower level of risk (i.e. variance to net income) than that of the 100% Fixed and the Fixed Equivalent portfolios.*” [Emphasis added] CAC/MSOS wishes to understand whether NBF considered whether any of the benefit of lower interest rates should be shared with consumers.

- a) Please provide NBF’s understanding of the regulatory model in Manitoba and its view as to how interest rate savings might, if at all, be shared with consumers.

ANSWER:

NBF was not engaged to review Manitoba’s regulatory environment and as such the issue discussed in this question was not in the scope of the engagement with Manitoba Hydro.

CAC/MSOS/MH II-141

Reference: CAC/MSOS/MH I-151(a)

Preamble: In CAC/MSOS/MH I-151(a) CAC/MSOS requested that the authors of the NBF report found in Appendix 13.3, provide its definition of “optimal”, but we are provided with the reply *“The optimal range of portfolios contain a mix of fixed and floating rate debt that allows Manitoba Hydro to increase both its net income and returns to shareholders at a lower level of risk (i.e. variance to net income) than that of the 100% Fixed and the Fixed Equivalent portfolios.”*

Respectfully, this reply does not address the question posed. This reply also appears to designate all portfolios within a certain range as “optimal” when increasing the return slightly at an immaterial reduction of risk will clearly represent an improvement, but may ignore other risk reward combinations that improve returns at different risk adjustments. CAC/MSOS wishes to better understand the views of the authors.

- a) Please define “optimal” as the term is used in the phrase “A financial impact analysis, comparing *the optimal* fixed vs. floating rate debt mix against Manitoba Hydro’s current policy.” [Emphasis added]

ANSWER:

An optimal portfolio is one which performs best against its objectives. The modeling performed by NBF had the objective to determine the range of portfolios between the Minimum Variance and Fixed Equivalent portfolios. It would be incorrect for the Intervener to assume that a singular portfolio exists that would be optimal for all circumstances. All NBF references to optimal should therefore be understood from this range perspective, and the referenced excerpts can be read as “... the optimal range of fixed vs. floating rate debt ...”

The statement in the preamble that “increasing the return slightly at an immaterial reduction of risk will clearly represent an improvement” is incorrect as an increasing return (reduction in gross interest expense) within the modeled optimal range by accepting more floating rate

debt will increase (and not reduce) both the income statement volatility and interest rate refinancing risk.

CAC/MSOS/MH II-141

Reference: CAC/MSOS/MH I-151(a)

Preamble: In CAC/MSOS/MH I-151(a) CAC/MSOS requested that the authors of the NBF report found in Appendix 13.3, provide its definition of “optimal”, but we are provided with the reply *“The optimal range of portfolios contain a mix of fixed and floating rate debt that allows Manitoba Hydro to increase both its net income and returns to shareholders at a lower level of risk (i.e. variance to net income) than that of the 100% Fixed and the Fixed Equivalent portfolios.”*

Respectfully, this reply does not address the question posed. This reply also appears to designate all portfolios within a certain range as “optimal” when increasing the return slightly at an immaterial reduction of risk will clearly represent an improvement, but may ignore other risk reward combinations that improve returns at different risk adjustments. CAC/MSOS wishes to better understand the views of the authors.

- b) Please define “optimal” as the term is used in the sentence “In order to strictly adhere to the scope of this mandate and issue in question, namely *the optimal* mix of fixed vs. floating rate debt, NBF has made the following assumptions in its technical analysis ...” [Emphasis added]

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-141(a).

CAC/MSOS/MH II-142

Reference: CAC/MSOS/MH I-150(a)
Appendix 48
CAC/MSOS/MH I-21(a) and (c)

Preamble: In CAC/MSOS/MH I-150(a) we are provided some information related to the repayment of certain outstanding debt issues, but without reference to the identifies of the specific debt series involved. By way of example, the paragraph “In September 2009, two debt issues totalling \$350 million CAD were issued, of which \$250 million was used to refinance an existing debt series and \$100 million to finance new capital construction requirements”.

The reference does not mention the debt series issued nor the existing series refinanced. From information contained in Appendix 48 it is possible to infer that the September series discussed were Series FM and C108, but Schedule CAC/MSOS/MH I-21 (A) and (c) for March 31, 2009 does not show a September 2009 maturity. CAC/MSOS wishes to better understand the flows of capital.

- a) Please revise the reply in CAC/MSOS/MH I-150(a), paragraphs beginning “In September”, “in the third quarter” and “In the fourth quarter” to include the identifiers of each debt series issued and repaid.

ANSWER:

The response to CAC/MSOS/MH I-150(a) has been revised as follows with the additional requested information in brackets:

Manitoba Hydro has completed all of its financing for the 2009/10 fiscal year.

A total of \$400 million CAD was issued in June 2009 (C107 and FK-2) and was predominately used to finance new capital construction requirements.

In September 2009, two debt issues totaling \$350 million CAD were issued (C108 and FM), of which \$250 million was used to refinance an existing debt series (EL

refinancing of \$250 million = \$100 million from C108 + \$150 million from FM) and \$100 million to finance new capital construction requirements.

In the third quarter, \$200 million CAD was issued in October (FN) and a total of \$175 million CAD was issued in two debt issues in November (C109 and C110). The total third quarter financing of \$375 million CAD was used to finance new capital construction requirements.

In the fourth quarter, there were three debt issues. \$400 million USD was issued in January 2010 (FO), \$150 million of which was to refinance an existing USD debt issue in 2009/10 (EM) and the balance of \$250 million USD will be to refinance USD debt issues maturing in 2010/11 (FD and CO32). In February, \$300 million CAD was issued (FP) to refinance an existing debt series in the amount of \$175 million (FD-1) and the remainder of \$125 million to finance new capital construction requirements. In March 2010, \$200 million CAD was issued (C112) to refinance an existing debt series (C101).

CAC/MSOS/MH II-143

Reference: CAC/MSOS/MH I-149(c)

Preamble: In CAC/MSOS/MH I-149(c) we are provided with a table that indicated that in each of the 2011 and 2012 financial years the capital for “New Major Generation & Transmission” materially exceeds the “Base Capital”. In the 2011 year, capital for “New Major Generation & Transmission” represents approximately 58% of the total of “New Major Generation & Transmission” plus “Base Capital”.

CAC/MSOS observes that a smaller portion of capital is being deployed in a manner that is subject to the limitation of the 1.20 Capital coverage target. CAC/MSOS wishes to better understand the importance of a capital coverage ratio that only addresses a subset of capital expenditures.

- a) **Please advise whether another capital coverage ratio which compares the totality of capital expenditures would be more appropriate in assessing capital adequacy.**

ANSWER:

The existing capital coverage ratio of 1.20 is the most appropriate measure for the assessment of Manitoba Hydro’s base capital financing adequacy, and the existing debt equity ratio is the most appropriate measure for the Corporation’s total capital structure. These ratios are understood and accepted by Rating Agencies. On this basis, the Corporation anticipates that it will continue to successfully access sufficient new financing to fully support its new major generation & transmission capital investments.

CAC/MSOS/MH II-143

Reference: CAC/MSOS/MH I-149(c)

Preamble: In CAC/MSOS/MH I-149(c) we are provided with a table that indicated that in each of the 2011 and 2012 financial years the capital for “New Major Generation & Transmission” materially exceeds the “Base Capital”. In the 2011 year, capital for “New Major Generation & Transmission” represents approximately 58% of the total of “New Major Generation & Transmission” plus “Base Capital”.

CAC/MSOS observes that a smaller portion of capital is being deployed in a manner that is subject to the limitation of the 1.20 Capital coverage target. CAC/MSOS wishes to better understand the importance of a capital coverage ratio that only addresses a subset of capital expenditures.

- b) At what, if any, level would the percentage of “New Major Generation & Transmission” capital compared to the total of “New Major Generation & Transmission” plus “Base Capital” result in a funding problem.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-143(a).

CAC/MSOS/MH II-144

Reference: CAC/MSOS/MH I-142(a)
CAC/MSOS/MH I-31(c)

Preamble: In CAC/MSOS/MH I-142(a), we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”.

In CAC/MSOS/MH I-31(c), we are provided with a debt maturity schedule for issues undertaken “over the past 4 years.” CAC/MSOS observes that certain of the similarly named issues are described with differing maturity dates and fixed coupons. CAC/MSOS wishes to better understand the MH debt position.

- a) Please reconcile the differences in the maturity date and interest rate components for series “FJ” maturing in either 2017 or 2037, including the terms of the “forward interest rate swap” if any.

ANSWER:

As noted in response to CAC/MSOS/MH I-31(c), the cost of fixed rate debt in that schedule was calculated based on the initial issuance of physical debt in the capital markets in order to illustrate the level of provincial spreads over Canada at the time of debt issuance. “In some instances, the debt issues were immediately swapped to floating rate debt in order to accommodate the cash flow structure for forward interest rate swaps which had been arranged prior to the debt issue.”

As indicated in the schedule attached in response to CAC/MSOS/MH I-31(c), the initial advance Series FJ was issued September 12, 2007 with a yield to investor of 4.750% and a maturity date of September 22, 2017.

This issue was immediately swapped by the Province of Manitoba using a forward interest rate swap to secure a 30 year fixed interest rate of 5.104% until the maturity of the swap on September 12, 2037. The swap transaction terms specify that the Province of Manitoba will

refinance the maturity of Series FJ on September 22, 2017 at a floating rate of interest estimated to be 3 month BAs + 0.00%. At the time of refinancing, an interest adjustment will be settled between Manitoba Hydro and the Province of Manitoba based on the difference between the actual floating rate and 3 month BAs + 0.00%.

As indicated in the schedule attached in response to CAC/MSOS/MH I-142(a), the amended advance Series FJ thus has a maturity date of September 12, 2037 and a fixed coupon rate of 5.104%.

CAC/MSOS/MH II-144

Reference: CAC/MSOS/MH I-142(a)
CAC/MSOS/MH I-31(c)

Preamble: In CAC/MSOS/MH I-142(a), we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”.

In CAC/MSOS/MH I-31(c), we are provided with a debt maturity schedule for issues undertaken “over the past 4 years.” CAC/MSOS observes that certain of the similarly named issues are described with differing maturity dates and fixed coupons. CAC/MSOS wishes to better understand the MH debt position.

- b) Please reconcile the differences, if any, in the maturity date and interest rate components for series “FC-3” issued in 2008 and maturing in 2018, with an “interest rate” of 7.169% or a yield to investor of 3.881%, including the terms of the “forward interest rate swap” if any.

ANSWER:

As noted in response to CAC/MSOS/MH I-31(c), the cost of fixed rate debt in that schedule was calculated based on the initial issuance of physical debt in the capital markets in order to illustrate the level of provincial spreads over Canadas at the time of debt issuance. “In some instances, the debt issues were immediately swapped to floating rate debt in order to accommodate the cash flow structure for forward interest rate swaps which had been arranged prior to the debt issue.”

As indicated in the schedule attached in response to CAC/MSOS/MH I-31(c), the initial advance Series FC-3 was issued May 22, 2008 with a yield to investor of 3.881%.

Series FC-3 contributed to the refinancing of series ED-2 which matured June 2, 2008. However, a forward interest rate swap was attached to series ED-2 which had a maturity date of June 2, 2018 and a fixed rate of interest of 7.2229% versus 3 month BAs + 0.1000%.

Therefore, FC-3 was immediately swapped by the Province of Manitoba to a floating rate of 3 month BAs + 0.0460% to accommodate the forward interest rate swap on series ED-2. The net result of the refinancing was an amended fixed interest rate of 7.1689% ($7.2229\% + 0.0460\% - 0.1000\% = 7.1689\%$) until the maturity of the original FC-3 advance on December 3, 2014.

The swap transaction terms specify that the Province of Manitoba will refinance the maturity of Series FC-3 on December 3, 2014 at a floating rate of interest estimated to be 3 month BAs + 0.1000%. At time of refinancing, an interest adjustment will be settled between Manitoba Hydro and the Province of Manitoba based on the difference between the actual floating rate and 3 month BAs + 0.1000%.

As indicated in the schedule attached in response to CAC/MSOS/MH I-142(a), the amended advance Series FC-3 thus has a maturity date of June 2, 2018 and a fixed coupon rate of 7.169%.

CAC/MSOS/MH II-144

Reference: CAC/MSOS/MH I-142(a)
CAC/MSOS/MH I-31(c)

Preamble: In CAC/MSOS/MH I-142(a), we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”.

In CAC/MSOS/MH I-31(c), we are provided with a debt maturity schedule for issues undertaken “over the past 4 years.” CAC/MSOS observes that certain of the similarly named issues are described with differing maturity dates and fixed coupons. CAC/MSOS wishes to better understand the MH debt position.

- c) Please reconcile the differences, if any, in the maturity date and interest rate components for series “C101” issued in 2008 and maturing either 2013 or 2010, with an “interest rate” of 7.169% or a yield to investor of 3.881%, including the terms of the “forward interest rate swap” if any.

ANSWER:

The interest rates referred to in this question pertain to debt series FC-3 and not debt series C101. Similar to the circumstances discussed in responses to CAC/MSOS/MH II-144(a) and (b), the initial terms and conditions of the original C101 were amended in accordance with applicable forward interest rate swaps. Please see the response to CAC/MSOS/MH II-144(b) for the discussion related to debt series FC-3.

CAC/MSOS/MH II-144

Reference: CAC/MSOS/MH I-142(a)
CAC/MSOS/MH I-31(c)

Preamble: In CAC/MSOS/MH I-142(a), we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”.

In CAC/MSOS/MH I-31(c), we are provided with a debt maturity schedule for issues undertaken “over the past 4 years.” CAC/MSOS observes that certain of the similarly named issues are described with differing maturity dates and fixed coupons. CAC/MSOS wishes to better understand the MH debt position.

- d) Please reconcile the differences, if any, in the maturity date and interest rate components for series “FK-2” issued in 2009 and maturing 2040, with an “interest rate” of 4.65% or a yield to investor of 5.127%, including the terms of the “forward interest rate swap” if any.

ANSWER:

On June 5, 2009 the Province of Manitoba issued and advanced to Manitoba Hydro debt series FK-2 for \$300 million with a coupon rate of 4.65% and a maturity date of March 5, 2040. FK-2 was issued at a discount (issue price 92.650) and bore a yield of 5.127% to the investor, with a yield to Manitoba Hydro of 5.175%, including commissions. There is no forward interest rate swap associated with this advance.

CAC/MSOS/MH II-144

Reference: CAC/MSOS/MH I-142(a)
CAC/MSOS/MH I-31(c)

Preamble: In CAC/MSOS/MH I-142(a), we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”.

In CAC/MSOS/MH I-31(c), we are provided with a debt maturity schedule for issues undertaken “over the past 4 years.” CAC/MSOS observes that certain of the similarly named issues are described with differing maturity dates and fixed coupons. CAC/MSOS wishes to better understand the MH debt position.

e) Please discuss whether the FNM issue is now swapped into a floating issue described as FM-4.

ANSWER:

Manitoba Hydro does not have a “FNM” debt issue. This response assumes that the question refers to debt issue “FM.”

As indicated in response to CAC/MSOS/MH I-31(c), the Province of Manitoba issued Series FM on September 3, 2009 with a fixed coupon rate of 3.05% and a maturity date of September 1, 2014. Series FM was a \$250 million issue that was used to refinance \$150 million of fixed rate debt series EL and to secure \$100 million for new cash requirements.

As stated on the term sheet for the Amended Advance Series FM, debt series EL had existing forward interest rate swaps associated with it which locked fixed rates until September 1, 2029. Therefore, the EL refinancing required offsetting floating rate debt. In order to accommodate the cash flow structure of the interest rate swaps and to secure additional floating long term debt into the total debt portfolio, the entire debt series FM was immediately swapped to floating rate debt and was priced at 3 month BAs + 0.484%.

The net result of the \$250 million financing was an interest rate adjustment on the \$150 million fixed rate refinancing associated with the pre-existing forward interest rate swaps (FM-1, FM-2, FM-3), and \$100 million of new floating long term debt at 3 month BAs + 0.484% (FM-4). These final terms for FM1, FM-2, FM-3 and FM-4 are also stated in the debt maturity schedule filed in response to CAC/MSOS/MH I-142(a).

CAC/MSOS/MH II-144

Reference: CAC/MSOS/MH I-142(a)
CAC/MSOS/MH I-31(c)

Preamble: In CAC/MSOS/MH I-142(a), we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”.

In CAC/MSOS/MH I-31(c), we are provided with a debt maturity schedule for issues undertaken “over the past 4 years.” CAC/MSOS observes that certain of the similarly named issues are described with differing maturity dates and fixed coupons. CAC/MSOS wishes to better understand the MH debt position.

f) Please provide the maturity date for the GOC bond used to determine the series C109 spread of 0.605% and the series C110 spread of 0.65% indicated in Table CAC/MSOS/MH I-31(c), and discuss the adjustments made if any to reflect any mismatch in the maturity dates of the Manitoba and Canada bonds.

ANSWER:

Credit spreads on ultra long bonds are initially referenced to a 30 year Government of Canada benchmark. Additional pricing adjustments may then be applied depending upon specific supply and demand circumstances.

For debt series C109 and C110, the maturity date of the Government of Canada 30 year benchmark used for reference pricing was June 1, 2037.

Issuers of ultra long debt are typically provinces and highly rated utilities that seek to finance the construction of long lived assets with longer dated debt. Investors acquiring ultra long bonds such as life insurance companies are typically seeking to match these long lived investments against their existing long term liabilities. Given investor demand and the scarcity of ultra long bonds, ultra long financing may occasionally be secured at interest rates that are less than those for 30 year financing. For example, debt series C109 with a term to

maturity of 53 years was issued at an all-in cost of 4.638%. Due to a pricing inversion in the financial markets at that time, the all-in cost to Manitoba Hydro for this debt issue was 0.155% less than the indicative pricing for a 30 year fixed rate public issue on that date.

The all-in cost for C109 was also less than the indicative 1 month BA rate of 4.650% in effect prior to the economic downturn in November 2007. Therefore, with the issuance of the ultra long financing, Manitoba Hydro was simultaneously able to lock in historically low interest rates and eliminate refinancing risk on this debt stream.

CAC/MSOS/MH II-145

Reference: CAC/MSOS/MH I-142(a)
Appendix 48

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”.

In Appendix 48 we are provided with term sheets for the Series C109 4.638% yield, C110 4.629% yield and FN 4.726% yield Debt instruments, but not the Series 4Z debt instrument which is described as having an “Interest Rate” of 7.1%. CAC/MSOS wishes to better understand the MH debt position.

- a) Please provide a term sheet for the Series 4Z issue, and if the 7.10% interest rate is the yield, rather than the coupon, please discuss the rational for the higher yield paid on that financing.

ANSWER:

Please see the attached term sheet.

The 7.1% interest rate is both the coupon and yield rate. Debt series 4Z is a mitigation bond of the Manitoba Hydro-Electric Board.

TERM SHEET

Bond Series 4Z The Manitoba Hydro-Electric Board

Issue Date	June 9, 2006
Maturity Date	June 9, 2057
Term to Maturity	51 Years
Coupon Rate	7.1000%
Yield Rate	7.1000%
Interest Payable	June 9

	CAD Book Value
Principal	\$ 7,041,000.00

NOTE: The Bond is fully registered in the name of Cross Lake First Nation.

CAC/MSOS/MH II-146 (REVISED)

Reference: CAC/MSOS/MH I-142(a)
COALITION/MH I-85 (2008/09 GRA)
CAC/MSOS/MH I-146(b)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”. Several of those listed issues had maturity dates at date of issue which were in excess of 40 years.

In reply to COALITION/MH I-85 in the 2008/09 GRA [a copy of which was attached to CAC/MSOS/MH I-146 (b)] we were advised, among other things, that “Manitoba Hydro’s policies with respect to debt are to limit: ... Debt to a term that will not exceed 40 years” [Emphasis added]. CAC/MSOS wishes to better understand the MH debt policies.

a) What is the new debt term limit?

ANSWER:

Manitoba Hydro does not have a specific debt term limit and Manitoba Hydro has not made any changes to its formal debt policies since the last GRA. The earlier references to a limit of 40 years was a guideline which originated from a period of time when ultra long debt issues with terms to maturity exceeding 30 years were not readily available in the marketplace.

Today’s capital markets have grown in size and sophistication such that debt issues with these extended terms are now available to select issuers at very cost effective rates. Issuers of ultra long debt are typically highly rated utilities and other organizations that have long lived assets. Purchasers of ultra long debt are typically pension funds and life insurance companies that have long lived liabilities with ageing maturity profiles for which they wish to have matching long lived assets.

Given the favorable creditworthiness of the Province of Manitoba and Manitoba Hydro, ultra long financing may occasionally be secured at interest rates that are less than those for 30 year financing. For example, debt series C109 transacted in November 2009 with a term to maturity of 53 years was issued at an all-in cost of 4.638% (which is less than the November 2007 average 1 month Bloomberg BA rate of 4.734% in effect prior to the economic downturn). Due to a pricing inversion in the financial markets at that time, the all-in cost to Manitoba Hydro for this debt issue was 0.155% less than the indicative pricing for a 30 year fixed rate public issue on that date. Therefore, with the issuance of the ultra long financing, Manitoba Hydro was simultaneously able to lock in very low long bond interest rates and eliminate refinancing risk on this debt stream.

From an asset liability matching perspective, given that Manitoba Hydro has service lives for its major asset categories that may extend to 100 years, the issuance of cost effective ultra long financing for the Corporation's capital investments is fully in support of the concept of intergenerational customer equity and fairness.

CAC/MSOS/MH II-146

Reference: CAC/MSOS/MH I-142(a)
COALITION/MH I-85 (2008/09 GRA)
CAC/MSOS/MH I-146(b)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”. Several of those listed issues had maturity dates at date of issue which were in excess of 40 years.

In reply to COALITION/MH I-85 in the 2008/09 GRA [a copy of which was attached to CAC/MSOS/MH I-146 (b)] we were advised, among other things, that “Manitoba Hydro’s policies with respect to debt are to limit: ... Debt to a term that will not exceed 40 years” [Emphasis added]. CAC/MSOS wishes to better understand the MH debt policies.

b) Please discuss how the extension or elimination of the debt term limit will impact the intergenerational customer equity and fairness between customers.

ANSWER:

Ultra long term debt is compatible with the long term nature of utility assets and should contribute to intergenerational equity.

CAC/MSOS/MH II-146

Reference: CAC/MSOS/MH I-142(a)
COALITION/MH I-85 (2008/09 GRA)
CAC/MSOS/MH I-146(b)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”. Several of those listed issues had maturity dates at date of issue which were in excess of 40 years.

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c) Please advise when this policy was changed.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-146(a).

CAC/MSOS/MH II-146

Reference: CAC/MSOS/MH I-142(a)
COALITION/MH I-85 (2008/09 GRA)
CAC/MSOS/MH I-146(b)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”. Several of those listed issues had maturity dates at date of issue which were in excess of 40 years.

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d) Please provide any document setting out the new debt policy and analysis undertaken to establish the efficacy of the new limit.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-146(a).

CAC/MSOS/MH II-146

Reference: CAC/MSOS/MH I-142(a)
COALITION/MH I-85 (2008/09 GRA)
CAC/MSOS/MH I-146(b)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”. Several of those listed issues had maturity dates at date of issue which were in excess of 40 years.

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- e) Since the date of the responses to the IRs in last GRA, what other debt policies have been revised, or considered for revision.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-146(a).

CAC/MSOS/MH II-146

Reference: CAC/MSOS/MH I-142(a)
COALITION/MH I-85 (2008/09 GRA)
CAC/MSOS/MH I-146(b)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”. Several of those listed issues had maturity dates at date of issue which were in excess of 40 years.

In reply to COALITION/MH I-85 in the 2008/09 GRA [a copy of which was attached to CAC/MSOS/MH I-146 (b)] we were advised, among other things, that “Manitoba Hydro’s policies with respect to debt are to limit: ... Debt to a term that will not exceed 40 years” [Emphasis added]. CAC/MSOS wishes to better understand the MH debt policies.

- f) Please identify the level of management or corporate governance which reviewed the proposed change or elimination of the debt term limit or other proposed changes.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-146(a).

CAC/MSOS/MH II-147

Reference: CAC/MSOS/MH I-142(a)
COALITION/MH I-85 (2008/09 GRA)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”. Several of those listed issues had maturity dates at date of issue which were in excess of 40 years.

In reply to COALITION/MH I-85 in the 2008/09 GRA we were advised, among other things, that “Manitoba Hydro’s policies with respect to debt are to limit: ... Debt to a term that will not exceed 40 year” [Emphasis added]. As it appears that some of the MH policies have changed, CAC/MSOS wishes to understand whether the MH strategies as indicated in the prior proceeding have been revised.

a) In what manner, if at all, has MH revised its debt strategy for periods in which it faces a normal yield curve?

ANSWER:

The shape of the yield curve is only one factor that affects the debt strategy and financing decisions undertaken by Manitoba Hydro. As stated in response to response to CAC/MSOS/MH I-142(b), actual financings “will consider the timing, dollar value, denomination, and fixed versus floating nature of the issue depending on a number of factors including: the cash and liquidity requirements in existence at the time of financing; refinancing requirements on forward interest rate swaps; the term dependent on the current maturity schedule, interest rate expectations and the mitigation of refinancing risk; the management of foreign exchange risk; and the market appetite and economic environment.” Manitoba Hydro has not revised its debt strategy regarding the use of swap transactions for currencies other than US or Canadian.

CAC/MSOS/MH II-147

Reference: CAC/MSOS/MH I-142(a)
COALITION/MH I-85 (2008/09 GRA)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”. Several of those listed issues had maturity dates at date of issue which were in excess of 40 years.

In reply to COALITION/MH I-85 in the 2008/09 GRA we were advised, among other things, that “Manitoba Hydro’s policies with respect to debt are to limit: ... Debt to a term that will not exceed 40 year” [Emphasis added]. As it appears that some of the MH policies have changed, CAC/MSOS wishes to understand whether the MH strategies as indicated in the prior proceeding have been revised.

b) In what manner, if at all, has MH revised its debt strategy for periods in which it faces a flat yield curve?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-147(a).

CAC/MSOS/MH II-147

Reference: CAC/MSOS/MH I-142(a)
COALITION/MH I-85 (2008/09 GRA)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”. Several of those listed issues had maturity dates at date of issue which were in excess of 40 years.

In reply to COALITION/MH I-85 in the 2008/09 GRA we were advised, among other things, that “Manitoba Hydro’s policies with respect to debt are to limit: ... Debt to a term that will not exceed 40 year” [Emphasis added]. As it appears that some of the MH policies have changed, CAC/MSOS wishes to understand whether the MH strategies as indicated in the prior proceeding have been revised.

c) In what manner, if at all, has MH revised its debt strategy for periods in which it faces an inverted yield curve?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-147(a).

CAC/MSOS/MH II-147

Reference: CAC/MSOS/MH I-142(a)
COALITION/MH I-85 (2008/09 GRA)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”. Several of those listed issues had maturity dates at date of issue which were in excess of 40 years.

In reply to COALITION/MH I-85 in the 2008/09 GRA we were advised, among other things, that “Manitoba Hydro’s policies with respect to debt are to limit: ... Debt to a term that will not exceed 40 year” [Emphasis added]. As it appears that some of the MH policies have changed, CAC/MSOS wishes to understand whether the MH strategies as indicated in the prior proceeding have been revised.

d) In what manner, if at all, has MH revised its debt strategy with respect to the use, including in swap transactions, of currencies other than US and Canadian currencies?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-147(a).

CAC/MSOS/MH II-148

Reference: CAC/MSOS/MH I-142(a)
CAC/MSOS/MH I-31(c)
PUB/MH I-35(h)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”.

In CAC/MSOS/MH I-31(c) we are provided with a debt maturity schedule for issues undertaken “over the past 4 years.” CAC/MSOS observes that certain of the similarly named issues are described with differing maturity dates and fixed coupons.

In PUB/MH I-35(h) we are provided with a schedule setting out the proportion of debt maturing within 10 years, 10 to 20 year and greater than 20 years. The description of “maturity” for the purposes of the schedule in PUB/MH I-35(h) does not explain whether it, and the “weighted average maturity in years” is based on the actual date of physical debt or an extended date related to a forward interest rate swap. CAC/MSOS wishes to better understand the MH debt position.

- a) Please explain the basis on which the schedule in PUB/MH I-35(h) was prepared, physical debt maturity or maturity based on swap arrangements.

ANSWER:

Consistent with the information provided in response to CAC/MSOS/MH I-142(a), the schedule in PUB/MH I - 35 (h) was prepared using the most outward obligation dates on any debt series (the latter of physical debt or forward interest rate swap maturity dates).

In contrast, the information provided in response to CAC/MSOS/MH I-31(c) was based on the initial issuance of physical debt in the capital markets in order to illustrate the level of provincial spreads over Canada at the time of debt issuance. As stated in that response, “In

some instances, the debt issues were immediately swapped to floating rate debt in order to accommodate the cash flow structure for forward interest rate swaps which had been arranged prior to the debt issue.”

CAC/MSOS/MH II-148

Reference: CAC/MSOS/MH I-142(a)
CAC/MSOS/MH I-31(c)
PUB/MH I-35(h)

Preamble: In CAC/MSOS/MH I-142(a) we are provided with a debt maturity schedule, subject to a caveat that “where the maturity of a forward interest rate swap for a debt series is beyond the maturity date of the associated physical debt, a refinancing of the underlying physical debt will be required in advance of the maturity date listed in the schedule”.

In CAC/MSOS/MH I-31(c) we are provided with a debt maturity schedule for issues undertaken “over the past 4 years.” CAC/MSOS observes that certain of the similarly named issues are described with differing maturity dates and fixed coupons.

In PUB/MH I-35(h) we are provided with a schedule setting out the proportion of debt maturing within 10 years, 10 to 20 year and greater than 20 years. The description of “maturity” for the purposes of the schedule in PUB/MH I-35(h) does not explain whether it, and the “weighted average maturity in years” is based on the actual date of physical debt or an extended date related to a forward interest rate swap. CAC/MSOS wishes to better understand the MH debt position.

- b) Please provide a similar schedule to that in PUB/MH I-35(h), prepared on the alternate basis, so that we may better understand the implications of the swap arrangements.

ANSWER:

Please see the attached schedule that reflects long term debt balances and the refinancing plan as at September 30, 2009 prepared based on physical debt maturities.

MANITOBA HYDRO
CAC/MSOS/MH II - 148 (b)

Fiscal Year Ended	Debt Maturing Within 10 Years		Debt Maturing 10 years to 20 Years		Debt Maturing Greater than 20 Years		Total Long Term Debt CAD\$Millions	Weighted Average Term To Maturity In Years
	CAD\$Millions	% of Total	CAD\$Millions	% of Total	CAD\$Millions	% of Total		
March 31, 2004	\$4,591	62.2%	\$1,766	23.9%	\$1,018	13.8%	\$7,375	10.1
March 31, 2005	4,291	59.7%	1,982	27.6%	918	12.8%	7,191	10.0
March 31, 2006	4,550	63.6%	1,690	23.6%	918	12.8%	7,158	9.3
March 31, 2007	4,763	66.0%	1,479	20.5%	976	13.5%	7,218	9.3
March 31, 2008	5,073	66.8%	1,211	16.0%	1,306	17.2%	7,590	9.7
March 31, 2009	6,072	74.0%	892	10.9%	1,246	15.2%	8,209	8.7
March 31, 2010	5,194	66.4%	681	8.7%	1,946	24.9%	7,821	10.7
March 31, 2011	3,765	52.3%	1,284	17.9%	2,146	29.8%	7,195	14.0
March 31, 2012	4,093	52.5%	969	12.4%	2,737	35.1%	7,799	14.3
March 31, 2013	3,679	46.1%	999	12.5%	3,307	41.4%	7,985	15.2
March 31, 2014	2,991	33.6%	999	11.2%	4,907	55.2%	8,897	18.1

CAC/MSOS/MH II-149

Reference: CAC/MSOS/MH I-142(a)

Preamble: In CAC/MSOS/MH I-142 (a) we learn that “the maturity dates listed in the schedule provide the most outward obligation dates on any debt series (the latter of physical debt or forward interest rate swap maturity dates). ... Consequently, this schedule should not be utilized to determine the commitment dates for the refinancing of the existing physical debt.”

a) **Please identify each debt series for which the indicated maturity date is the obligation date of the physical debt.**

ANSWER:

The debt maturity schedule that was originally presented in CAC/MSOS/MH I-142(a) has been sorted into two groups based on whether the most outward obligation date for each debt series is the maturity of the physical debt or the maturity of the forward interest rate swap.

Please find attached the debt maturity schedule as at December 31, 2009.

Note that the interest rates shown in this schedule indicate the coupon rates on the debt and not the all-in yield cost to Manitoba Hydro.

**MANITOBA HYDRO DEBT MATURITY SCHEDULE
AT DECEMBER 31, 2009
(IN MILLIONS \$)**

SHORT TERM DEBT

SERIES	CURRENCY	MATURITY	INTEREST RATE	CANADIAN \$	US \$	TOTAL CANADIAN (US @ 1.0466)
NO SHORT TERM DEBT DECEMBER 31, 2009				\$ -	\$ -	\$ -
TOTAL SHORT TERM DEBT				\$ -	\$ -	\$ -

LONG TERM DEBT - WHERE MATURITY DATE IS OBLIGATION DATE OF PHYSICAL DEBT

SERIES	CURRENCY	MATURITY	INTEREST RATE	CANADIAN \$	US \$	TOTAL CANADIAN
EM-3	CAD	2/22/2010	6.350%	\$ 50.0		\$ 50.0
EM-4	CAD	2/22/2010	6.350%	25.0		25.0
EM-1	CAD	2/22/2010	3BA + 0.18375%	66.5		66.5
EM	USD	2/22/2010	3LIBOR + 0.0974%		50.0	52.3
EM-6	USD	2/22/2010	3LIBOR + 3.7129%		100.0	104.7
EM-5	USD	2/22/2010	5.973%		97.1	101.6
FD-2	CAD	4/12/2010	3BA + 0.0469%	4.0		4.0
HB10-3FX	CAD	6/15/2010	4.600%	84.6		84.6
CO94	USD	2/22/2011	6LIBOR - 0.155%		200.0	209.3
HB9-FL	CAD	6/15/2011	1.000%	10.7		10.7
HB9-5FX	CAD	6/15/2011	4.350%	14.9		14.9
HB10-FL	CAD	6/15/2012	1.000%	6.8		6.8
HB10-5FX	CAD	6/15/2012	4.650%	15.3		15.3
C107	CAD	9/4/2012	3BA + 0.40%	100.0		100.0
ER-2	CAD	12/3/2012	3BA + 0.192%	50.0		50.0
4I	CAD	2/11/2013	9.375%	10.0		10.0
5A	CAD	6/30/2013	5.750%	40.0		40.0
5B	CAD	6/30/2013	5.750%	4.3		4.3
DE	USD	7/22/2013	8.120%		188.4	197.2
EZ4	CAD	12/3/2013	3BA + 0.0925%	9.5		9.5
EZ3	CAD	12/3/2013	6LIBOR - 0.0645%	208.3		208.3
4J	CAD	1/20/2014	8.000%	15.0		15.0
FM-4	CAD	9/1/2014	3BA + 0.484%	100.0		100.0
4K	CAD	5/12/2015	9.125%	12.0		12.0
EY	CAD	12/3/2015	5.490%	200.0		200.0
EY2	CAD	12/3/2015	3BA + 0.0455%	50.0		50.0
AZ	CAD	7/17/2016	3BA + 1.08%	200.6		200.6
C-011	CAD	9/22/2017	7.525%	55.5		55.5
4L	CAD	11/17/2017	6.250%	20.0		20.0
BM	CAD	1/15/2018	3BA + 3.29%	255.0		255.0
EE	USD	9/15/2018	9.500%		200.0	209.3
BU	USD	12/1/2018	9.625%		200.0	209.3
3X	CAD	12/30/2018	10.000%	5.0		5.0
3V	CAD	12/30/2018	10.000%	3.5		3.5
3W	CAD	12/30/2018	10.000%	2.0		2.0
3Y	CAD	12/30/2018	10.000%	2.0		2.0
CO77-2	CAD	2/11/2020	4.455%	100.0		100.0
CO77-3	CAD	2/11/2020	3BA - 0.175%	50.0		50.0
CO	USD	9/15/2021	8.875%		300.0	314.0
4A	CAD	12/31/2021	9.100%	3.5		3.5
DT	CAD	12/22/2025	7.750%	170.0		170.0
DT	CAD	12/22/2025	7.750%	130.0		130.0
4M	CAD	2/2/2029	5.900%	30.0		30.0
4N	CAD	2/2/2029	5.900%	30.0		30.0
CL	CAD	3/5/2031	10.500%	300.0		300.0
CLW	CAD	3/5/2031	10.500%	299.9		299.9
4B	CAD	4/1/2031	5.840%	3.5		3.5
4C	CAD	4/1/2031	5.840%	1.4		1.4
4Y	CAD	5/1/2031	5.650%	4.2		4.2
CO52	CAD	10/29/2032	6.300%	30.0		30.0
FA	CAD	3/5/2037	4.687%	150.0		150.0
FA-4	CAD	3/5/2037	4.505%	50.0		50.0
PB-2	CAD	3/5/2038	4.600%	300.0		300.0
FK-2	CAD	3/5/2040	4.650%	300.0		300.0
CO40	CAD	3/5/2042	3BA + 0.179%	50.0		50.0
CO68	CAD	3/5/2044	4.565%	50.0		50.0
FN	CAD	3/5/2050	4.700%	200.0		200.0
4Z	CAD	6/9/2057	7.100%	7.0		7.0
C110	CAD	3/5/2060	5.200%	125.0		125.0
C109	CAD	3/5/2063	4.625%	50.0		50.0
TOTAL				\$ 4,055.0	\$ 1,335.5	\$ 5,452.7

LONG TERM DEBT - WHERE MATURITY DATE IS OBLIGATION DATE OF FORWARD INTEREST RATE SWAP

SERIES	CURRENCY	MATURITY	INTEREST RATE	CANADIAN \$	US \$	TOTAL CANADIAN
C101	CAD	9/16/2013	5.744%	200.0		200.0
EZ-1	USD	1/21/2014	5.989%		50.0	52.3
EZ	USD	1/21/2014	5.929%		100.0	104.7
ER-1	CAD	9/3/2017	7.467%	200.0		200.0
FC-3	CAD	6/2/2018	7.169%	200.0		200.0
C097-1	CAD	6/2/2018	7.123%	100.0		100.0
C097-2	CAD	6/2/2018	7.233%	100.0		100.0
EM-2	USD	3/15/2020	9.398%		150.0	157.0
FD	USD	10/2/2020	6.766%		203.1	212.5
CO32	USD	10/2/2020	6.806%		47.0	49.1
FH-1	USD	2/1/2022	6.405%		250.0	261.7
FH-2	USD	2/1/2022	6.406%		100.0	104.7
FH-3	USD	9/16/2022	6LIBOR + 0.1295%		150.0	157.0
C108	CAD	9/1/2029	6.150%	100.0		100.0
FM-1	CAD	9/1/2029	6.634%	25.0		25.0
FM-2	CAD	9/1/2029	6.734%	75.0		75.0
FM-3	CAD	9/1/2029	6.689%	50.0		50.0
FD-1	CAD	4/12/2035	5.289%	175.0		175.0
EZ2	CAD	12/3/2035	4.774%	54.0		54.0
EZ5	CAD	12/3/2035	4.774%	46.0		46.0
FJ	CAD	9/12/2037	5.104%	250.0		250.0
C100-1	CAD	11/1/2038	4.707%	85.0		85.0
C100-2	CAD	11/1/2038	4.637%	100.0		100.0
C099-1	CAD	12/1/2038	4.771%	50.0		50.0
C099-2	CAD	12/1/2038	4.758%	25.0		25.0
C099-3A	CAD	12/1/2038	4.758%	25.0		25.0
C099-3B	CAD	12/1/2038	4.770%	15.0		15.0
C102	CAD	3/1/2039	4.988%	100.0		100.0
TOTAL				\$ 1,975.0	\$ 1,050.0	\$ 3,073.9
WINNIPEG HYDRO PREMIUM				5.8		5.8
UNAMORTIZED COMMISSIONS, FEES AND EXPENSES				(28.9)		(28.9)
UNAMORTIZED DEBT PREMIUMS AND DISCOUNTS				(26.0)		(26.0)
TOTAL LONG TERM DEBT				\$ 5,981.0	\$ 2,385.5	\$ 8,477.6

CAC/MSOS/MH II-149

Reference: CAC/MSOS/MH I-142(a)

Preamble: In CAC/MSOS/MH I-142 (a) we learn that “the maturity dates listed in the schedule provide the most outward obligation dates on any debt series (the latter of physical debt or forward interest rate swap maturity dates). ... Consequently, this schedule should not be utilized to determine the commitment dates for the refinancing of the existing physical debt.”

b) Please identify each debt series for which the indicated maturity date is the obligation date of the “forward interest rate swap”.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-149(a).

CAC/MSOS/MH II-149

Reference: CAC/MSOS/MH I-142(a)

Preamble: In CAC/MSOS/MH I-142 (a) we learn that “the maturity dates listed in the schedule provide the most outward obligation dates on any debt series (the latter of physical debt or forward interest rate swap maturity dates). ... Consequently, this schedule should not be utilized to determine the commitment dates for the refinancing of the existing physical debt.”

c) **Please provide a schedule which could be “utilized to determine the commitment dates for the refinancing of the existing physical debt”.**

ANSWER:

The debt maturity schedule that was originally presented in CAC/MSOS/MH I-142(a) has been revised to provide the commitment date for the refinancing of existing physical debt in circumstances where there is a forward interest rate swap with a more outward maturity date.

Please find attached the debt maturity schedule as at December 31, 2009.

**MANITOBA HYDRO DEBT MATURITY SCHEDULE
AT DECEMBER 31, 2009
(IN MILLIONS \$)**

SHORT TERM DEBT

SERIES	CURRENCY	MATURITY	CANADIAN \$		US \$	TOTAL CANADIAN (US @ 1.0466)
NO SHORT TERM DEBT DECEMBER 31, 2009			\$	-	\$	-
TOTAL SHORT TERM DEBT			\$	-	\$	-

LONG TERM DEBT

SERIES	CURRENCY	MATURITY	CANADIAN \$		US \$	TOTAL CANADIAN (US @ 1.0466)
EM-3	CAD	2/22/2010	\$	50.0	\$	50.0
EM-4	CAD	2/22/2010		25.0		25.0
EM-1	CAD	2/22/2010		66.5		66.5
EM	USD	2/22/2010			50.0	52.3
EM-6	USD	2/22/2010			100.0	104.7
EM-5	USD	2/22/2010			97.1	101.6
FD-2	CAD	4/12/2010		4.0		4.0
HB10-3FX	CAD	6/15/2010		84.6		84.6
CO94	USD	2/22/2011			200.0	209.3
HB9-FL	CAD	6/15/2011		10.7		10.7
HB9-5FX	CAD	6/15/2011		14.9		14.9
HB10-FL	CAD	6/15/2012		6.8		6.8
HB10-5FX	CAD	6/15/2012		15.3		15.3
C107	CAD	9/4/2012		100.0		100.0
ER-2	CAD	12/3/2012		50.0		50.0
4I	CAD	2/11/2013		10.0		10.0
5A	CAD	6/30/2013		40.0		40.0
5B	CAD	6/30/2013		4.3		4.3
DE	USD	7/22/2013			188.4	197.2
C101	CAD	3/1/2010		200.0		200.0
EZ4	CAD	12/3/2013		9.5		9.5
EZ3	CAD	12/3/2013		208.3		208.3
4J	CAD	1/20/2014		15.0		15.0
EZ-1	USD	12/3/2013			50.0	52.3
EZ	USD	12/3/2013			100.0	104.7
FM-4	CAD	9/1/2014		100.0		100.0
4K	CAD	5/12/2015		12.0		12.0
EY	CAD	12/3/2015		200.0		200.0
EY2	CAD	12/3/2015		50.0		50.0
AZ	CAD	7/17/2016		200.6		200.6
ER-1	CAD	12/3/2012		200.0		200.0
C-011	CAD	9/22/2017		55.5		55.5
4L	CAD	11/17/2017		20.0		20.0
BM	CAD	1/15/2018		255.0		255.0
FC-3	CAD	12/3/2014		200.0		200.0
C097-1	CAD	6/2/2011		100.0		100.0
C097-2	CAD	6/2/2011		100.0		100.0
EE	USD	9/15/2018			200.0	209.3
BU	USD	12/1/2018			200.0	209.3
3X	CAD	12/30/2018		5.0		5.0
3V	CAD	12/30/2018		3.5		3.5

LONG TERM DEBT (CONTINUED)

SERIES	CURRENCY	MATURITY	CANADIAN \$	US \$	TOTAL CANADIAN (US @ 1.0466)
3W	CAD	12/30/2018	2.0		2.0
3Y	CAD	12/30/2018	2.0		2.0
CO77-2	CAD	2/11/2020	100.0		100.0
CO77-3	CAD	2/11/2020	50.0		50.0
EM-2	USD	2/22/2010		150.0	157.0
FD	USD	4/12/2010		203.1	212.5
CO32	USD	10/12/2010		47.0	49.1
CO	USD	9/15/2021		300.0	314.0
4A	CAD	12/31/2021	3.5		3.5
FH-1	USD	12/6/2016		250.0	261.7
FH-2	USD	12/6/2016		100.0	104.7
FH-3	USD	12/6/2016		150.0	157.0
DT	CAD	12/22/2025	170.0		170.0
DT	CAD	12/22/2025	130.0		130.0
4M	CAD	2/2/2029	30.0		30.0
4N	CAD	2/2/2029	30.0		30.0
C108	CAD	9/1/2010	100.0		100.0
FM-1	CAD	9/1/2014	25.0		25.0
FM-2	CAD	9/1/2014	75.0		75.0
FM-3	CAD	9/1/2014	50.0		50.0
CL	CAD	3/5/2031	300.0		300.0
CLW	CAD	3/5/2031	299.9		299.9
4B	CAD	4/1/2031	3.5		3.5
4C	CAD	4/1/2031	1.4		1.4
4Y	CAD	5/1/2031	4.2		4.2
CO52	CAD	10/29/2032	30.0		30.0
FD-1	CAD	4/12/2010	175.0		175.0
EZ2	CAD	12/3/2013	54.0		54.0
EZ5	CAD	12/3/2013	46.0		46.0
FA	CAD	3/5/2037	150.0		150.0
FA-4	CAD	3/5/2037	50.0		50.0
FJ	CAD	9/22/2017	250.0		250.0
PB-2	CAD	3/5/2038	300.0		300.0
C100-1	CAD	11/1/2011	85.0		85.0
C100-2	CAD	11/1/2011	100.0		100.0
C099-1	CAD	12/1/2010	50.0		50.0
C099-2	CAD	12/1/2010	25.0		25.0
C099-3A	CAD	12/1/2010	25.0		25.0
C099-3B	CAD	12/1/2010	15.0		15.0
C102	CAD	7/15/2010	100.0		100.0
FK-2	CAD	3/5/2040	300.0		300.0
CO40	CAD	3/5/2042	50.0		50.0
CO68	CAD	3/5/2044	50.0		50.0
FN	CAD	3/5/2050	200.0		200.0
4Z	CAD	6/9/2057	7.0		7.0
C110	CAD	3/5/2060	125.0		125.0
C109	CAD	3/5/2063	50.0		50.0
WINNIPEG HYDRO PREMIUM			5.8		5.8
UNAMORTIZED COMMISSIONS, FEES AND EXPENSES			(28.9)		(28.9)
UNAMORTIZED DEBT PREMIUMS AND DISCOUNTS			(26.0)		(26.0)
TOTAL LONG TERM DEBT			\$ 5,981.0	\$ 2,385.5	\$ 8,477.6

CAC/MSOS/MH II-150

Reference: CAC/MSOS/MH I-135(b)

Preamble: In CAC/MSOS/MH I-135(b) we are provided with a discussion about a table “Appendix A - 2009 Economic Outlook – Manitoba Hydro Short Term and Long Term Interest Rates” which presents the 3 month T-bill rates and GOC and US 10 year + rates, certain spreads, and the guarantee fee to arrive at 3 years of historical and 7 years of forecast interest rates.

We are told “The primary intent of the forecasted short term interest rates is to provide a reasonable basis for forecasting the debt servicing costs associated with Manitoba Hydro’s long term floating rate debt portfolio, which at March 31, 2009 was \$1,595 million” and “the spread is not intended to reflect the difference between forecasted 3 month T-Bill rates and actual short term borrowings.” CAC/MSOS wishes to better understand the MH methodology.

- a) Are we correct in thinking that the forecast “spread” is intended to reflect the difference between the forecast 3 month T-Bill rates and NEW long term floating rate borrowings to be entered into during the forecast period?

ANSWER:

The question’s proposition is incorrect.

The forecasted short term interest rate spread is intended to provide a reasonable basis for forecasting the debt servicing costs associated with Manitoba Hydro’s *existing* long term floating rate debt portfolio (which at March 31, 2009 was \$1,595 million). Therefore, the forecasted short term interest rate spread reflects the difference between forecasted 3 month T-Bill rates and the contractual interest reset rates on Manitoba Hydro’s existing long term floating rate debt.

As stated in response to CAC/MSOS/MH I-143(a), all *new* forecasted long term debt is assumed in the IFF to be fixed rate debt, and therefore IFF09 does not forecast any new floating long term debt.

CAC/MSOS/MH II-150

Reference: CAC/MSOS/MH I-135(b)

Preamble: In CAC/MSOS/MH I-135(b) we are provided with a discussion about a table “Appendix A - 2009 Economic Outlook – Manitoba Hydro Short Term and Long Term Interest Rates” which presents the 3 month T-bill rates and GOC and US 10 year + rates, certain spreads, and the guarantee fee to arrive at 3 years of historical and 7 years of forecast interest rates.

We are told “The primary intent of the forecasted short term interest rates is to provide a reasonable basis for forecasting the debt servicing costs associated with Manitoba Hydro’s long term floating rate debt portfolio, which at March 31, 2009 was \$1,595 million” and “the spread is not intended to reflect the difference between forecasted 3 month T-Bill rates and actual short term borrowings.” CAC/MSOS wishes to better understand the MH methodology.

b) If the proposition above is not correct, please provide the appropriate explanation.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-150(a).

CAC/MSOS/MH II-150

Reference: CAC/MSOS/MH I-135(b)

Preamble: In CAC/MSOS/MH I-135(b) we are provided with a discussion about a table “Appendix A - 2009 Economic Outlook – Manitoba Hydro Short Term and Long Term Interest Rates” which presents the 3 month T-bill rates and GOC and US 10 year + rates, certain spreads, and the guarantee fee to arrive at 3 years of historical and 7 years of forecast interest rates.

We are told “The primary intent of the forecasted short term interest rates is to provide a reasonable basis for forecasting the debt servicing costs associated with Manitoba Hydro’s long term floating rate debt portfolio, which at March 31, 2009 was \$1,595 million” and “the spread is not intended to reflect the difference between forecasted 3 month T-Bill rates and actual short term borrowings.” CAC/MSOS wishes to better understand the MH methodology.

- c) So as to allow a better understanding of this methodology, please provide a table showing the calculation of the 2006/07 0.17% spread for the Short Term Canadian rate, indicating whether the methodology is in some way weighted to principle amounts of particular issues, an unweighted average of spreads on the issues employed, or some other method.

ANSWER:

The historical 0.17% short term interest rate spread in 2006/07 between the 3 month T-Bill rate and the 3 month Bloomberg BA rate was determined by taking the daily average of 3 month Bloomberg BA rates for the period April 1, 2006 to March 31, 2007 of 4.33% and subtracting the average of the 90 day T-Bill rates of 4.16% for the same period. This methodology did not utilize any weightings based on Manitoba Hydro issues.

CAC/MSOS/MH II-151

Reference: CAC/MSOS/MH I-135(b)
CAC/MSOS/MH I-142(a)

Preamble: In CAC/MSOS/MH I-135(b) we are told “The primary intent of the forecasted short term interest rates is to provide a reasonable basis for forecasting the debt servicing costs associated with Manitoba Hydro’s long term floating rate debt portfolio, which at March 31, 2009 was \$1,595 million”.

Subject to the various caveats as to swaps contained in CAC/MSOS/MH I-142(a), CAC/MSOS observes that as at December 31, 2009 Canadian BA based borrowing was approximately \$935 million, and, the US dollar denominated or LIBOR based floating rate debt at the then exchange rate was approximately \$731 million, for a total of approximately \$1,667 million. CAC/MSOS infers that the Canadian T-bill rate is being used as the forecast benchmark for future US dollar LIBOR debt issues.

CAC/MSOS wishes to understand the MH methodology, in particular efficacy of using a Canadian T-bill rate as the forecast benchmark for future US dollar LIBOR debt issues.

a) Was the reference to “\$1,595 million” including US dollar or LIBOR based debt?

ANSWER:

Yes.

CAC/MSOS/MH II-151

Reference: CAC/MSOS/MH I-135(b)
CAC/MSOS/MH I-142(a)

Preamble: In CAC/MSOS/MH I-135(b) we are told “The primary intent of the forecasted short term interest rates is to provide a reasonable basis for forecasting the debt servicing costs associated with Manitoba Hydro’s long term floating rate debt portfolio, which at March 31, 2009 was \$1,595 million”.

Subject to the various caveats as to swaps contained in CAC/MSOS/MH I-142(a), CAC/MSOS observes that as at December 31, 2009 Canadian BA based borrowing was approximately \$935 million, and, the US dollar denominated or LIBOR based floating rate debt at the then exchange rate was approximately \$731 million, for a total of approximately \$1,667 million. CAC/MSOS infers that the Canadian T-bill rate is being used as the forecast benchmark for future US dollar LIBOR debt issues.

CAC/MSOS wishes to understand the MH methodology, in particular efficacy of using a Canadian T-bill rate as the forecast benchmark for future US dollar LIBOR debt issues.

b) Please discuss the efficacy of using a Canadian T-bill rate as the forecast benchmark for future US dollar or LIBOR floating rate debt issues.

ANSWER:

Existing floating long term debt issues with a LIBOR interest reset rate utilize a forecasted LIBOR interest rate derived from 3 month US Treasury rates. Canadian T-Bill rates are not utilized for forecasts of LIBOR based floating long term debt issues.

CAC/MSOS/MH II-152

Reference: CAC/MSOS/MH I-135(b)
CAC/MSOS/MH I-142(a)
CAC/MSOS/MH I-135(e)

Preamble: In CAC/MSOS/MH I-135(b) we are told “Although Manitoba Hydro will utilize its Commercial Paper Program for temporary short term borrowings, the spread is not intended to reflect the difference between forecasted 3 month T-Bill rates and actual short term borrowings.” We are also told the commercial paper program has at the various month ends in 2008/09 and 2009/10 “an average balance of less than \$100 million”.

Subject to the various caveats as to swaps contained in CAC/MSOS/MH I-142(a), CAC/MSOS observes that as at December 31, 2009 Canadian BA based borrowing was approximately \$935 million, and, as such, perhaps as much as 10% of the annual short term Canadian dollar floating rate debt may be undertaken on commercial paper basis.

In CAC/MSOS/MH I-135(e) we are provided with a table which indicates for a subset of short-term borrowings undertaken, the unweighted average spread over T-bills is 2.6 basis points rather than the 10 point basis point spread indicated for floating rate borrowing. CAC/MSOS wishes to understand the MH methodology, in particular how the differing interest costs on borrowings undertaken through the commercial paper are incorporated in the forecasts.

- a) Are MH commercial paper rates reflected in the forecasts in this revenue application, and if so, please identify where?

ANSWER:

As evidenced by the information provided in response to CAC/MSOS/MH I-142(a), Manitoba Hydro had no short term borrowings at December 31, 2009 and therefore the ratio of commercial paper borrowings to floating long term debt on this date was 0.0%. Based on

this evidence, it is incorrect to infer that commercial paper borrowings represents a significant volume of Manitoba Hydro's debt portfolio.

The forecasted short term interest rates are utilized for calculations of gross interest expense arising from interest rate resets on existing long term floating rate debt, as well as for any forecasted short term bridge financing in advance of the forecasted issuance of long term debt.

Given:

- 1) that the actual volume of promissory notes issued by Manitoba Hydro tends to be limited (see the response to PUB/MH I-35(d) and CAC/MSOS/MH I-175(a) for the rationale for limiting the use of the program to small volumes);
- 2) that the interest rate variance between the short term borrowing rates and interest reset rates on floating long term debt are small; and
- 3) that at any point in time the short term borrowing rates can be higher or lower than the interest reset rates on floating long term debt as evidenced by the table provided in response to CAC/MSOS/MH II-152(c).

There is no meaningful basis or appropriate mechanism for adjusting Manitoba Hydro's forecasted short term interest rate for the limited use of its commercial paper program.

CAC/MSOS/MH II-152

Reference: CAC/MSOS/MH I-135(b)
CAC/MSOS/MH I-142(a)
CAC/MSOS/MH I-135(e)

Preamble: In CAC/MSOS/MH I-135(b) we are told “Although Manitoba Hydro will utilize its Commercial Paper Program for temporary short term borrowings, the spread is not intended to reflect the difference between forecasted 3 month T-Bill rates and actual short term borrowings.” We are also told the commercial paper program has at the various month ends in 2008/09 and 2009/10 “an average balance of less than \$100 million”.

Subject to the various caveats as to swaps contained in CAC/MSOS/MH I-142(a), CAC/MSOS observes that as at December 31, 2009 Canadian BA based borrowing was approximately \$935 million, and, as such, perhaps as much as 10% of the annual short term Canadian dollar floating rate debt may be undertaken on commercial paper basis.

In CAC/MSOS/MH I-135(e) we are provided with a table which indicates for a subset of short-term borrowings undertaken, the unweighted average spread over T-bills is 2.6 basis points rather than the 10 point basis point spread indicated for floating rate borrowing. CAC/MSOS wishes to understand the MH methodology, in particular how the differing interest costs on borrowings undertaken through the commercial paper are incorporated in the forecasts.

b) Are MH commercial paper rates or borrowing costs generally lower than its BA based rates or borrowing costs?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH I-152(a).

CAC/MSOS/MH II-152

Reference: CAC/MSOS/MH I-135(b)
CAC/MSOS/MH I-142(a)
CAC/MSOS/MH I-135(e)

Preamble: In CAC/MSOS/MH I-135(b) we are told “Although Manitoba Hydro will utilize its Commercial Paper Program for temporary short term borrowings, the spread is not intended to reflect the difference between forecasted 3 month T-Bill rates and actual short term borrowings.” We are also told the commercial paper program has at the various month ends in 2008/09 and 2009/10 “an average balance of less than \$100 million”.

Subject to the various caveats as to swaps contained in CAC/MSOS/MH I-142(a), CAC/MSOS observes that as at December 31, 2009 Canadian BA based borrowing was approximately \$935 million, and, as such, perhaps as much as 10% of the annual short term Canadian dollar floating rate debt may be undertaken on commercial paper basis.

In CAC/MSOS/MH I-135(e) we are provided with a table which indicates for a subset of short-term borrowings undertaken, the unweighted average spread over T-bills is 2.6 basis points rather than the 10 point basis point spread indicated for floating rate borrowing. CAC/MSOS wishes to understand the MH methodology, in particular how the differing interest costs on borrowings undertaken through the commercial paper are incorporated in the forecasts.

- c) Please enlarge the table CAC/MSOS/MH I-135(e) showing principle of each of the commercial paper borrowings, and provide the principle weighted average interest rate and principle weighted average spread.

ANSWER:

Please see the attached table.

CAC/MSOS/MH II - 152 (c)

Short Term Borrowings with Terms > 5 Days

Issue Date	Principal	Term	Rate (%)	Canada 3 Month T-Bill (%) *	Spread over 3 Month T-Bill (%)
6/25/2008	18,000,000	57	2.60	2.60	-
6/30/2008	3,000,000	60	2.58	2.48	0.10
7/25/2008	10,000,000	31	2.42	2.42	0.00
8/1/2008	25,000,000	32	2.38	2.39	(0.01)
8/7/2008	3,000,000	32	2.40	2.49	(0.09)
8/29/2008	35,000,000	34	2.37	2.40	(0.03)
9/2/2008	50,000,000	29	2.42	2.40	0.02
9/4/2008	45,000,000	33	2.41	2.38	0.03
9/15/2008	35,000,000	30	2.38	2.21	0.17
10/2/2008	30,000,000	33	1.97	1.35	0.62
10/7/2008	39,000,000	30	1.10	0.95	0.15
10/15/2008	25,000,000	30	2.02	1.71	0.31
10/21/2008	25,000,000	59	2.10	1.90	0.20
11/5/2008	25,000,000	62	2.15	1.77	0.38
11/6/2008	39,000,000	32	1.97	1.75	0.22
11/14/2008	25,000,000	60	2.05	1.80	0.25
12/8/2008	25,000,000	31	1.38	1.38	(0.00)
12/19/2008	25,000,000	32	0.85	0.79	0.06
1/6/2009	25,000,000	30	0.82	0.87	(0.05)
1/8/2009	25,000,000	61	0.88	0.83	0.05
1/13/2009	25,000,000	30	0.76	0.79	(0.03)
1/20/2009	25,000,000	30	0.84	0.85	(0.01)
2/5/2009	25,000,000	28	0.67	0.84	(0.17)
2/12/2009	25,000,000	28	0.65	0.73	(0.08)
2/19/2009	25,000,000	28	0.58	0.69	(0.12)
3/5/2009	25,000,000	33	0.39	0.43	(0.04)
3/10/2009	25,000,000	30	0.34	0.44	(0.10)
3/12/2009	25,000,000	33	0.33	0.42	(0.09)
3/19/2009	25,000,000	33	0.31	0.37	(0.06)
4/7/2009	25,000,000	35	0.36	0.39	(0.04)
4/9/2009	25,000,000	35	0.36	0.41	(0.06)
4/14/2009	25,000,000	35	0.37	0.40	(0.03)
4/21/2009	25,000,000	30	0.31	0.24	0.07
5/12/2009	25,000,000	31	0.12	0.18	(0.06)
5/14/2009	25,000,000	33	0.13	0.17	(0.04)
5/19/2009	25,000,000	30	0.12	0.17	(0.05)
5/21/2009	25,000,000	15	0.12	0.18	(0.06)
10/2/2009	15,000,000	32	0.17	0.21	(0.04)
10/2/2009	15,000,000	32	0.17	0.21	(0.04)
10/13/2009	20,000,000	31	0.17	0.23	(0.07)
10/30/2009	25,000,000	31	0.17	0.22	(0.06)
11/3/2009	18,500,000	27	0.18	0.22	(0.04)
11/3/2009	18,500,000	27	0.18	0.22	(0.04)
Average	\$24,860,465	35	1.093	1.067	0.026
Principal Weighted Average	\$24,860,465	36	1.199	1.146	0.053

* Using Bank of Canada 3 month T-Bill rates (V39065) on issue date.

CAC/MSOS/MH II-153

Reference: CAC/MSOS/MH I-135(c)

Preamble: In CAC/MSOS/MH I-135(c) we are told that the data inconsistency will be resolved. “In future Economic Outlooks, the GOC 10 Yr+ historical rate will be revised to include a consistent rate.” CAC/MSOS wishes to understand whether MH will use the average of 10 and 30 year Bloomberg data or the Statistics Canada series.

a) In future Economic Outlooks, which data series will be used to provide “a consistent rate”?

ANSWER:

At this time, it is intended that the average of the 10 and 30 year long bond rates sourced from Bloomberg data will be used to report historical GOC 10 Year+ rates in future Economic Outlooks.

CAC/MSOS/MH II-154

**Reference: PUB/MH I-46(a)
PUB/MH I-46(f)
PUB/MH I-46(d)**

Preamble: In PUB/MH I-46 (a) we learn that the current methodology for MH is “Credit spread forecasts reflect 10 years of historical data where available. If not available, the longest period of historical data available on Bloomberg was utilized to calculate the mean.” In PUB/MH I-46 (d) we learn that certain “Bloomberg indices commenced October 2000 and as such become the starting point for the analysis”.

- a) Please indicate whether this methodology was used to develop the spreads for long term debt in the past GRA, indicating whether this methodology in that instance was dependent upon 5 year or 10 year weekly Bloomberg data?**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH I-135(i).

CAC/MSOS/MH II-154

**Reference: PUB/MH I-46(a)
PUB/MH I-46(f)
PUB/MH I-46(d)**

Preamble: In PUB/MH I-46 (a) we learn that the current methodology for MH is “Credit spread forecasts reflect 10 years of historical data where available. If not available, the longest period of historical data available on Bloomberg was utilized to calculate the mean.” In PUB/MH I-46 (d) we learn that certain “Bloomberg indices commenced October 2000 and as such become the starting point for the analysis”.

b) Please indicate whether this methodology was used to develop the spreads for short term debt in the past GRA, indicating whether this methodology in that instance was dependent upon 5 year or 10 year weekly Bloomberg data?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH I-135(f).

CAC/MSOS/MH II-154

**Reference: PUB/MH I-46(a)
PUB/MH I-46(f)
PUB/MH I-46(d)**

Preamble: In PUB/MH I-46 (a) we learn that the current methodology for MH is “Credit spread forecasts reflect 10 years of historical data where available. If not available, the longest period of historical data available on Bloomberg was utilized to calculate the mean.” In PUB/MH I-46 (d) we learn that certain “Bloomberg indices commenced October 2000 and as such become the starting point for the analysis”.

c) For GRA applications in the period before there was 5 years of weekly data Bloomberg data available, what methodology, and data streams were employed to forecast spreads?

ANSWER:

Prior to the reliance on Bloomberg databases, historical databases were maintained by Manitoba Hydro made up of daily and weekly indicative debt issuance rates that were received from various financial institutions. However, while the data streams have become enhanced with the availability of Bloomberg data, the methodology for forecasting spreads has not significantly changed.

CAC/MSOS/MH II-154

Reference: PUB/MH I-46(a)
PUB/MH I-46(f)
PUB/MH I-46(d)

Preamble: In PUB/MH I-46 (a) we learn that the current methodology for MH is “Credit spread forecasts reflect 10 years of historical data where available. If not available, the longest period of historical data available on Bloomberg was utilized to calculate the mean.” In PUB/MH I-46 (d) we learn that certain “Bloomberg indices commenced October 2000 and as such become the starting point for the analysis”.

d) In developing the forecast spreads in previous years was data used from periods or dates beyond the period used in the 60 basis points referenced in PUB/MH I-46 (f)?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-154(c).

CAC/MSOS/MH II-154

**Reference: PUB/MH I-46(a)
PUB/MH I-46(f)
PUB/MH I-46(d)**

Preamble: In PUB/MH I-46 (a) we learn that the current methodology for MH is “Credit spread forecasts reflect 10 years of historical data where available. If not available, the longest period of historical data available on Bloomberg was utilized to calculate the mean.” In PUB/MH I-46 (d) we learn that certain “Bloomberg indices commenced October 2000 and as such become the starting point for the analysis”.

e) In developing the forecast spreads in previous years what frequency of data was used, e. g. daily weekly monthly, the same as the data frequency used in the 60 basis points referenced in PUB/MH I-46 (f)?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-154(c).

CAC/MSOS/MH II-155

Reference: PUB/MH I-35(b)

Preamble: In PUB/MH I-35 (b) we are provided with a table presenting the differences in Finance Expense for the Electrical operations. This schedule shows that interest allocated to construction varies in a much greater factor than the change in gross interest rate, in an apparently lower interest rate environment.

- a) Please explain why in the 2010/11 forecast year, an \$8.1 million change in “Gross Interest” triggers a \$10.5 million change in “Interest Allocated to Construction”, all other things being equal.

ANSWER:

Please see Manitoba Hydro’s response to PUB/MH II-30(e).

CAC/MSOS/MH II-155

Reference: PUB/MH I-35(b)

Preamble: In PUB/MH I-35 (b) we are provided with a table presenting the differences in Finance Expense for the Electrical operations. This schedule shows that interest allocated to construction varies in a much greater factor than the change in gross interest rate, in an apparently lower interest rate environment.

- b) Please explain why in the 2011/12 forecast year, a \$9.7 million change in “Gross Interest” triggers a \$4.5 million change in “Interest Allocated to Construction”, all other things being equal.

ANSWER:

Please see Manitoba Hydro’s response to PUB/MH II-30(e).

CAC/MSOS/MH II-156

Reference: PUB/MH I-46(h)

Preamble: In PUB/MH I-46 (h) we are provided with a table that purports to quantify the changes in “Finance Expense” assuming the Short term rate were reduced by 40 basis points and Long term rates for new issues were reduced by 65 basis points. Somewhat counter-intuitively, it appears that reducing the cash interest costs by reducing the short and long term rate, operates to increase the Finance Expense from \$451 million to \$454 million.

CAC/MSOS observes, all other things being equal, and assuming that 20% of the average debt [20%*(7816+8613)] was financed based on floating or short term interest rates pegged to the short term rate index, that a 40 basis point saving might result in a reduction of cash interest costs of approximately \$6.6 million.

	2010	2011
Long Term Debt	7,816	8,613
Average 2010/11 Debt		8,215
Assumed Floating Portion Average Debt	20%	1,643
ST Rate 1FF 09	2.40%	
PUB Order	2.00%	
Difference	0.40%	6.6
2011 Finance Expense at IFFO9 rate		451
2011 Finance Expense at PUB rate	i-46(h)	454
Difference		-3

- a) Please provide a schedule to support the calculation of the adjusted finance expense, providing on a comparative basis the values to support the initial calculation, including, interest on Long Term Fixed rate issues, Interest on long term floating rate issues, interest on Short term debt, Provincial Guarantee fee, capitalized interest perhaps related to construction, amortization of debt premium or discounts, and other matters required to reconcile the difference

between interest accruing on the debt and the finance expense indicated on the income statement.

ANSWER:

The attached schedule utilizes the electric 2010/11 information presented in response to PUB/MH I-35(b) and includes additional information to reconcile to the \$451 million and \$454 million consolidated finance expense values quoted in this question's preamble.

The last section in the schedule shows a forecasted decrease to gross interest in 2010/11 of \$8.1 million (orange highlighted number) if the Board Ordered short term and long term interest rates were used in the forecast. Note that this is a larger decrease than the \$6.6 million change calculated in the preamble to this question.

Interest allocated to construction is a major component of the \$3 million increase to total finance expense. Please see the response to PUB/MH II-30(e) for an explanation of the offsetting impact of interest allocated to construction.

	(000s)
	2010/11
	Forecast
Revised Schedule 4.6.0 As Filed:	
Interest on Short & Long-Term Debt	
Gross Interest	\$ 492,011
Provincial Guarantee Fee	78,099
Amortization of (Premiums), Discounts, and Transaction Costs	2,321
Intercompany Interest Receivable	(19,416)
Total Interest on Short & Long-Term Debt	553,015
Interest Earned on Sinking Fund	(17,585)
Realized Foreign Exchange (Gains) or Losses on Debt in Cash Flow Hedges	4,398
Interest Allocated to Construction	(130,789)
Corporate Allocation	(18,704)
Other Amortization	22,204
Total Finance Expense - MH as per revised Schedule 4.6.0	\$ 412,539
Corporate Allocation	\$ 6,704
Total CG Finance Expense	\$ 20,143
Interco Allocation	\$ 12,000
Total Finance Expense IFF09 - Consolidated	\$ 451,385
<hr/>	
	2010/11
	Forecast
Schedule 4.6.0 Revised for PUB/MH I - 35 (b):	
Interest on Short & Long-Term Debt	
Gross Interest	\$ 483,869
Provincial Guarantee Fee	78,100
Amortization of (Premiums), Discounts, and Transaction Costs	2,321
Intercompany Interest Receivable	(18,197)
Total Interest on Short & Long-Term Debt	546,093
Interest Earned on Sinking Fund	(17,569)
Realized Foreign Exchange (Gains) or Losses on Debt in Cash Flow Hedges	4,398
Interest Allocated to Construction	(120,284)
Corporate Allocation	(18,704)
Other Amortization	22,204
Total Finance Expense utilizing PUB order 128/09 interest rates - MH	\$ 416,138
Corporate Allocation	\$ 6,704
Total CG Finance Expense	\$ 19,165
Interco Allocation	\$ 12,000
Total Finance Expense IFF09 utilizing PUB order 128/09 interest rates - Consolidated	\$ 454,006
<hr/>	
	2010/11
	Forecast
Difference from Schedule 4.6.0 as Filed	
Interest on Short & Long-Term Debt	
Gross Interest	\$ (8,142)
Provincial Guarantee Fee	1
Amortization of (Premiums), Discounts, and Transaction Costs	-
Intercompany Interest Receivable	1,219
Total Interest on Short & Long-Term Debt	(6,922)
Interest Earned on Sinking Fund	16
Realized Foreign Exchange (Gains) or Losses on Debt in Cash Flow Hedges	-
Interest Allocated to Construction	10,505
Corporate Allocation	-
Other Amortization	-
Total Finance Expense Increase (Decrease) - MH	\$ 3,599
Corporate Allocation	\$ -
Total CG Finance Expense	\$ (978)
Interco Allocation	\$ -
Total Finance Expense IFF09 - Consolidated	\$ 2,621

CAC/MSOS/MH II-156

Reference: PUB/MH I-46(h)

Preamble: In PUB/MH I-46 (h) we are provided with a table that purports to quantify the changes in “Finance Expense” assuming the Short term rate were reduced by 40 basis points and Long term rates for new issues were reduced by 65 basis points. Somewhat counter-intuitively, it appears that reducing the cash interest costs by reducing the short and long term rate, operates to increase the Finance Expense from \$451 million to \$454 million.

CAC/MSOS observes, all other things being equal, and assuming that 20% of the average debt [20%*(7816+8613)] was financed based on floating or short term interest rates pegged to the short term rate index, that a 40 basis point saving might result in a reduction of cash interest costs of approximately \$6.6 million.

	<u>2010</u>	<u>2011</u>
Long Term Debt	7,816	8,613
Average 2010/11 Debt		8,215
Assumed Floating Portion Average Debt	20%	1,643
ST Rate 1FF 09	2.40%	
PUB Order	2.00%	
Difference	<u>0.40%</u>	6.6
2011 Finance Expense at IFFO9 rate		451
2011 Finance Expense at PUB rate	i-46(h)	454
Difference		<u>-3</u>

- b) Does the counter-intuitive increase in interest costs arise as a result of some assumption or change in assumption so that all forecast long term financings will be undertaken on a fixed rate basis, and, if so, what is the resulting change in the proportion of floating rate and short term debt?

ANSWER:

PUB/MH I-46(h) requested an adjustment to projected finance expense reflecting the short and long term interest rates approved by the Board in Order 128/09 for 2009/10 and 2010/11. There were no other changes in IFF09 financing assumptions.

CAC/MSOS/MH II-157

Reference: CAC/MSOS/MH I-30(c)

Preamble: In CAC/MSOS/MH I-30(c) we are provided a table which presents the 90 day t-bill rates and GOC 10 year + rates for certain periods which are identified as being extracted from the data supplied by certain sources including the National Bank, accurate at various dates in February. CAC/MSOS wishes to understand the methodology employed in reaching the values presented.

MH has derived from the National Bank's various forecasts, average T-bill rates for 2009/10 at 0.26%, and for 2010/11 at 1.45%, and for "10 Yr +" rates 3.77% for 2009/10 and 4.24% for 2010/11 . CAC/MSOS has extracted certain T-bill and 10 year data from the financial forecast found on page 8 of the February 2010 National Bank Monthly Economic Monitor, which is found in the table below, but was unable to reverse engineer the methodology that resulted in the 0.26%, 1.45%, 3.77% and 4.24% rates for those periods.

National Bank — End of Period Forecasts — Page 8

	Feb-10	1Q10	2Q10	3Q10	4Q10	2010	2011
3 Mo. T bill	0.53%	0.96%	1.44%	2.02%	2.02%	2.02%	2.22%
10 Year	3.84%	3.99%	4.19%	4.14%	4.14%	4.14%	4.08%

- a) Please provide the detailed calculation of each of the 0.26%, 1.45%, 3.77% and 4.24% rates for those periods indicated in the table in CAC/MSOS/MH I-30(c), identifying the inputs and their source document.

ANSWER:

The calculations for the average period 90 day T-bill rates associated with the February 2010 National Bank forecast are as follows:

- National Bank provided information on an end of period basis. Therefore, rates were adjusted to a comparable average period basis.

- To calculate an average period Q1 2010 forecast of 0.37% as shown in Table 2, the Q1 2010 end of period forecast of 0.53% in Table 1 was averaged with the actual December 30, 2009 Canada 90 Day T-bill rate of 0.20%, also shown in Table 1, sourced from Bank of Canada V122541.
- To calculate an average period Q2 2010 forecast, the Q2 end of period forecast of 0.96% was averaged with the Q1 2010 end of period forecast of 0.53% to calculate an average period Q2 2010 forecast of 0.75%. This same process was used to calculate an average period forecast for Q3 2010 and Q4 2010.
- National Bank did not provide quarterly forecasts for 2011 but provided an end of period forecast for 2011. Therefore, the average of the end of period 2011 forecast of 2.22% was averaged with the end of period 2010 forecast of 2.02% to calculate an average period forecast for 2011. This was assumed to be the average period forecast for each quarter of 2011.
- At the time that the response to CAC/MSOS/MH I-30(c) was prepared, actual quarterly data was available for Q2, Q3, and Q4 of 2009. The actual quarterly data was sourced from Bank of Canada V122541 for those quarters.

Table 1

	BOC-V122541	National Bank Forecast - End of Period Rates					
	Actual Rate Dec.30,2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	2010	2011
90 Day T-Bill, %	0.20	0.53	0.96	1.44	2.02	2.02	2.22

Table 2

	Actual Rates, BOC -V122541			National Bank - Average Period Rates				
	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011
90 Day T-Bill, %	0.23	0.23	0.22	0.37	0.75	1.20	1.73	2.12

- The 90 Day T-bill rate of 0.26% for 2009/10 was calculated by averaging the actual average period rates for Q2 (0.23%), Q3 (0.23%), and Q4 (0.22%) of 2009 with the comparable average period forecast of Q1 2010 (0.37%) shown in Table 2.
- The 90 Day T-bill rate of 1.45% for 2010/11 was calculated by averaging the comparable average period forecast for Q2 2010 (0.75%), Q3 2010 (1.20%), Q4 2010 (1.73%) and Q1 2011 (2.12%) shown in Table 2.

The calculations for the average period GOC 10 Year+ rates associated with the February 2010 National Bank forecast are as follows:

- National Bank provided information on an end of period basis. Therefore, rates were adjusted to a comparable average period basis.
- National Bank provided a forecast on an end of period basis of 10 year and 30 year treasury yields. The 10 year and 30 year rates were averaged to provide an end of period 10 Year+ rate as shown in Table 3.
- To calculate an average period Q1 2010 forecast of 3.96% as shown in Table 4, the Q1 2010 end of period forecast of 4.07% (10 Year+), shown in Table 3, was averaged with the average of the actual December 30, 2009 Canada 10 and 30 year rates of 3.60% and 4.07%, also shown in Table 3, sourced from Bank of Canada V122543 and V122544, respectively.
- To calculate an average period Q2 2010 forecast of 4.12% as shown in Table 4, the Q2 2010 end of period forecast of 4.17% (10 Year+) was averaged with the Q1 2010 end of period forecast of 4.07% (10 Year+), both shown in Table 3. This same process was used to calculate an average period forecast for Q3 2010 and Q4 2010.
- National Bank did not provide quarterly forecasts for 2011 but provided an end of period forecast for 2011. Therefore, the average of the end of period 2011 forecast of 4.23% (10 Year+) was averaged with the end of period 2010 forecast of 4.30% (10 Year+) to calculate an average period forecast for 2011 of 4.26%. This was assumed to be the average period forecast for each quarter of 2011 including Q1 as shown in Table 4.
- At the time that the response to CAC/MSOS/MH I-30(c) was prepared, actual quarterly data was available for Q2, Q3, and Q4 of 2009 as shown in Table 5. Actual rates were based on the average of the actuals applicable to each source including Canada 10 Year Rates (Bank of Canada V122543), Canada 30 Year Rates (Bank of Canada V122544) and Canada 10 Year+ Rates (Bank of Canada V122487).

Table 3

	BOC- V122543, V122544	National Bank Forecast - End of Period Rates					
	Actual Dec.30,2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	2010	2011
Canada 10 Year, %	3.60	3.84	3.99	4.19	4.14	4.14	4.08
Canada 30 Year, %	4.07	4.30	4.35	4.51	4.45	4.45	4.37
Average: 10 Yr+ Rate, %	3.84	4.07	4.17	4.35	4.30	4.30	4.23

Table 4

	National Bank - Average Period Rates				
	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011
Canada 10 Year, %	3.72	3.92	4.09	4.17	4.11
Canada 30 Year, %	4.19	4.33	4.43	4.48	4.41
Average: 10 Year+ Rate, %	3.96	4.12	4.26	4.32	4.26

Table 5

		Actual Rates, %		
	Long Bond Rate Used	2009 Q2	2009 Q3	2009 Q4
BMO Nesbitt Burns	Canada 10 Year	3.37	3.41	3.43
CIBC	Average of Canada 10 Yr and 30 Yr	3.67	3.67	3.70
National Bank	Average of Canada 10 Yr and 30 Yr	3.67	3.67	3.70
Royal Bank	Average of Canada 10 Yr and 30 Yr	3.67	3.67	3.70
Scotiabank	Average of Canada 10 Yr and 30 Yr	3.67	3.67	3.70
TD Bank	Average of Canada 10 Yr and 30 Yr	3.67	3.67	3.70
IHS Global Insight	Average of Canada 10 Yr and 30 Yr	3.67	3.67	3.70
Conference Board of Canada	Canada 10 Yr+	3.93	3.98	3.97
Informetrica	Canada 10 Yr+	3.93	3.98	3.97
Spatial Economics	Average of Canada 10 Yr and 30 Yr	3.67	3.67	3.70
Average: 10 Year+ Rate, %		3.69	3.71	3.72

- The GOC 10 Year+ rate of 3.77% for 2009/10 was calculated by averaging the actual rates for Q2 (3.69%), Q3 (3.71%), and Q4 (3.72%) of 2009 as shown in Table 5 with the comparable average period forecast of Q1 2010 (3.96%) shown in Table 4.
- The GOC 10 Year+ rate of 4.24% for 2010/11 was calculated by averaging the comparable average period forecast for Q2 2010 (4.12%), Q3 2010 (4.26%), Q4 2010 (4.32%) and Q1 2011 (4.26%) shown in Table 4.

CAC/MSOS/MH II-157

Reference: CAC/MSOS/MH I-30(c)

Preamble: In CAC/MSOS/MH I-30(c) we are provided a table which presents the 90 day t-bill rates and GOC 10 year + rates for certain periods which are identified as being extracted from the data supplied by certain sources including the National Bank, accurate at various dates in February. CAC/MSOS wishes to understand the methodology employed in reaching the values presented.

MH has derived from the National Bank’s various forecasts, average T-bill rates for 2009/10 at 0.26%, and for 2010/11 at 1.45%, and for “10 Yr +” rates 3.77% for 2009/10 and 4.24% for 2010/11 . CAC/MSOS has extracted certain T-bill and 10 year data from the financial forecast found on page 8 of the February 2010 National Bank Monthly Economic Monitor, which is found in the table below, but was unable to reverse engineer the methodology that resulted in the 0.26%, 1.45%, 3.77% and 4.24% rates for those periods.

National Bank — End of Period Forecasts — Page 8

	Feb-10	1Q10	2Q10	3Q10	4Q10	2010	2011
3 Mo. T bill		0.53%	0.96%	1.44%	2.02%	2.02%	2.22%
10 Year		3.84%	3.99%	4.19%	4.14%	4.14%	4.08%

b) If the source document is other than the February 2010 National Bank Monthly Economic Monitor, please provide the document to allow confirmation of the data inputs.

ANSWER:

The source document is the February 2010 National Bank Monthly Economic Monitor.

CAC/MSOS/MH II-158

Reference: CAC/MSOS/MH I-30(c)

Preamble: In CAC/MSOS/MH I-30(c) we are provided a table which presents the 90 day T-bill rates and GOC 10 year + rates for certain periods which are identified as being extracted from the data supplied by certain sources including CIBC, accurate at various dates in February. CAC/MSOS wishes to understand the methodology employed in reaching the values presented.

MH has derived from the CIBC's various forecasts, average T-bill rates for 2009/10 at 0.22%, and for 2010/11 at 0.87%, and for "10 Yr +" rates 3.75% for 2009/10 and 4.08% for 2010/11 . CAC/MSOS has extracted certain T-bill and 10 year data from the financial forecast found on page 2 of each of the January 28 and February 26, 2010 CIBC Economic Insights, which is found in the table below, but was unable to reverse engineer the methodology that resulted in the 0.22%, 0.87%, 3.75% and 4.08% rates for those periods.

CIBC Economic Insights

Jan-28	2010	2010	2010	2010	2011	2011
	Mar	Jun	Sep	Dec	Mar	Jun
98 Day T bill	0.25%	0.60%	1.15%	1.05%	1.15%	1.75%
10 Year	3.65%	3.85%	3.95%	3.75%	4.00%	4.05%
Feb-26						
98 Day T bill		0.60%	1.15%	1.05%	1.15%	1.75%
10 Year		3.65%	3.80%	3.75%	4.00%	4.05%

- a) Please provide the detailed calculation of each of the 0.22%, 0.87%, 3.75% and 4.08% rates for those periods indicated in the table in CAC/MSOS/MH I-30(c), identifying the inputs and their source document.

ANSWER:

The source document used was the CIBC World Markets GPS Monthly dated February 11, 2010 and is attached as file CAC-MSOS-MH II-158a-attachment.

The calculations for the average period 90 day T-bill rates associated with the February 11, 2010 CIBC forecast are as follows:

- CIBC provided information on an end of period basis. Therefore, rates were adjusted to a comparable average period basis.
- To calculate an average period Q1 2010 forecast of 0.20% as shown in Table 2, the March 2010 end of period forecast of 0.20% in Table 1 was averaged with the actual December 30, 2009 Canada 90 Day T-bill rate of 0.20%, also show in Table 1, sourced from Bank of Canada V122541.
- To calculate an average period Q2 2010 forecast, the June 2010 end of period forecast of 0.60% was averaged with the March 2010 end of period forecast of 0.20% to calculate an average period Q2 2010 forecast of 0.40%. This same process was used to calculate an average period forecast for Q3 2010, Q4 2010, and Q1 2011.
- At the time that the response to CAC/MSOS/MH I-30(c) was prepared, actual quarterly data was available for Q2, Q3, and Q4 of 2009. The actual quarterly data was sourced from Bank of Canada V122541 for those quarters.

Table 1

	BOC-V122541	CIBC Forecast - End of Period Rates					
	Actual Rate Dec.30,2009	Mar 2010	Jun 2010	Sep 2010	Dec 2010	Mar 2011	Jun 2011
90 Day T-Bill, %	0.20	0.20	0.60	1.15	1.05	1.15	1.75

Table 2

	Actual Rates, BOC - V122541			CIBC - Average Period Rates				
	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011
90 Day T-Bill, %	0.23	0.23	0.22	0.20	0.40	0.88	1.10	1.10

- The 90 Day T-bill rate of 0.22% for 2009/10 was calculated by averaging the actual average period rates for Q2 (0.23%), Q3 (0.23%), and Q4 (0.22%) of 2009 with the comparable average period forecast of Q1 2010 (0.20%) shown in Table 2.
- The 90 Day T-bill rate of 0.87% for 2010/11 was calculated by averaging the comparable average period forecast for Q2 2010 (0.40%), Q3 2010 (0.88%), Q4 2010 (1.10%) and Q1 2011 (1.10%) shown in Table 2.

The calculations for the average period GOC 10 Year+ rates associated with the February 11, 2010 CIBC forecast are as follows:

- CIBC provided information on an end of period basis. Therefore, rates were adjusted to a comparable average period basis.
- CIBC provided a forecast on an end of year basis of 10 year and 30 year treasury yields. The 10 year and 30 year rates were averaged to provide an end of period 10 Year+ rate as shown in Table 3.
- To calculate an average period Q1 2010 forecast of 3.87% as shown in Table 4, the average of the March 2010 end of period forecast of 3.90% (10 Year+), shown in Table 3, was averaged with the average of the actual December 30, 2009 Canada 10 and 30 year rates of 3.60% and 4.07%, also shown in Table 3, sourced from Bank of Canada V122543 and V122544, respectively.
- To calculate an average period Q2 2010 forecast of 3.99% as shown in Table 4, the average of the June 2010 end of period forecast of 4.08% (10 Year+), shown in Table 3, was averaged with the March 2010 end of period average forecast of 3.90% (10 Year+), both shown in Table 3. This same process was used to calculate an average period forecast for Q3 2010, Q4 2010, and Q1 2011.
- At the time that the response to CAC/MSOS/MH I-30(c) was prepared, actual quarterly data was available for Q2, Q3, and Q4 of 2009 as shown in Table 5 of the response to CAC/MSOS/MH II-157(a). Actual rates were based on the average of the actuals applicable to each source including Canada 10 Year Rates (Bank of Canada V122543), Canada 30 Year Rates (Bank of Canada V122544) and Canada 10 Year+ Rates (Bank of Canada V122487).

Table 3

	BOC- V122543, V122544	CIBC Forecast - End of Period Rates					
	Actual Dec.30,2009	Mar 2010	Jun 2010	Sep 2010	Dec 2010	Mar 2011	Jun 2011
Canada 10 Year, %	3.60	3.65	3.85	3.95	3.75	4.00	4.05
Canada 30 Year, %	4.07	4.15	4.30	4.45	4.30	4.35	4.40
Average: 10 Year+ Rate, %	3.84	3.90	4.08	4.20	4.03	4.18	4.23

Table 4

	CIBC - Average Period Rates				
	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011
Canada 10 Year, %	3.63	3.75	3.90	3.85	3.88
Canada 30 Year, %	4.11	4.23	4.38	4.38	4.33
Average: 10 Year+ Rate, %	3.87	3.99	4.14	4.11	4.10

- The GOC 10 Year+ rate of 3.75% for 2009/10 was calculated by averaging the actual rates for Q2 (3.69%), Q3 (3.71%), and Q4 (3.72%) of 2009 as shown in Table 5 of the response to CAC/MSOS/MH II-157(a) with the comparable average period forecast of Q1 2010 (3.87%) shown in Table 4.
- The GOC 10 Year+ rate of 4.08% for 2010/11 was calculated by averaging the comparable average period forecast for Q2 2010 (3.99%), Q3 2010 (4.14%), Q4 2010 (4.11%) and Q1 2011 (4.10%) shown in Table 4.

ECONOMICS

AVERY SHENFELD

Can Equities Save the Bond Market?

With low inflation already taken as a given in the short term, the economic backdrop does not appear to be particularly encouraging for the North American government bond market. Whatever one's views on its strength, some sort of economic recovery is underway in both the US and Canada. Overnight rates are as low as they can go, and while the timing can be widely debated, at some point in the next couple of years, they will be higher. And finally, the supply outlook for sovereign debt is plentiful, with deficits staying high in 2010, and central banks withdrawing liquidity. While the economy could go sour again—there are still lots of risks to US housing prices and a drag from fiscal restraint lies ahead—none of these seem operable in the next couple of quarters.

So the year-to-date recovery in both Treasuries and Canadas was largely about a rush out of stocks, with some seasonal factors, explored by Mohammed Ahmed (on pages 4-5), added in for good measure. Stock jitters

hit all major developed world equities, and extended to a run-up in the VIX, last year's favourite fear-factor gauge. The flight to safety became the last refuge for bond market bulls, and North American bonds were favoured over those in the eurozone, where default risks are on the rise.

Two specific concerns have weighed on equities in recent weeks. First was the package of measures announced by China to tighten monetary policy. But these were largely aimed at preventing a bubble in housing and other asset classes owing to the very aggressively loose lending practices encouraged by Beijing during the global recession. There is no sense that China really wants to slow growth materially, or that inflation is getting out of hand to require such a cooling-off period.

The second, and more legitimate fear, was that Greece and other nations in Europe's periphery are on a crash

Table 1. **Interest and Exchange Rate Forecast**

END OF PERIOD:	2010					2011	
	10-Feb	Mar	Jun	Sep	Dec	Mar	Jun
CDA Overnight target rate	0.25	0.25	0.25	1.00	1.00	1.00	1.50
98-Day Treasury Bills	0.17	0.20	0.60	1.15	1.05	1.15	1.75
2-Year Gov't Bond	1.31	1.45	1.90	2.35	2.00	2.40	2.70
10-Year Gov't Bond	3.40	3.65	3.85	3.95	3.75	4.00	4.05
30-Year Gov't Bond	4.01	4.15	4.30	4.45	4.30	4.35	4.40
U.S. Federal Funds Rate	0.15	0.15	0.15	0.15	0.25	0.75	1.50
91-Day Treasury Bills	0.11	0.10	0.10	0.10	0.20	1.00	1.50
2-Year Gov't Note	0.87	1.05	1.10	1.20	1.35	2.20	2.45
10-Year Gov't Note	3.65	3.85	4.00	4.15	4.10	4.45	4.45
30-Year Gov't Bond	4.57	4.70	4.75	4.95	4.85	5.05	5.05
Canada - US T-Bill Spread	0.06	0.10	0.50	1.05	0.85	0.15	0.25
Canada - US 10-Year Bond Spread	-0.25	-0.20	-0.15	-0.20	-0.35	-0.45	-0.40
Canada Yield Curve (30-Year — 2-Year)	2.70	2.70	2.40	2.10	2.30	1.95	1.70
US Yield Curve (30-Year — 2-Year)	3.71	3.65	3.65	3.75	3.50	2.85	2.60
EXCHANGE RATES							
CADUSD	0.94	0.93	0.97	1.02	0.97	0.96	1.00
USDCAD	1.07	1.07	1.03	0.98	1.03	1.04	1.00
USDJPY	90	94	93	90	87	86	86
EURUSD	1.37	1.37	1.38	1.44	1.47	1.48	1.50
GBPUSD	1.56	1.59	1.61	1.67	1.71	1.72	1.73
AUDUSD	0.873	0.920	0.940	0.960	1.000	0.990	0.995
USDCHF	1.07	1.06	1.04	1.01	0.99	1.00	1.01
USDBRL	1.86	1.87	1.82	1.77	1.72	1.70	1.69
USDMXN	13.1	13.5	13.0	12.7	12.5	12.3	12.3

CAC/MSOS/MH II-158

Reference: CAC/MSOS/MH I-30(c)

Preamble: In CAC/MSOS/MH I-30(c) we are provided a table which presents the 90 day T-bill rates and GOC 10 year + rates for certain periods which are identified as being extracted from the data supplied by certain sources including CIBC, accurate at various dates in February. CAC/MSOS wishes to understand the methodology employed in reaching the values presented.

MH has derived from the CIBC’s various forecasts, average T-bill rates for 2009/10 at 0.22%, and for 2010/11 at 0.87%, and for “10 Yr +” rates 3.75% for 2009/10 and 4.08% for 2010/11 . CAC/MSOS has extracted certain T-bill and 10 year data from the financial forecast found on page 2 of each of the January 28 and February 26, 2010 CIBC Economic Insights, which is found in the table below, but was unable to reverse engineer the methodology that resulted in the 0.22%, 0.87%, 3.75% and 4.08% rates for those periods.

CIBC Economic Insights

	Jan-28	2010	2010	2010	2010	2011	2011
		Mar	Jun	Sep	Dec	Mar	Jun
98 Day T bill		0.25%	0.60%	1.15%	1.05%	1.15%	1.75%
10 Year		3.65%	3.85%	3.95%	3.75%	4.00%	4.05%
	Feb-26						
98 Day T bill			0.60%	1.15%	1.05%	1.15%	1.75%
10 Year			3.65%	3.80%	3.75%	4.00%	4.05%

- b) **If the source document is other than the January 28 or February 26, 2010 CIBC Economic Insights, please provide the document to allow confirmation of the data inputs and whether the data points are “end period” or “period average”.**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-158(a). As noted on the attached document to that response, the data points were end of period.

CAC/MSOS/MH II-159

Reference: CAC/MSOS/MH I-30(c)

Preamble: In CAC/MSOS/MH I-30(c) we are provided a table which presents the 90 day T-bill rates and GOC 10 year + rates for certain periods which are identified as being extracted from the data supplied by certain sources including BMO, Royal Bank, TD, accurate at various dates in February. CAC/MSOS wishes to understand the methodology employed in reaching the values presented. MH has derived from the BMO various forecasts, average T-bill rates for 2009/10 at 0.21%, and for 2010/11 at 1.00%, and for “10 Yr +” rates 3.65% for 2009/10 and 3.69% for 2010/11. In the BMO, Canadian Economic Outlook, the authors publish period average data for 90 day t-bills and 10 year but not 30 year Canada Bond yields.

- a) Please describe the methodological differences in arriving at these averages when compared to the method used to address data based on “end-period” data and forecasters who provide Canada bonds forecasts of maturities beyond the 10 year maturity.

ANSWER:

It is recognized that BMO provided a forecast of 10 year but not for 30 year Canada bond yields. BMO’s forecast provided average period rates and therefore, no adjustments were made to their forecast.

Table 5 in the response to CAC/MSOS/MH II-157(a) notes the forecast long bond rate used for each source in CAC/MSOS/MH I-30(c). Some forecasters provided both a 10 year and 30 year long bond rate. For those forecasters, the average of their 10 year and 30 year forecasts was used. Some forecasters provided a 10 year+ long bond rate and that rate was used.

In calculating the long bond rates for BMO for 2009/10 and 2010/11, their 10 Year Bond Yield forecast rates were used for Q1 2010 to Q1 2011 and actual rates as reflected in Table 5 in the response to CAC/MSOS/MH II-157(a) were used for Q2, Q3 and Q4 of 2009.

CAC/MSOS/MH II-160

Reference: CAC/MSOS/MH I-30(c)

Preamble: In CAC/MSOS/MH I-30(c) we are provided a table which presents the 90 day t-bill rates and GOC 10 year + rates for 2009/10, a period that in February 2010 would have allowed the use of a significant portion of actual data. CAC/MSOS wishes to understand the methodology employed in integrating actual and forecast data in reaching the values presented.

- a) In the case of the BMO forecasts, which frequently are presented on a “period average” basis, what was the cut off date for actual data and how, if at all, was the “period average” forecast integrated with the available actual data to arrive at the values presented for 2009/10?

ANSWER:

At the time the response to CAC/MSOS/MH I-30(c) was prepared, the most recent actual quarterly data available was that for Q2, Q3, and Q4 of 2009. BMO’s forecast for 3 month T-Bill and 10 Year Bond Yield rates were provided on an average period basis.

The value for BMO’s 90 Day T-bill rate for 2009/10 was derived by averaging the actual rates for Q2, Q3, and Q4 of 2009 with BMO’s 2010 Q1 average period forecast of 3-month T-bill rate as shown in Table 1. The actual T-bill rate is sourced from Bank of Canada V122541.

Table 1

	90 Day T-Bill Rates, %
2009 Q2 Actual (BOC V122541)	0.23
2009 Q3 Actual (BOC V122541)	0.23
2009 Q4 Actual (BOC V122541)	0.22
2010 Q1 BMO Forecast	0.17
2009/10	0.21

The value for BMO's GOC 10 Year+ rate for 2009/10 was calculated by taking the average of actual rates applicable to each source reviewed for 2009 Q2, Q3, and Q4, as found in Table 5 of Manitoba Hydro's response to CAC/MSOS/MH II-157(a), with BMO's 2010 Q1 average period forecast of 10 Year Bond Yield as shown in Table 2.

Table 2

	GOC 10 Yr+ Rates, %
2009 Q2 Actual	3.69
2009 Q3 Actual	3.71
2009 Q4 Actual	3.72
2010 Q1 BMO Forecast	3.46
2009/10	3.65

CAC/MSOS/MH II-160

Reference: CAC/MSOS/MH I-30(c)

Preamble: In CAC/MSOS/MH I-30(c) we are provided a table which presents the 90 day t-bill rates and GOC 10 year + rates for 2009/10, a period that in February 2010 would have allowed the use of a significant portion of actual data. CAC/MSOS wishes to understand the methodology employed in integrating actual and forecast data in reaching the values presented.

- b) As the table suggests that Conference Board data was published on January 11th, while the TD Bank data was published on February 16, please discuss any adjustments made in the use of actual data to reflect the differences in the dates of these forecasts.

ANSWER:

The differences in the dates that the Conference Board and TD Bank forecasts were published had no influence on the actual data as reported by the Bank of Canada. For this reason, no adjustments were made in the use of actual data for Q2, Q3 and Q4 of 2009.

CAC/MSOS/MH II-161

Reference: CAC/MSOS/MH I-30(c)

Preamble: In CAC/MSOS/MH I-30(c) we are provided a table which presents the 90 day T-bill rates and GOC 10 year + rates based in part on 2 forecasts published in January 2010, 7 forecasts published in February 2010, and one perhaps “stale-dated” forecast published in October 2009. At February 19, 2010 the Spatial Economics forecasts were approximately 127 days old, while the others we not older than 39 days. CAC/MSOS wishes to understand when under the MH methodology a forecast would be rejected from the sample of available forecasts to allow reliance on more current forecasts.

- a) **When, if ever, would an old or “stale dated” but as yet not “superseded” forecast be removed from the sample of forecasters to be employed?**

ANSWER:

The example of a “stale-dated” forecast provided in the Preamble is based on a request to provide the most recent forecasts of the sources provided in another response (CAC/MSOS/MH I-30(a)). Manitoba Hydro provided the most recent forecasts of the sources as requested and therefore did not reject any of the forecasts due to dated information.

For the purpose of Manitoba Hydro’s annual forecast of economic and financial variables, Manitoba Hydro is interested in both the short-term and long-term outlooks of each of the forecasters. While the near-term forecast may be more sensitive to significant changes in current conditions, the long-term forecast should not be significantly impacted.

Canadian banks provide forecasts on a quarterly basis that typically extend for two years. IHS Global Insight and Conference Board provide quarterly forecasts on a monthly and quarterly basis, respectively, that typically extend five years. These organizations in addition to Informetrica and Spatial Economics provide longer term annual forecasts on a less frequent basis.

An example of a circumstance where Manitoba Hydro would remove a forecast from the sample of forecasters due to “stale dated” information would be if the source had not updated their outlook from their previous respective forecast period.

CAC/MSOS/MH II-161

Reference: CAC/MSOS/MH I-30(c)

Preamble: In CAC/MSOS/MH I-30(c) we are provided a table which presents the 90 day T-bill rates and GOC 10 year + rates based in part on 2 forecasts published in January 2010, 7 forecasts published in February 2010, and one perhaps “stale-dated” forecast published in October 2009. At February 19, 2010 the Spatial Economics forecasts were approximately 127 days old, while the others we not older than 39 days. CAC/MSOS wishes to understand when under the MH methodology a forecast would be rejected from the sample of available forecasts to allow reliance on more current forecasts.

- b) With respect to the values to be estimated for 2009/10, a period which on February 19, 2010 had very few days to run, please discuss the value of the inclusion of the October forecast when there were many more current forecasts available.

ANSWER:

CAC/MSOS/MH I-30(c) requested that current forecasts for certain variables from sources noted in the response to CAC/MSOS/MH I-30(a) be provided. As noted in the response to CAC/MSOS/MH I-30(c), recent forecasts for Consensus Economics, Province of British Columbia and Federal Finance were not included as they are not considered to be statistically independent. Manitoba Bureau of Statistics was also not included as they had not updated their annual forecast. The other independent sources noted in the response to CAC/MSOS/MH I-30(a) had provided updated forecasts and therefore that information was provided as requested in the response.

The response to CAC/MSOS/MH I-30(c) is not intended to reflect Manitoba Hydro’s current forecast for those variables.

CAC/MSOS/MH II-161 (REVISED)

Reference: CAC/MSOS/MH I-30(c)

Preamble: In CAC/MSOS/MH I-30(c) we are provided a table which presents the 90 day T-bill rates and GOC 10 year + rates based in part on 2 forecasts published in January 2010, 7 forecasts published in February 2010, and one perhaps “stale-dated” forecast published in October 2009. At February 19, 2010 the Spatial Economics forecasts were approximately 127 days old, while the others we not older than 39 days. CAC/MSOS wishes to understand when under the MH methodology a forecast would be rejected from the sample of available forecasts to allow reliance on more current forecasts.

- c) **With respect to the forecasts made on an annual or semi-annual basis, please discuss the circumstances, if any, that would lead to their exclusion from the sample used by MH, if between the date of their publication and the date of the MH forecast or update, there occurred a significant financial markets event that made the more current monthly or quarterly forecasts materially different than the older annual or semi-annual forecasts.**

ANSWER:

Over the course of the annual planning cycle, Manitoba Hydro follows a rigorous process in producing economic and financial forecasts to be used corporate wide. Its annual Economic Outlook is typically published in April followed by regular quarterly reviews of key economic/financial indicators.

Manitoba Hydro’s forecasting approach relies on the short-term and long-term forecasts of a number of independent sources. The first two years of the forecast use data from quarterly forecasts while years three and on use data from annual forecasts. Table 1 provides the list of forecasting sources used and the period in which they are used. Table 2 provides the frequency which each forecasting source produces an updated forecast.

Table 1 - Forecasting Sources

Forecast Years 1 & 2 Quarterly Data	Forecast Years 3 and on Calendar Year Data
BMO Nesbitt Burns	IHS Global Insight
CIBC	Conference Board of Canada
National Bank of Canada	Informetrica
Royal Bank of Canada	Spatial Economics
Scotiabank	
TD Bank	
IHS Global Insight	
Conference Board of Canada	

Table 2 - Frequency of Forecast

Forecasting Source	Frequency of Forecast
BMO Nesbitt Burns	Weekly
CIBC	Monthly
National Bank of Canada	Monthly
Royal Bank of Canada	Monthly
Scotiabank	Monthly
TD Bank	Monthly
IHS Global Insight	Monthly & Semi-annual
Conference Board of Canada	Quarterly
Informetrica	Annual
Spatial Economics	Annual

After the spring Economic Outlook is published, a subsequent review of certain variables (including U.S. and Canadian short and long-term interest rates, CAD/USD exchange rate and Canadian CPI) is conducted each summer. The quarterly reviews between annual spring outlooks focuses on the first two fiscal years as the forecast for years three and beyond utilizes calendar year data that is updated on a less frequent basis. As indicated in part (a) to this response, while the near-term forecast may be more sensitive to significant changes in current conditions, the long-term forecast generally remains more stable. The near-term information used for the summer review only uses those forecasts that have been updated since the spring Economic Outlook. Under most conditions, this summer review is considered the last point in time in the annual planning cycle that new information can be incorporated into the annual Integrated Financial Forecast.

In the event that there occurred a significant financial markets event that made the more current quarterly forecasts for the first two fiscal years materially different than the spring or summer forecasts, serious consideration would be given to incorporating the more current forecasts for the first two fiscal years of the IFF. However, any such update has the potential to significantly delay the completion of the IFF in a timely manner.

Although a source's forecast may be materially different between publications, since the sources used in the first two fiscal years provide frequent updates, to date, there has not yet been an occasion where an exclusion of a forecast has been considered in that period. Since Manitoba Hydro uses the forecasts of the sources on a consistent basis (i.e. first two fiscal years uses quarterly data, years three and on uses calendar year data), only under the circumstance that a source skipped a publication would a forecasting source be excluded from the sample when the annual spring outlook or when an update is produced.

CAC/MSOS/MH II-162

Reference: RCM/TREE/MH I-96(f)
RCM/TREE/MH I-58(a)
CAC/MSOS/MH I-21(b) and (c)

Preamble: In Attachment 1 to RCM/TREE/MH I-96(f) we learn that interest, in respect of certain customers, “will be paid on the refund of the deposit at a rate equal to the Corporation's average borrowing costs.” In RCM/TREE/MH I-58(a) we are provided with a table “Interest Rate – Residential Deposits” which indicates that 1.40% was the rate in June-December of 2009. We were also provided with a schedule in reply to CAC/MSOS/MH I-21 (b) and (c) which calculated the “weighted average interest rate” for 2009 as being 7.12% and for 2010 as being 6.76%. CAC/MSOS wishes to understand the methodology employed in reaching the values presented.

a) Are these two documents addressing the same topic?

ANSWER:

The two documents do not address the same topic. The table provided in response to RCM/TREE/MH I-58 (a) referred to short term interest rates on customer deposits, whereas the schedules in response to CAC/MSOS/MH I-21(b) and (c) referred to both short and long term debt.

During 2007-2008, the Corporation revised its method for calculating the interest rate used for customer deposits. This was done to comply with PUB Board Order No. 102/08 which stated that "If the guarantee is provided by way of a deposit, the Company shall annually credit interest on the deposit at the Company's average short-term borrowing cost, as updated from time to time."

As a result, effective October 2007, Manitoba Hydro calculates the interest rate on residential deposits based on the monthly average of the 1 month Bloomberg Banker's Acceptance rate plus the 1% Provincial Debt Guarantee Fee (PGF). The 1% PGF is included in the interest rate applied as the customer's deposit is an alternate source of funds, which, if not available, would result in the Corporation having to borrow funds on which the PGF would be assessed.

CAC/MSOS/MH II-162

Reference: RCM/TREE/MH I-96(f)
RCM/TREE/MH I-58(a)
CAC/MSOS/MH I-21(b) and (c)

Preamble: In Attachment 1 to RCM/TREE/MH I-96(f) we learn that interest, in respect of certain customers, “will be paid on the refund of the deposit at a rate equal to the Corporation's average borrowing costs.” In RCM/TREE/MH I-58(a) we are provided with a table “Interest Rate – Residential Deposits” which indicates that 1.40% was the rate in June-December of 2009. We were also provided with a schedule in reply to CAC/MSOS/MH I-21 (b) and (c) which calculated the “weighted average interest rate” for 2009 as being 7.12% and for 2010 as being 6.76%. CAC/MSOS wishes to understand the methodology employed in reaching the values presented.

b) If RCM/TREE/MH I-96(f) and RCM/TREE/MH I-58(a) are addressing the same topic, what borrowing facility was being described which provided a constant rate of 1.40% for the last seven months of 2009?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-162(a).

CAC/MSOS/MH II-162

Reference: RCM/TREE/MH I-96(f)
RCM/TREE/MH I-58(a)
CAC/MSOS/MH I-21(b) and (c)

Preamble: In Attachment 1 to RCM/TREE/MH I-96(f) we learn that interest, in respect of certain customers, “will be paid on the refund of the deposit at a rate equal to the Corporation's average borrowing costs.” In RCM/TREE/MH I-58(a) we are provided with a table “Interest Rate – Residential Deposits” which indicates that 1.40% was the rate in June-December of 2009. We were also provided with a schedule in reply to CAC/MSOS/MH I-21 (b) and (c) which calculated the “weighted average interest rate” for 2009 as being 7.12% and for 2010 as being 6.76%. CAC/MSOS wishes to understand the methodology employed in reaching the values presented.

c) Is the phrase “the Corporation's average borrowing costs” accurate?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-162(a).

CAC/MSOS/MH II-162

Reference: RCM/TREE/MH I-96(f)
RCM/TREE/MH I-58(a)
CAC/MSOS/MH I-21(b) and (c)

Preamble: In Attachment 1 to RCM/TREE/MH I-96(f) we learn that interest, in respect of certain customers, “will be paid on the refund of the deposit at a rate equal to the Corporation's average borrowing costs.” In RCM/TREE/MH I-58(a) we are provided with a table “Interest Rate – Residential Deposits” which indicates that 1.40% was the rate in June-December of 2009. We were also provided with a schedule in reply to CAC/MSOS/MH I-21 (b) and (c) which calculated the “weighted average interest rate” for 2009 as being 7.12% and for 2010 as being 6.76%. CAC/MSOS wishes to understand the methodology employed in reaching the values presented.

- d) Please define the phrase “the Corporation's average borrowing costs”, clarifying whether it is applicable to the annual semi-annual, quarterly, or monthly, weighted average of all fixed and floating rate borrowings.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-162(a).

CAC/MSOS/MH II-162

Reference: RCM/TREE/MH I-96(f)
RCM/TREE/MH I-58(a)
CAC/MSOS/MH I-21(b) and (c)

Preamble: In Attachment 1 to RCM/TREE/MH I-96(f) we learn that interest, in respect of certain customers, “will be paid on the refund of the deposit at a rate equal to the Corporation's average borrowing costs.” In RCM/TREE/MH I-58(a) we are provided with a table “Interest Rate – Residential Deposits” which indicates that 1.40% was the rate in June-December of 2009. We were also provided with a schedule in reply to CAC/MSOS/MH I-21 (b) and (c) which calculated the “weighted average interest rate” for 2009 as being 7.12% and for 2010 as being 6.76%. CAC/MSOS wishes to understand the methodology employed in reaching the values presented.

- e) As a 4.20% rate prevailed from December 2005 to March 2007, please explain the apparent consistency of “the Corporation's average borrowing costs” throughout that period, or discuss the policy change since that time that have resulted in the rate being more variable thereafter.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-162(a).

CAC/MSOS/MH II-162

Reference: RCM/TREE/MH I-96(f)
RCM/TREE/MH I-58(a)
CAC/MSOS/MH I-21(b) and (c)

Preamble: In Attachment 1 to RCM/TREE/MH I-96(f) we learn that interest, in respect of certain customers, “will be paid on the refund of the deposit at a rate equal to the Corporation's average borrowing costs.” In RCM/TREE/MH I-58(a) we are provided with a table “Interest Rate – Residential Deposits” which indicates that 1.40% was the rate in June-December of 2009. We were also provided with a schedule in reply to CAC/MSOS/MH I-21 (b) and (c) which calculated the “weighted average interest rate” for 2009 as being 7.12% and for 2010 as being 6.76%. CAC/MSOS wishes to understand the methodology employed in reaching the values presented.

f) As a 4.95% rate prevailed in September 2007 jumped a full percentage point to 5.95% in October 2007, please explain the apparent spike in “the Corporation's average borrowing costs”, or discuss the policy change since that time that have resulted in the rate being increased by approximately 20% in one month.

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-162(a).

CAC/MSOS/MH II-162

Reference: RCM/TREE/MH I-96(f)
RCM/TREE/MH I-58(a)
CAC/MSOS/MH I-21(b) and (c)

Preamble: In Attachment 1 to RCM/TREE/MH I-96(f) we learn that interest, in respect of certain customers, “will be paid on the refund of the deposit at a rate equal to the Corporation's average borrowing costs.” In RCM/TREE/MH I-58(a) we are provided with a table “Interest Rate – Residential Deposits” which indicates that 1.40% was the rate in June-December of 2009. We were also provided with a schedule in reply to CAC/MSOS/MH I-21 (b) and (c) which calculated the “weighted average interest rate” for 2009 as being 7.12% and for 2010 as being 6.76%. CAC/MSOS wishes to understand the methodology employed in reaching the values presented.

g) In the context of this rate paid to consumers, please discuss how the Provincial Guarantee Fee is included or excluded from the calculation of “the Corporation's average borrowing costs.”

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-162(a).

CAC/MSOS/MH II-163

**Reference: RCM/TREE/MH I-96(f)
RCM/TREE/MH I-58(a)
PUB/MH 1-35(f)**

Preamble: In Attachment 1 to RCM/TREE/MH I-96(f) we learn that interest, in respect of certain customers, “will be paid on the refund of the deposit at a rate equal to the Corporation's average borrowing costs.”

In RCM/TREE/MH I-58(a) we are provided with a table “Interest Rate – Residential Deposits” which indicates that 1.40% was the rate in June 2009.

The Term Sheet for Series C107 provided PUB/MH I-35 (f) found in Appendix 48, indicates that MH received an advance of \$100 million at a yield of BAs plus 42 basis points. Bank of Canada data for series V30971 suggests that the average 3 month BA rate was 0.31% in June 2009. . The Term Sheet for Series FK-2 provided in PUB/MH I-35 (f), indicates that MH received an advance of \$100 million at a yield of 5.175.

- a) Please reconcile the yields on the C107 issue and the FK-2 series with the 1.40% consumer rate.**

ANSWER:

As indicated in CAC/MSOS/MH II-162(a), Manitoba Hydro calculates the interest rate on residential deposits based on the monthly average of the 1 month Bloomberg Banker's Acceptance rate plus the 1% Provincial Debt Guarantee Fee. As C107 and FK-2 are long term debt issues, it is therefore not appropriate to reconcile these long term debt yields to the 1.40% short term consumer rate in effect in June 2009.

CAC/MSOS/MH II-164

**Reference: RCM/TREE/MH I-96(f)
RCM/TREE/MH I-58(a)
PUB/MH 1-35(f)**

Preamble: In Attachment 1 to RCM/TREE/MH I-96(f) we learn that interest, in respect of certain customers, “will be paid on the refund of the deposit at a rate equal to the Corporation's average borrowing costs.” In RCM/TREE/MH I-58(a) we are provided with a table “Interest Rate – Residential Deposits” which indicates that 1.40% was the rate in September 2009.

The Term Sheet for Series C108 provided PUB/MH I-35 (f) indicates that MH received an advance of \$100 million at a yield of BAs plus 2 basis points. Bank of Canada data for series V30971 suggests that the average 3 month BA rate was 0.30% in September 2009. . The Term Sheet for Series FM provided in PUB/MH I-35 (f), indicates that MH received an advance of \$250 million at a yield of 3.143%.

- a) Please reconcile the yields on the C108 issue and the FM series with the 1.40% consumer rate.**

ANSWER:

As indicated in CAC/MSOS/MH II-162(a), Manitoba Hydro calculates the interest rate on residential deposits based on the monthly average of the 1 month Bloomberg Banker’s Acceptance rate plus the 1% Provincial Debt Guarantee Fee. As C108 and FM are long term debt issues, it is therefore not appropriate to reconcile these long term debt yields to the 1.40% short term consumer rate in effect in September 2009.

CAC/MSOS/MH II-164

**Reference: RCM/TREE/MH I-96(f)
RCM/TREE/MH I-58(a)
PUB/MH 1-35(f)**

Preamble: In Attachment 1 to RCM/TREE/MH I-96(f) we learn that interest, in respect of certain customers, “will be paid on the refund of the deposit at a rate equal to the Corporation's average borrowing costs.” In RCM/TREE/MH I-58(a) we are provided with a table “Interest Rate – Residential Deposits” which indicates that 1.40% was the rate in September 2009.

The Term Sheet for Series C108 provided PUB/MH I-35 (f) indicates that MH received an advance of \$100 million at a yield of BAs plus 2 basis points. Bank of Canada data for series V30971 suggests that the average 3 month BA rate was 0.30% in September 2009. . The Term Sheet for Series FM provided in PUB/MH I-35 (f), indicates that MH received an advance of \$250 million at a yield of 3.143%.

- b) Please discuss the change in the credit spread of approximately 40 basis points, which occurred in the markets between the date of June 2009 C107 issue and the September 2009 C108 issue, describing how that was reflected in the unchanging 1.40% consumer rate.**

ANSWER:

This response assumes that the 40 basis point difference referred to in the question pertains to the fixed yield margin on the following floating long term debt issues:

<u>Debt Issue</u>	<u>Interest Reset Rate (variable)</u>	<u>+</u>	<u>Yield Margin (fixed)</u>
C107	3 month BA	+	0.42%
C108	3 month BA	+	0.02%
Margin Difference			0.40%

The initial pricing of these two floating long term debt issues is determined by adding the variable interest reset rate (3 month Bloomberg BA rate as referenced from CDOR03 on the payment date) *plus* a fixed margin. The margins quoted in the preamble include the transaction costs of 2 basis points. The quarterly coupon rates for C107 and C108 are 3 month BA + 40 and 0 basis points respectively. The use of the CDOR03 referencing is standard contractual practice for Canadian floating long term debt issues. The initial fixed margin will remain constant throughout the term of the floating rate debt.

In this case, the 40 basis point margin difference between debt issues C107 and C108 is primarily associated with the differing terms to maturity as C107 had a term to maturity of 3.25 years and C108 had a term to maturity of 1 year. It is incorrect to refer to the 40 basis point margin difference on these two floating debt issues as a change in credit spreads in the financial markets between June - September 2009, or to directly compare the fixed margin percentages with indicators of short term interest rates such as CDOR03 or V30971.

As indicated in response to CAC/MSOS/MH II-162(a), Manitoba Hydro calculates the interest rate on residential deposits based on the monthly average of the 1 month Bloomberg Banker's Acceptance rate plus the 1% Provincial Debt Guarantee Fee. As the average one month Bloomberg BA rate remained at 0.40% for each of the months from June 2009 to September 2009, the 1.40% consumer rate remained unchanged during this time.

CAC/MSOS/MH II-165

Reference: CAC/MSOS/MH I-151, 153, 154, 155, 156, 157, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 174, 175, 176 and 177

Preamble: CAC/MSOS observes that in CAC/MSOS/MH I-151, 153, 154, 155, 156, 157, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 174, 175, 176, 177, many of the replies are prefaced with the phrase “The following response was provided by National Bank Financial”.

CAC/MSOS also observes that several of these replies, including CAC/MSOS/MH I-155(d) relate to matters which CAC/MSOS would imagine would not generally be of interest to an investment dealer, such as the drivers of “Manitoba Hydro’s opportunity sales volumes”, and the proportion of those sales volumes to other volumes.

CAC/MSOS wishes to better understand whether NBF has particular knowledge of many of these topics or has relied on information from MH in preparing its response. CAC/MSOS also wishes to understand whether MH adopts each of the responses prefaced with phrases such as “The following response was provided by National Bank Financial” as its evidence.

- a) Does MH adopt each of the responses prefaced with phrases such as “The following response was provided by National Bank Financial” as its evidence, or if not, please provide a list of those adopted and those not adopted providing the reason for not adopting the unadoptable answer?

ANSWER:

NBF concluded their scope of work upon submission of the final report in July 2009. As a number of the Round 1 questions seemed to be directed to the authors of the report, NBF provided evidentiary responses in Round 1 which were identified by Manitoba Hydro with the phrase “The following response was provided by National Bank Financial.”

The identified responses were filed as NBF’s evidence in support of Manitoba Hydro’s General Rate Application.

CAC/MSOS/MH II-165 (REVISED)

Reference: CAC/MSOS/MH I-151, 153, 154, 155, 156, 157, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 174, 175, 176 and 177

Preamble: CAC/MSOS observes that in CAC/MSOS/MH I-151, 153, 154, 155, 156, 157, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 174, 175, 176, 177, many of the replies are prefaced with the phrase “The following response was provided by National Bank Financial”.

CAC/MSOS also observes that several of these replies, including CAC/MSOS/MH I-155(d) relate to matters which CAC/MSOS would imagine would not generally be of interest to an investment dealer, such as the drivers of “Manitoba Hydro’s opportunity sales volumes”, and the proportion of those sales volumes to other volumes.

CAC/MSOS wishes to better understand whether NBF has particular knowledge of many of these topics or has relied on information from MH in preparing its response. CAC/MSOS also wishes to understand whether MH adopts each of the responses prefaced with phrases such as “The following response was provided by National Bank Financial” as its evidence.

- b) Please indicate whether NBF concluded that “Manitoba Hydro’s opportunity sales volumes were driven by actual hydrology”, based on knowledge available to it before the tender, or information supplied by MH during the assignment.

ANSWER:

The question posed in CAC/MSOS/MH I-155(d) asked: “Please discuss the relative volatility of Opportunity sales volumes and MISO power prices” to which NBF replied that “Manitoba Hydro’s opportunity sales volumes are driven by actual hydrology, whereas MISO power prices are determined by prevailing conditions in that market. NBF observes that Manitoba Hydro’s opportunity sales volumes represent a relatively small portion of total MISO sales volumes, and therefore NBF believes that Manitoba Hydro’s opportunity sales volumes have no material effect on MISO power prices.” Note that NBF did not state in the response or

conclude in the report that the driver of Manitoba Hydro's opportunity sales volumes is *solely* hydrology.

The work performed by NBF was based on their professional judgment, utilizing both information that was known to them in advance of the tender, as well as information that was obtained from various sources, such as Manitoba Hydro and Bloomberg, during the course of the assignment.

CAC/MSOS/MH II-165 (REVISED)

Reference: CAC/MSOS/MH I-151, 153, 154, 155, 156, 157, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 174, 175, 176 and 177

Preamble: CAC/MSOS observes that in CAC/MSOS/MH I-151, 153, 154, 155, 156, 157, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 174, 175, 176, 177, many of the replies are prefaced with the phrase “The following response was provided by National Bank Financial”.

CAC/MSOS also observes that several of these replies, including CAC/MSOS/MH I-155(d) relate to matters which CAC/MSOS would imagine would not generally be of interest to an investment dealer, such as the drivers of “Manitoba Hydro’s opportunity sales volumes”, and the proportion of those sales volumes to other volumes.

CAC/MSOS wishes to better understand whether NBF has particular knowledge of many of these topics or has relied on information from MH in preparing its response. CAC/MSOS also wishes to understand whether MH adopts each of the responses prefaced with phrases such as “The following response was provided by National Bank Financial” as its evidence.

- c) Please indicate whether NBF whether the information on electricity prices found in the various replies such as , CAC/MSOS/MH I-151(a) was based on knowledge in its possession before the tender, or information supplied by MH during the assignment.

ANSWER:

The work performed by NBF was based on their professional judgment, utilizing both information that was known to them in advance of the tender, as well as information that was obtained from various sources, such as Manitoba Hydro and Bloomberg, during the course of the assignment.

CAC/MSOS/MH II-166

Reference: CAC/MSOS/MH I-155(e)

Preamble: CAC/MSOS observes that in several of the replies, including CAC/MSOS/MH I-155(e), we are reminded that Dependable sales volumes are a function of projected hydrology. CAC/MSOS wishes to understand whether there are other factors which impact the volume of dependable sales volumes.

a) Are factors such as forecasting ability, contractual terms and pricing not also factors which affect the dependable sales volumes?

ANSWER:

In response to CAC/MSOS/MH I-155(e), NBF stated that “Dependable sales volume variation is a function of projected hydrology, which has no causal relationship with macroeconomic indicators and was therefore not part of the analysis. However, US CPI and MISO prices are affected by macroeconomic indicators and can be modeled against other macroeconomic drivers such as interest rates, which is why NBF used them in its analysis.”

Similarly, other dependable and opportunity sales factors that have no causal relationship with macroeconomic indicators (such as forecasting ability) were therefore not part of the NBF modeling.

CAC/MSOS/MH II-166

Reference: CAC/MSOS/MH I-155(e)

Preamble: CAC/MSOS observes that in several of the replies, including CAC/MSOS/MH I-155(e), we are reminded that Dependable sales volumes are a function of projected hydrology. CAC/MSOS wishes to understand whether there are other factors which impact the volume of dependable sales volumes.

b) What, if any, analysis did NBF undertake to consider other factors as drivers of dependable an opportunity sales?

ANSWER:

Please see Manitoba Hydro's response to CAC/MSOS/MH II-166(a).

CAC/MSOS/MH II-167

Reference: CAC/MSOS/MH I-153
CAC/MSOS/MH I-154

Preamble: CAC/MSOS observes that in several of the replies related to data employed in its analysis, including CAC/MSOS/MH I-153, there are references to data being collected and analyzed. In the discussion of the “Peers” CAC/MSOS notes that it appears that NBF reviewed perhaps 10 years of annual reports to collect data.

In Appendix 13.3 there is a notation that “a substantial portion of the data” has been received from MH. In CAC/MSOS/MH I-154 we learn that lack of power price information from one data source restricted the period of analysis to the 2005-09 period. CAC/MSOS wishes to understand whether MH or other sources had power price data for a more extensive period than Bloomberg.

a) Does MH have a longer series of power prices than that which was available from Bloomberg?

ANSWER:

NBF uses Bloomberg data in its financial modeling as it believes the data is reliable and is readily available. The collection of the Bloomberg data on MISO power pricing coincides with the opening of the MISO market in 2005. Prior to this date, comparable power prices in Manitoba Hydro’s export marketplace would not have been publically available to NBF or Manitoba Hydro.

CAC/MSOS/MH II-167

Reference: CAC/MSOS/MH I-153
CAC/MSOS/MH I-154

Preamble: CAC/MSOS observes that in several of the replies related to data employed in its analysis, including CAC/MSOS/MH I-153, there are references to data being collected and analyzed. In the discussion of the “Peers” CAC/MSOS notes that it appears that NBF reviewed perhaps 10 years of annual reports to collect data.

In Appendix 13.3 there is a notation that “a substantial portion of the data” has been received from MH. In CAC/MSOS/MH I-154 we learn that lack of power price information from one data source restricted the period of analysis to the 2005-09 period. CAC/MSOS wishes to understand whether MH or other sources had power price data for a more extensive period than Bloomberg.

b) Do other sources have a longer series of power prices than that which was available from Bloomberg?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-167(a).

CAC/MSOS/MH II-167

Reference: CAC/MSOS/MH I-153
CAC/MSOS/MH I-154

Preamble: CAC/MSOS observes that in several of the replies related to data employed in its analysis, including CAC/MSOS/MH I-153, there are references to data being collected and analyzed. In the discussion of the “Peers” CAC/MSOS notes that it appears that NBF reviewed perhaps 10 years of annual reports to collect data.

In Appendix 13.3 there is a notation that “a substantial portion of the data” has been received from MH. In CAC/MSOS/MH I-154 we learn that lack of power price information from one data source restricted the period of analysis to the 2005-09 period. CAC/MSOS wishes to understand whether MH or other sources had power price data for a more extensive period than Bloomberg.

c) Was there something special, in the Bloomberg data, that made it impossible or impractical to use other sources, and if so please describe that factor?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-167(a).

CAC/MSOS/MH II-168 (REVISED)

Reference: Appendix 13.3

Preamble: CAC/MSOS observes that the title of Appendix 13.3 observes that it is an “Independent Assessment”. CAC/MSOS observes that from time to time and frequently in research and valuation and fairness opinion assignments the investment dealers provide extensive disclosure of their degree of independence from the company or companies concerned and all interested all related parties, or particularly in the case of a research publication a litany of directorial interrelationships and prior business relationships. CAC/MSOS notes that there is no similar information presented in Appendix 13.3. CAC/MSOS wishes to understand whether “National Bank Financial” is independent.

a) Does National Bank Financial have a prior relationship with MH or its shareholders?

ANSWER:

NBF has not previously been engaged by Manitoba Hydro in any advisory capacity. Manitoba Hydro has not had a banking facility with NBF, nor has Manitoba Hydro transacted directly with NBF for any of its short term borrowings or foreign exchange requirements. NBF has been an approved counterparty for the Centra Gas Primary Gas Derivatives Hedging Program for over 3 years.

During the past three years, the Province of Manitoba has utilized NBF in regards to the Province’s investment transactions, in addition to occasionally utilizing NBF as an underwriter of Province of Manitoba debentures in both Canada and the United States.

CAC/MSOS/MH II-168

Reference: Appendix 13.3

Preamble: CAC/MSOS observes that the title of Appendix 13.3 observes that it is an “Independent Assessment”. CAC/MSOS observes that from time to time and frequently in research and valuation and fairness opinion assignments the investment dealers provide extensive disclosure of their degree of independence from the company or companies concerned and all interested all related parties, or particularly in the case of a research publication a litany of directorial interrelationships and prior business relationships. CAC/MSOS notes that there is no similar information presented in Appendix 13.3. CAC/MSOS wishes to understand whether “National Bank Financial” is independent.

- b) Has National Bank Financial or any of its group affiliated companies, in the previous three years, provided paid investment banking or advisory services or acted as underwriter to MH or any of its shareholder’s affiliates, or participated in an activity which would require disclosure of such in a research report of fairness opinion?**

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-168(a).

CAC/MSOS/MH II-169

Reference: CAC/MSOS/MH I-152

Preamble: CAC/MSOS/MH I-152 provides a copy of the tender. CAC/MSOS observes that Appendix 13.3 at page 10 of 15 notes that the tender documents will include “work plans and methodology”. CAC/MSOS wishes to understand how MH reviewed the methodology of the competing tendering parties.

a) Did MH discuss the type of model that might be employed as part of the process of selecting the winning candidate under the tender process?

ANSWER:

Manitoba Hydro did not have a predetermined methodology or modeling preference in advance of the tender. Therefore, Manitoba Hydro requested work plans and methodologies from each of the competing submissions, and reviewed the written responses as part of the selection process. NBF prepared an approach methodology that included a research component along with an identification of key factors in order to provide a tailored risk management solution for Manitoba Hydro. After engaging NBF, and upon review of NBF’s academic literature and preliminary modeling under both the modern portfolio theory and asset management methods, Manitoba Hydro concurred that the asset liability approach recommended by NBF and customized for Manitoba Hydro’s key factors was the most appropriate method for the engagement.

CAC/MSOS/MH II-169

Reference: CAC/MSOS/MH I-152

Preamble: CAC/MSOS/MH I-152 provides a copy of the tender. CAC/MSOS observes that Appendix 13.3 at page 10 of 15 notes that the tender documents will include “work plans and methodology”. CAC/MSOS wishes to understand how MH reviewed the methodology of the competing tendering parties.

b) How MH determine that the proprietary NBF model was the most appropriate method?

ANSWER:

Please see Manitoba Hydro’s response to CAC/MSOS/MH II-169(a).