

Tab #	Description	Reference
Financial Targets		
18.	<i>Financial Target History</i>	<i>MIPUG/MH I-2 (h-l); PUB MFR 14; Consolidated IFF10, excerpts; IFF11-2 (April 2012), excerpts; IFF12 Appendix A, excerpts</i>
19.	<i>MH Electric - 20 Year Financial Information</i>	<i>2015/16 & 2016/17 GRA, Appendix 11.12, MFR 6</i>
20.	<i>KPMG - Financial Targets Review & Update</i>	<i>Appendix 4.1, excerpts; Appendix 4.5, excerpts; Tab 4, excerpts</i>
21.	<i>Forecast Financial Ratios</i>	<i>PUB MFR 15; PUB MFR 16 (Updated); PUB MFR 17 (Updated); PUB/MH I-33</i>
22.	<i>Financial Targets – Goals and Expectations</i>	<i>PUB/MH I-42; PUB/MH II-21 (a-b)</i>
23.	<i>MH16 Update – Financial Statements with Ratios – Pacing</i>	<i>PUB MFR 73 (Updated); PUB/MH I-34</i>
24.	<i>Reasons for Rate Increase</i>	<i>Tab 2, excerpts</i>
25.	<i>Free Cash Flow</i>	<i>2016/17 Supplemental Filing, Attachment 20, MFR 4; Tab 2, p. 16; PUB/MH I-23 (a-b); COALITION/MH II-24 (a-c); PUB/MH I-37; PUB/MH I-38 (a-e); MIPUG/MH I-2 (c-f)</i>
26.	<i>Cash Flow to Capex Ratio</i>	<i>PUB/MH II-19 (a); PUB/MH I-26 (Revised); PUB/MH II-18</i>
27.	<i>Current & Other Financial Metrics</i>	<i>PUB/MH I-40; PUB/MH II-20; PUB/COALITION (MPA), i28- 33</i>

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REFERENCE:

Tab 2, Page 31

PREAMBLE TO IR (IF ANY):

Manitoba Hydro notes that “In Manitoba Hydro’s view, a financial plan that returns the Corporation to a 25% equity level over almost 20 years is not credible as a commitment to being a self-supporting entity.”

The PUB, in the report on NFAT (page 28-19), noted as follows:

“Manitoba Hydro’s financial targets determine how rates are set. Targets include a self-imposed 75/25 debt-to-equity ratio. Manitoba Hydro’s financial forecasts are premised on rates being increased sufficiently to allow the debt-to-equity ratio to recover to the target level over a 20-year time period, followed by lesser rate increases thereafter. During the NFAT Review, Manitoba Hydro also provided alternate suggested rate methodologies that would increase rates more gradually, with the result of pushing back the date at which financial targets will fully recover.

A doubling of rates will have a significant effect on all ratepayers. This includes not just residential customers, but also commercial and industrial ratepayers, the latter of which are sensitive to price increases as it can affect their competitive position. The Panel supports a relaxation of Manitoba Hydro’s 75/25 debt-to-equity ratio to smooth out rate increases and the Panel concludes that Manitoba Hydro would still be left with sufficient retained earnings if the equity level was decreased.” (emphasis added).

QUESTION:

- h) Please provide a history of the changes to Manitoba Hydro’s financial targets, starting with the initial adoption of the three targets in the mid 1990s. Include all changes in metrics and definitions.
- i) Please confirm that the most recent proposed changes to the Interest Coverage Ratio (to use an EBITDA approach rather than a Net Income and EBIT focused approach) in

effect changes the target from a net income focus to a cash flow focus. Please confirm that this effectively means Hydro now has one balance sheet related target (debt:equity) and three cash flow targets cited in the GRA (Interest Coverage, Capital Coverage, CFO:Capex) and no targets based on the traditional Income Statement presentation (i.e., based on Net Income or earnings after depreciation, traditional Revenue Requirement measures, etc.).

- j) Please confirm that the Hydro Interest Coverage target (both the previously used EBITDA target and the new EBIT version) adjusts for Capitalized Interest (per PUB MFR-17).
- k) Please provide an update to Figure 3-1 from the KPMG report (Appendix 4.1) to add scenarios for IFF15, IFF16 and Updated MH16, retaining the 2034 end date.
- l) Please provide a 20 year scenario for the MH-16 (Updated) using the rate increases shown in Appendix 3.4 (the MH15 Projected Increases). Also please provide an update to PUB MFR-17 for this scenario.

RATIONALE FOR QUESTION:

RESPONSE:

- h) Figure 1 below provides a history of changes made to Manitoba Hydro's financial targets.

Figure 1:

Year	Consolidated Financial Target
1995	75:25 debt equity ratio by 2005/06, interest coverage ratio (EBIT) of 1.20 to 1.35 and fund all capital expenditures, except major new facilities, from internally generated funds
2001	Achieve 75:25 debt equity ratio by 2005/06, minimum interest coverage ratio (EBIT) of 1.20 and fund all capital expenditures, except major new facilities, from internally generated funds
2002	Achieve 75:25 debt equity ratio by 2011/12, minimum interest coverage ratio (EBIT) of 1.10 and fund all capital expenditures, except major new facilities, from internally generated funds
2005	Achieve 75:25 debt equity ratio by 2011/12, minimum interest coverage ratio (EBIT) of 1.20 and fund all capital expenditures, except major new facilities, from internally generated funds
2009	Maintain a minimum debt equity ratio of 75:25, minimum interest coverage ratio (EBIT) of 1.20 and maintain a capital coverage ratio of greater than 1.20, except major new facilities, from internally generated funds
2015	Achieve and maintain a minimum equity ratio of 25%, minimum interest coverage ratio (EBITDA) of 1.80 and maintain a capital coverage ratio of greater than 1.20, except major new facilities, from internally generated funds

Figure 2 below provides a history of the changes to Manitoba Hydro’s financial targets metrics and definitions, starting with the initial adoption of two targets in 1993. All ratios presented throughout the Application and Information Requests are consistent with the following.

Figure 2:

	Debt Ratio	Interest Coverage Ratio	Capital Coverage Ratio
1993 - 2003	Represents debt (long-term debt plus notes payable minus temporary investments) divided by debt plus retained earnings plus contributions in aid of construction	Represents net income (loss) plus interest on debt divided by interest on debt	
2004	No change	No change	MH adopts Capital Coverage Ratio as its 3 rd financial target. This target represents internally generated funds divided by capital expenditures net of expenditures for new generation and transmission
2005 - 2007	No change	No change	No change
2008	MH adopted CICA Section 3865 Hedges which transferred previously unrealized deferred U.S. foreign exchange gains on long-term debt in an effective cash flow hedge with future U.S. export revenues to Accumulated Other Comprehensive Income (AOCI). The debt ratio calculation had historically included deferred foreign exchange gains as a component of debt and continued to include AOCI as a component of debt.	No change	No change
2009	Changed from debt ratio to equity and removes AOCI from the equity ratio calculation. Equity ratio represents equity (retained earnings plus contributions in aid of construction) divided by equity plus debt (long-term debt plus notes payable minus temporary investments).	No change	No change
2010 – 2012	Changed from equity ratio to debt ratio and adds AOCI as a component of equity in the calculation, Debt ratio represents debt (long-term debt plus notes payable minus sinking fund investments and temporary investments) divided by debt plus equity plus contributions in aid of construction.	No change	No change

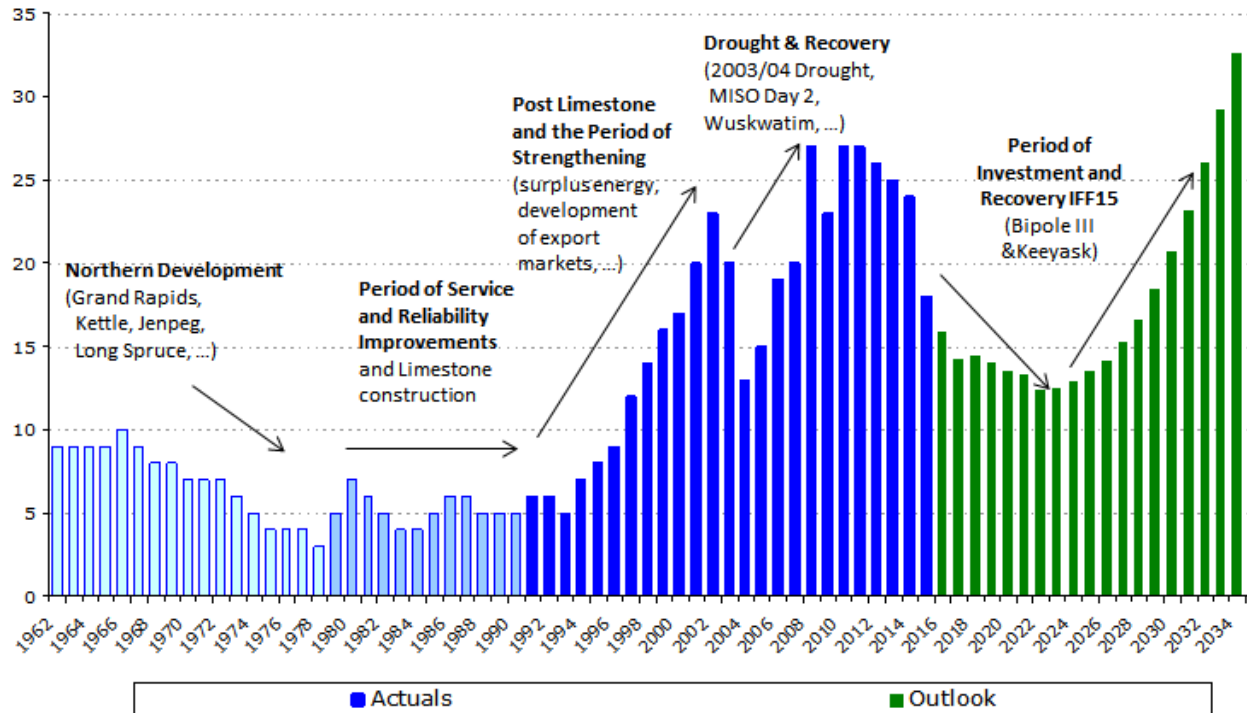
	Debt Ratio	Interest Coverage Ratio	Capital Coverage Ratio
2013 - 2015	Changed from debt ratio to equity ratio. No change in the calculation. Equity ratio represents equity (retained earnings plus accumulated other comprehensive income plus contributions in aid of construction plus non-controlling interest) divided by equity plus debt (long-term debt plus notes payable minus sinking fund investments and temporary investments).	No change	No change
2016 - 2017	MH adopted IFRS which requires experience gains or losses on pension assets and actuarial gains or losses on pension obligations be recognized in other comprehensive income (OCI) in the period which they occur. As such, these gains or losses are a component of equity in the calculation.	Changed interest coverage ratio to an "EBITDA" interest coverage ratio, Interest coverage represents earnings before finance expense and depreciation and amortization divided by finance expense.	No change

- i) Manitoba Hydro does not consider an EBITDA to interest coverage ratio to be a cash flow ratio in that it does not consider an important charge on cash flow which is the annual capital and deferred expenditures required to be funded in cash to support the ongoing operation of the business and the electricity network. Manitoba Hydro considers the EBITDA interest coverage ratio a solvency ratio and all of the underlying components of the ratio are contained within the income statement with the exception of capitalized interest which can be found, in the audited financial statements, in a note to Finance Expense on the income statement.

In December 2015, Manitoba Hydro formally adopted the EBITDA interest coverage ratio with a minimum target of 1.80 which in effect replaced the EBIT interest coverage ratio. The EBITDA interest coverage ratio is a better measure compared to the EBIT interest coverage ratio of how much cushion the Corporation has on a cash basis before it is necessary to borrow to make interest payments and sustaining capital expenditures, as well as allowing for better peer and credit rating comparisons. However, the EBITDA interest coverage ratio is not without limitations particularly as an electricity utility has less flexibility than other types of business to slow or delay capital expenditures that renew and protect core operations. An EBITDA to interest ratio may appear healthy but to the extent the cash flow remaining after all interest payments is not sufficient to fund necessary reinvestment in the system, a significant financial issue is still present

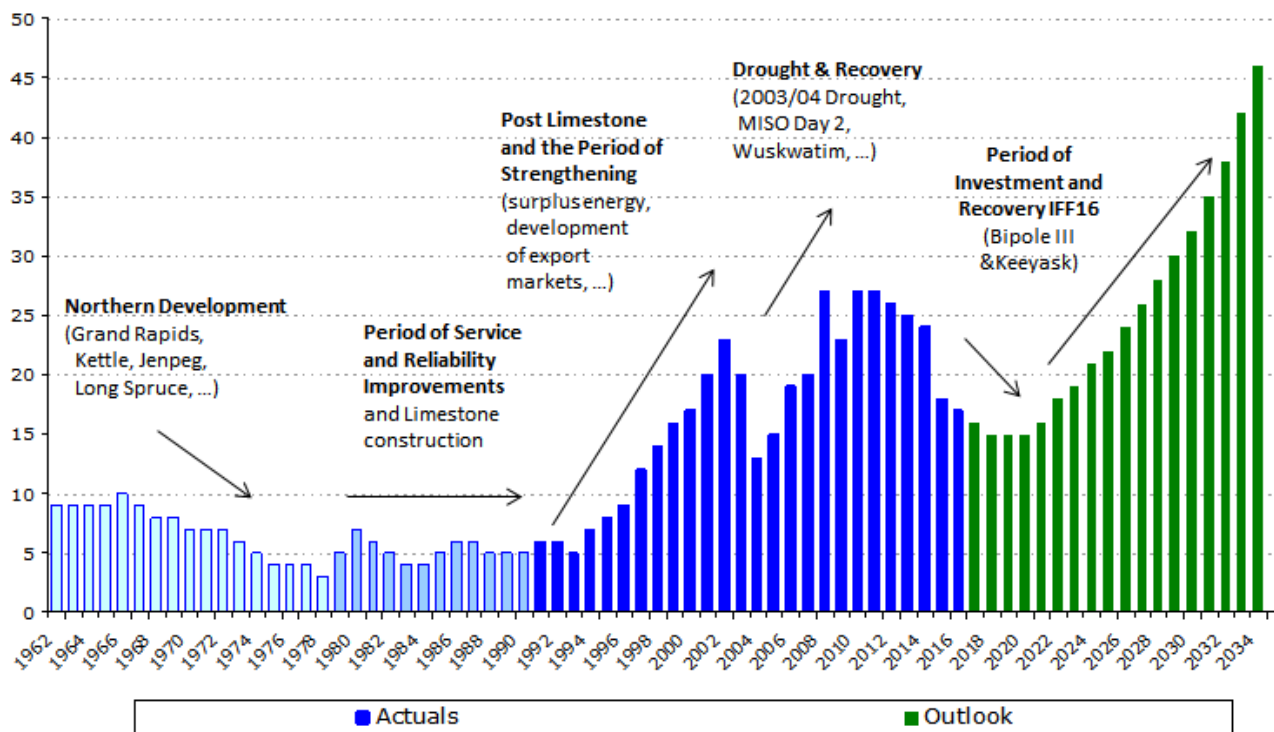
- j) Confirmed.
- k) Provided below is Figure 3-1 from the KPMG report (Appendix 4.1), updated to include MH15, MH16, and MH16 Update with Interim.

Manitoba Hydro's Equity Ratio from 1962 – 2034 – Updated for IFF15



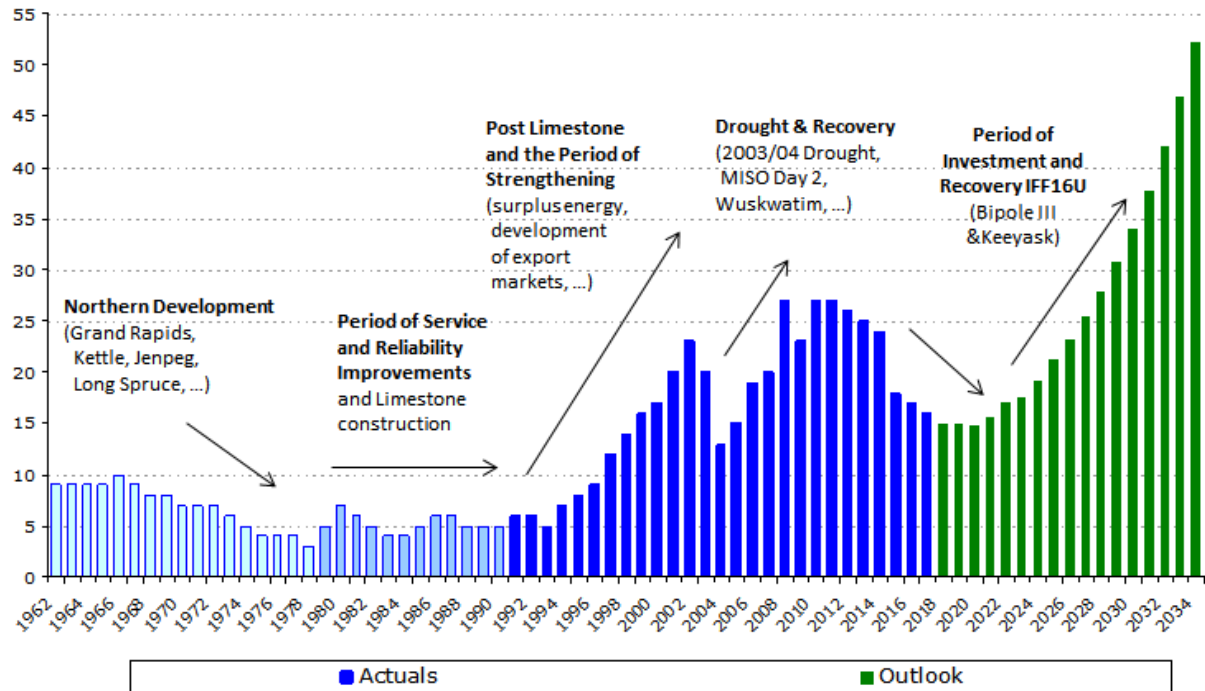
Manitoba Hydro's Equity Ratio

from 1962 – 2034 – Updated for IFF16



Manitoba Hydro's Equity Ratio

from 1962 – 2034 – Updated for IFF16 Update with Interim



- l) Please see Manitoba Hydro's response to PUB/MH I-34 Attachment 2, which provides an updated Appendix 3.4 reflecting the MH16 Update with the Interim rate increase followed by MH15 rate increases (3.95% 2019-2029, 2%).

The tables from PUB MFR 17 outlining details of the determination of each of the financial ratios have been updated below based on the MH16 Update with the Interim rate increase followed by MH15 rate increases (3.95% 2019-2029, 2%).

Figure 1. Debt Ratio Calculation

MH16 Update with Interim and MH15 Rate Increases

**Debt Ratio
Electric
(\$ millions)**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	(K-L+M-N) (E+H+J+K-L+M-N)
					(A-B-C-D)			(F-G)							
Fiscal Year Ended	Retained Earnings Consolidated	Retained Earnings Gas	Retained Earnings Subs	Adjustments and Eliminations	Retained Earnings	Unamortized Customer Contributions Consolidated	Unamortized Customer Contributions Gas	Unamortized Customer Contributions*	Accumulated Other Comprehensive Income	Non-Controlling Interest	Long-Term Debt	Sinking Fund Investment	Short-Term Debt	Short-Term Investments	Debt Ratio
2012	2 450	34	26		2 390	318	33	285	327	100	9 084	372	-	42	0.74
2013	2 542	42	32		2 468	340	33	307	299	95	9 690	352	-	24	0.75
2014	2 716	62	39		2 615	381	42	339	96	73	10 563	111	-	131	0.77
2015	2 779	66	48	6	2 659	457	42	415	(720)	120	12 375	114	-	482	0.83
2016	2 828	65	57	10	2 696	534	45	489	(776)	140	14 187	-	-	944	0.84
2017	2 899	69	69	12	2 749	651	45	606	(709)	170	16 078	-	-	634	0.85
2018					2 842			812	(699)	208	19 143	182	-	488	0.85
2019					2 990			835	(636)	257	21 705	400	-	498	0.86
2020					3 056			784	(580)	306	23 682	531	-	543	0.86
2021					3 181			727	(537)	346	24 760	501	-	542	0.86
2022					3 375			657	(497)	382	24 571	34	-	188	0.86
2023					3 368			587	(443)	87	24 948	98	-	292	0.87
2024					3 210			571	(351)	99	24 959	305	-	107	0.87
2025					3 106			582	(350)	102	24 939	225	-	167	0.88
2026					2 955			593	(349)	104	25 176	336	-	245	0.88
2027					2 879			603	(349)	108	24 990	356	-	57	0.88
2028					2 877			615	(349)	111	25 232	477	-	283	0.88
2029					2 992			624	(349)	107	25 165	694	-	199	0.88
2030					3 187			634	(349)	105	24 698	474	-	245	0.87
2031					3 418			644	(349)	103	24 295	224	-	400	0.86
2032					3 746			654	(349)	100	24 276	482	-	540	0.85
2033					4 143			665	(349)	99	23 629	520	-	342	0.83
2034					4 619			676	(349)	96	23 697	742	-	770	0.81
2035					5 189			687	(349)	94	23 514	1 004	-	938	0.79
2036					5 783			699	(349)	92	23 823	1 011	-	1 873	0.77

*Unamortized Customer Contributions includes a \$29M FMV adjustment for Centra Gas acquisition and an \$11M adjustment for intercompany contributions.

Figure 2. Long-Term Debt Calculation

MH16 Update with Interim and MH15 Rate Increases
Calculation of Long-Term Debt for input into Debt:Equity Ratio

	A	B	C (A-B)	D	E	F (D-E)	G (C+F)
Fiscal Year Ended	MHEB Long-Term Debt	Gas Long-Term Debt	Long-Term Debt*	MHEB Current Portion of Long- Term Debt	Gas Current Portion of Long-Term Debt	Current Portion of Long-Term Debt	Long-Term Debt
2012	9 101	235	8 866	281	63	218	9 084
2013	9 329	295	9 034	656	-	656	9 690
2014	10 460	270	10 190	408	35	373	10 563
2015	12 303	305	11 998	377	-	377	12 375
2016	14 201	340	13 861	326	-	326	14 187
2017	16 102	360	15 742	336	-	336	16 078
2018	18 541	400	18 141	1 002	-	1 002	19 143
2019	21 776	400	21 376	349	20	329	21 705
2020	22 809	420	22 389	1 293	-	1 293	23 682
2021	23 824	430	23 394	1 366	-	1 366	24 760
2022	23 890	440	23 450	1 141	20	1 121	24 571
2023	25 128	460	24 668	290	10	280	24 948
2024	25 007	460	24 547	412	-	412	24 959
2025	24 729	470	24 259	715	35	680	24 939
2026	24 483	485	23 998	1 178	-	1 178	25 176
2027	25 335	495	24 840	150	-	150	24 990
2028	25 677	505	25 172	60	-	60	25 232
2029	23 310	515	22 795	2 440	70	2 370	25 165
2030	20 827	525	20 302	4 396	-	4 396	24 698
2031	22 497	535	21 962	2 373	40	2 333	24 295
2032	22 471	545	21 926	2 390	40	2 350	24 276
2033	23 128	565	22 563	1 096	30	1 066	23 629
2034	22 855	575	22 280	1 487	70	1 417	23 697
2035	23 464	605	22 859	665	10	655	23 514
2036	23 968	625	23 343	540	60	480	23 823

*Long-Term Debt includes a \$17M FMV adjustment for Centra Gas acquisition.

Figure 3. EDITBA Interest Coverage Ratio Calculation

MH16 Update with Interim and MH15 Rate Increases

EBIDTA Interest Coverage
Electric
(\$ millions)

Fiscal Year Ended	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	$\frac{(E+J+N+O)}{(J+O)}$
	Consolidated Net Income	Gas Net Income	Subs Net Income	Adjustments and Eliminations	(A-B-C-D) Electric Net Income	Consolidated Net Finance Expense	Gas Finance Expense	Corporate Allocation	Subs Finance Expense	(F-G-H-I) Electric Finance Expense*	Consolidated Depreciation Expense	Gas Depreciation Expense	Subs Depreciation Expense	(K-L-M) Electric Depreciation Expense*	Electric Capitalized Interest	
2012	61	(6)	5		62	423	19	12		392					171	1.11
2013	92	8	6		78	489	18	12		459					141	1.13
2014	174	20	8		146	470	16	12		443					142	1.25
2015	136	11	9	5	111	525	19	12	(2)	496	378	22	1	355	148	1.72
2016	49	(1)	9	4	37	597	20	12	(1)	566	394	23	2	369	180	1.54
2017	71	4	11	3	53	628	19	12	-	597	402	23	3	376	250	1.51
2018					93					577				409	360	1.54
2019					148					663				483	320	1.64
2020					66					727				549	319	1.59
2021					125					801				597	333	1.64
2022					194					878				644	290	1.72
2023					(6)					1 126				736	55	1.62
2024					(158)					1 194				824	19	1.55
2025					(105)					1 198				841	19	1.61
2026					(151)					1 194				857	18	1.58
2027					(76)					1 205				871	20	1.65
2028					(2)					1 209				885	20	1.72
2029					115					1 197				898	24	1.83
2030					195					1 181				910	22	1.92
2031					231					1 201				923	23	1.94
2032					328					1 184				940	19	2.05
2033					397					1 182				957	18	2.13
2034					476					1 164				975	19	2.23
2035					570					1 135				993	21	2.35
2036					593					1 106				1 011	24	2.42

*Presented gross of corporate allocation.

Figure 4. Capital Coverage Ratio Calculation

MH16 Update with Interim and MH15 Rate Increases
Capital Coverage Ratio
Excluding Major Generation
Electric
(\$ millions)

Fiscal Year Ended	A	B	C (A-B)	D	E	F (D-E)	C/F
	Consolidated Funds from Operations*	Gas Funds from Operations	Electric Funds from Operations	Consolidated Capital Expenditures**	Gas Capital Expenditures	Electric Capital Expenditures	Electric Capital Coverage
2012	567	49	518	503	31	472	1.10
2013	589	35	554	472	34	438	1.26
2014	691	29	662	511	35	476	1.39
2015	665	4	661	557	27	525	1.26
2016	791	75	716	579	40	534	1.34
2017	872	58	814	588	55	530	1.54
2018			734			526	1.40
2019			703			517	1.36
2020			621			516	1.20
2021			742			511	1.45
2022			850			499	1.70
2023			736			521	1.41
2024			722			544	1.33
2025			807			616	1.31
2026			773			640	1.21
2027			863			659	1.31
2028			959			671	1.43
2029			1080			697	1.55
2030			1166			688	1.70
2031			1221			727	1.68
2032			1339			734	1.82
2033			1425			748	1.90
2034			1529			760	2.01
2035			1637			835	1.96
2036			1675			852	1.97

*Includes subsidiary funds from operations.

**Includes gas meter compliance expenditures that are capitalized on consolidation.

PUB MFR 14

Financial Information

A table, which details the debt to equity ratio, capital coverage ratio and interest coverage ratio, net assets, net income, total debt and retained earnings, DBRS bond ratings, total Provincial Debt and total MH debt to total Manitoba debt in each year since 1992.

Please see the table on the following page.

Information relating to the Province of Manitoba was provided by the Province.

Manitoba Hydro 2017/18 & 2018/19 General Rate Application **20**
PUB MFR 14
Financial Information

Financial History	EBITDA				Total MH Assets	MH Net Income	Total MH Debt	Sinking Fund	Total MH Net Debt	MH Retained Earnings	DBRS Bond Rating *	Total Province of MB Debt	Sinking Fund	Total Province of MB Net Debt	Total MH Net Debt to Total MB Net Debt
	Debt/Equity Ratio	Capital Coverage Ratio	Interest Coverage Ratio	Interest Coverage Ratio											
2016	83:17	1.37	1.06	1.55	19,780	49	14,527	0	14,527	2,828	A (high)	39,874	1,227	38,647	37.6%
2015	82:18	1.20	1.19	1.73	17,567	136	12,680	114	12,566	2,779	A (high)	35,742	1,389	34,353	36.6%
2014	76:24	1.35	1.28	1.95	15,639	174	10,868	111	10,757	2,716	A (high)	32,629	1,544	31,085	34.6%
2013	75:25	1.25	1.15	1.81	14,542	92	9,985	352	9,633	2,542	A (high)	30,563	1,672	28,891	33.3%
2012	74:26	1.13	1.10	1.74	13,791	61	9,382	372	9,010	2,450	A (high)	28,698	1,859	26,839	33.6%
2011	73:27	1.25	1.27	1.96	12,882	150	8,647	282	8,365	2,389	A (high)	25,617	1,896	23,721	35.3%
2010	73:27	1.34	1.32	2.06	12,437	164	8,538	383	8,155	2,239	A (high)	24,431	2,097	22,334	36.5%
2009	77:23	1.77	1.49	2.16	11,547	266	8,187	666	7,521	2,076	A (high)	22,727	2,335	20,392	36.9%
2008	73:27	1.62	1.69	2.43	11,766	346	7,571	718	6,853	1,822	A (high)	22,056	2,757	19,299	35.5%
2007	80:20	1.10	1.23	1.83	10,922	122	7,227	630	6,597	1,407	A (high)	20,476	2,516	17,960	36.7%
2006	81:19	2.28	1.77		10,482	415	7,169	555	6,614	1,285	A (high)	19,828	2,153	17,675	37.4%
2005	85:15	1.20	1.25		9,952	136	7,204	562	6,642	870	A (high)	19,410	2,729	16,681	39.8%
2004	87:13	(0.32)	0.17		9,903	(436)	7,390	715	6,675	734	A (high)	18,206	3,070	15,136	44.1%
2003	80:20	1.10	1.14		10,234	71	7,268	948	6,320	1,170	A (high)	17,810	3,939	13,871	45.6%
2002	77:23	1.67	1.42		10,405	214	7,661	1,515	6,146	1,302	A	20,682	6,551	14,131	43.5%
2001	80:20	1.18	1.62		9,966	270	7,464	1,350	6,114	1,088	A	20,459	6,247	14,212	43.0%
2000	83:17	1.28	1.35		8,692	152	6,770	1,282	5,488	818	A	19,878	6,411	13,467	40.8%
1999	84:16	1.22	1.23		7,866	100	5,883	1,111	4,772	666	A	18,278	5,822	12,456	38.3%
1998	86:14	1.13	1.25		7,617	111	5,548	989	4,559	566	A	17,378	5,053	12,325	37.0%
1997	88:12	1.12	1.23		7,133	101	5,175	682	4,493	455	A	16,886	4,530	12,356	36.4%
1996	91:09	1.00	1.16		6,737	70	5,284	599	4,685	354	A	16,763	3,833	12,930	36.2%
1995	92:08	1.00	1.13		6,449	56	5,034	527	4,507	284	A	16,481	3,442	13,039	34.6%
1994	93:07	n/a	1.16		6,543	70	5,406	458	4,948	228	A	15,670	3,091	12,579	39.3%
1993	95:05	n/a	0.95		6,025	(24)	4,971	438	4,533	159	A	14,127	2,892	11,235	40.3%
1992	94:06	n/a	1.04		6,505	18	5,441	469	4,972	183	A	12,776	2,669	10,107	49.2%

* The DBRS long term credit rating for the period from 1992-2016 is the same for both the Manitoba Hydro-Electric Board and the Province of Manitoba.

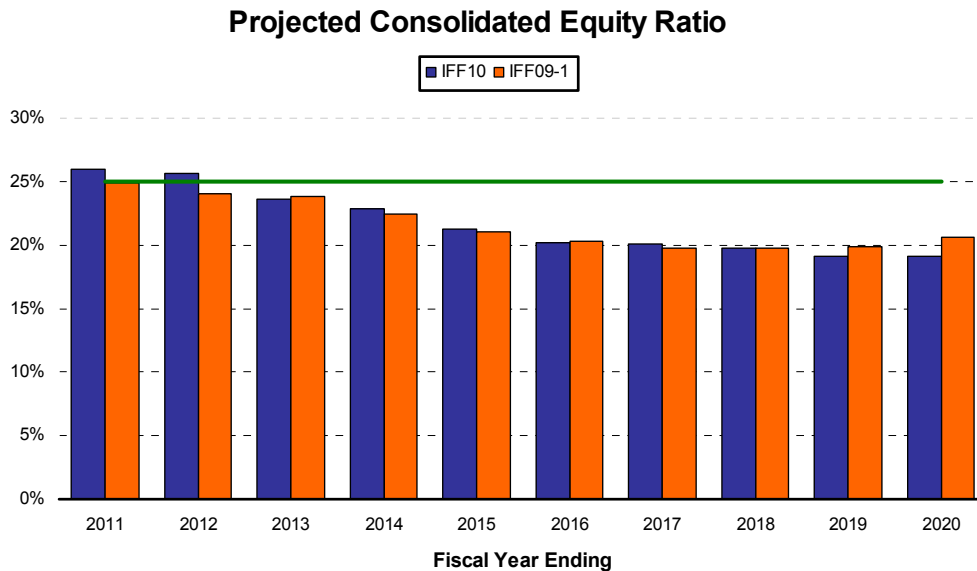
7.0 FINANCIAL TARGETS

Debt/Equity Ratio	Maintain a minimum debt/equity ratio of 75:25
Interest Coverage	Maintain an annual gross interest coverage ratio of greater than 1.20
Capital Coverage	Maintain a capital coverage ratio of greater than 1.20 (excepting new major generation and transmission)

Note: Financial Targets may not be maintained during years of major investment in the generation and transmission system.

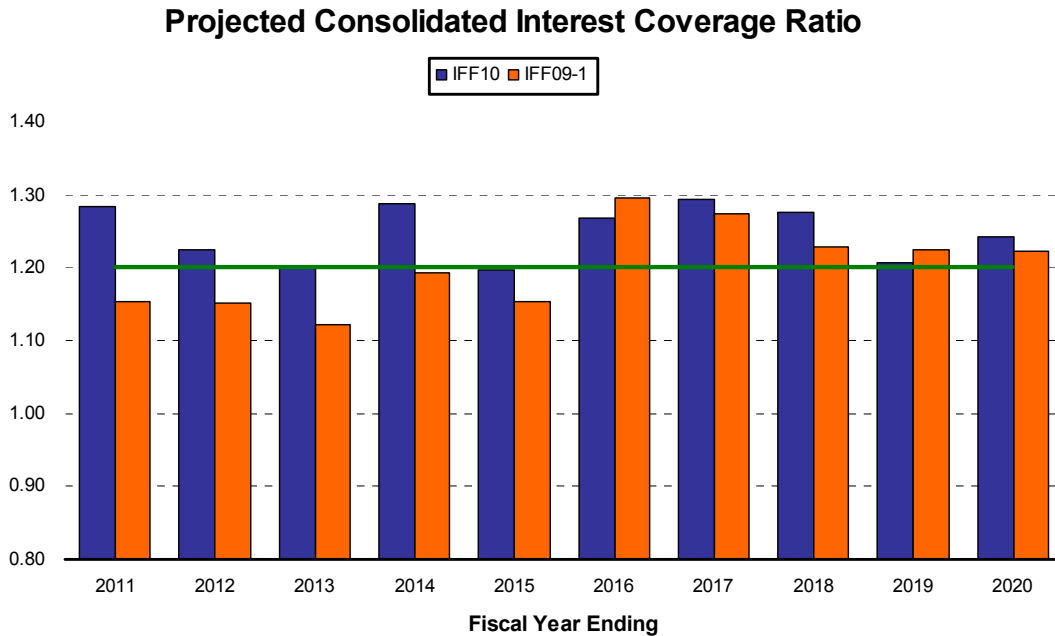
7.1 EQUITY RATIO

The equity ratio indicates the portion of Manitoba Hydro’s capital structure that has been financed internally and not through debt financing. Primarily due to major investments in the generation and transmission system over the next decade (“the decade of investment”) and lower net export revenues compared to the previous forecast IFF09, this ratio is projected to regress to 81:19 by 2019/20. However, the equity ratio is projected to recover strongly in the subsequent decade (“the decade of returns”) during which the benefits of major power sales are projected to be realized (see section 8.0).



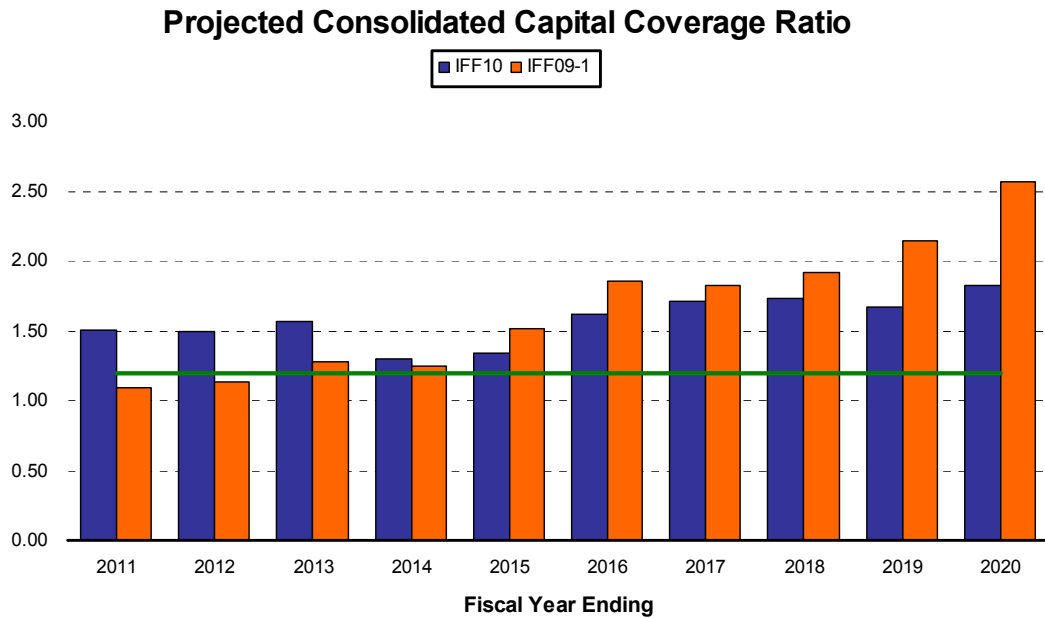
7.2 INTEREST COVERAGE RATIO

The interest coverage ratio provides an indication of the ability of the Corporation to meet interest payment obligations without the need for further borrowing. The effects of current favourable water flow conditions can be seen in the level of interest coverage projected for 2010/11 with the carry-over effects into 2011/12. Lower projected net export revenues and the deferral of Keeyask result in the interest coverage ratio weakening at points through the 10-year forecast but remains at or above the target interest coverage of 1.20.



7.3 CAPITAL COVERAGE RATIO

Capital coverage measures the ability of current period internally generated funds to finance capital expenditures with the exception of major new generation and related transmission. Projected net income levels are sufficient to enable this target to be met throughout the 10-year forecast period.

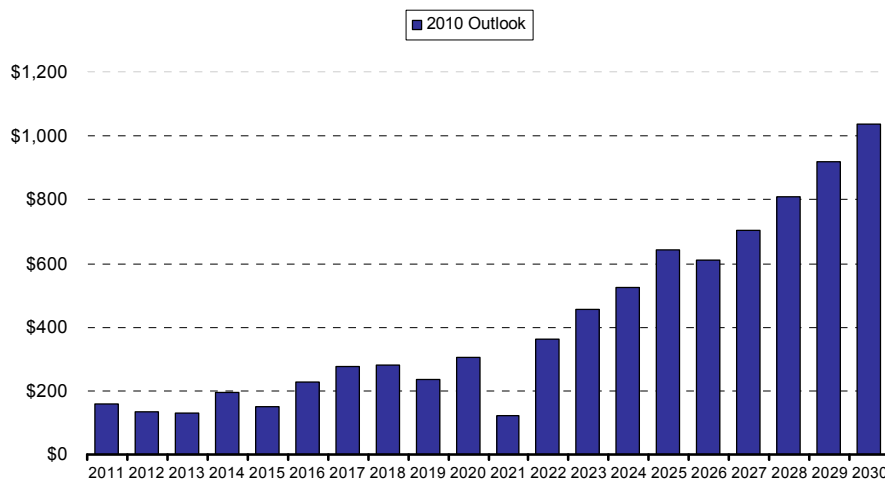


8.0 20 YEAR OUTLOOK

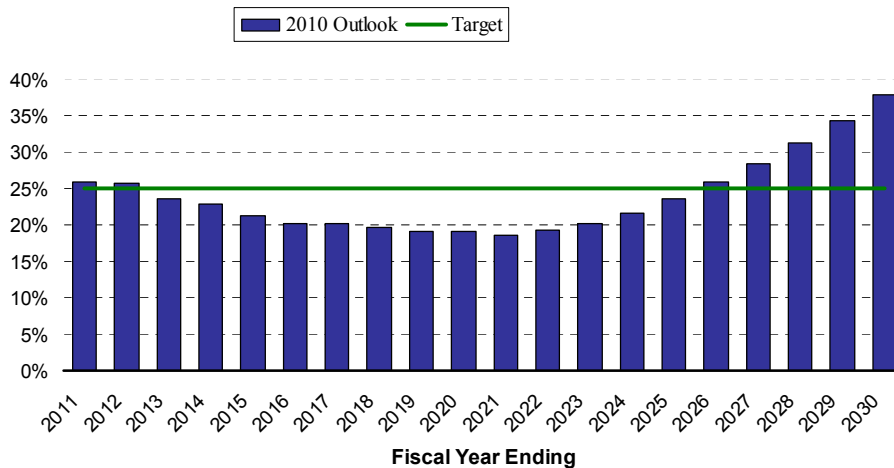
Manitoba Hydro produces a 20 Year Outlook as an extension to the 10 year Integrated Financial Forecast. While the 20 Year Outlook will be provided as a stand-alone document, excerpts show that following a decade of investment in new generation and transmission, the financial returns in the next decade are significant. This is depicted in the following graphs which, for illustrative purposes, incorporate average annual rate increases in the periods following IFF10 which are similar to the projected rates of inflation (i.e. 2.0% per year).

Projected Consolidated Net Income

millions of dollars



Projected Consolidated Equity Ratio



ELECTRIC OPERATIONS (MH10)
PROJECTED OPERATING STATEMENT
(In Millions of Dollars)

For the year ended March 31

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
REVENUES										
General Consumers										
at approved rates	1,194	1,223	1,235	1,254	1,265	1,279	1,296	1,307	1,320	1,336
additional *	-	42	87	135	186	239	295	354	416	482
Extraprovincial	444	461	499	510	529	611	621	646	654	804
Other	7	7	8	8	8	8	8	8	8	8
	<u>1,645</u>	<u>1,732</u>	<u>1,829</u>	<u>1,907</u>	<u>1,988</u>	<u>2,137</u>	<u>2,220</u>	<u>2,315</u>	<u>2,398</u>	<u>2,630</u>
EXPENSES										
Operating and Administrative	398	402	414	422	430	439	448	469	478	495
Finance Expense	393	411	473	455	521	544	540	565	635	702
Depreciation and Amortization	374	405	432	433	458	480	485	504	531	547
Water Rentals and Assessments	121	115	111	112	112	113	113	113	113	113
Fuel and Power Purchased	121	187	190	203	216	225	239	251	264	316
Capital and Other Taxes	81	82	86	92	98	106	113	122	131	140
Corporate Allocation	9	9	9	9	9	9	9	9	9	9
	<u>1,496</u>	<u>1,612</u>	<u>1,715</u>	<u>1,727</u>	<u>1,846</u>	<u>1,915</u>	<u>1,946</u>	<u>2,032</u>	<u>2,161</u>	<u>2,322</u>
Non-controlling Interest	-	4	6	4	0	(4)	(7)	(9)	(12)	(15)
Net Income	<u>149</u>	<u>125</u>	<u>120</u>	<u>184</u>	<u>142</u>	<u>217</u>	<u>267</u>	<u>273</u>	<u>225</u>	<u>292</u>
*Additional General Consumers Revenue										
Percent Increase		2.90%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Cumulative Percent Increase		2.90%	6.50%	10.23%	14.09%	18.08%	22.21%	26.49%	30.92%	35.50%

ELECTRIC OPERATIONS (MH10)
PROJECTED BALANCE SHEET
(In Millions of Dollars)

For the year ended March 31

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ASSETS										
Plant in Service	12,648	14,621	15,120	15,661	16,805	17,351	17,908	20,305	21,111	24,927
Accumulated Depreciation	(4,833)	(5,202)	(5,599)	(6,005)	(6,392)	(6,825)	(7,285)	(7,769)	(8,285)	(8,819)
Net Plant in Service	7,815	9,419	9,520	9,656	10,412	10,526	10,623	12,535	12,826	16,108
Construction in Progress	2,621	1,634	2,215	3,090	3,455	4,791	6,040	5,824	7,282	5,520
Current and Other Assets	1,894	1,994	1,784	1,505	1,643	1,842	2,035	2,307	2,073	2,323
Goodwill and Intangible Assets	165	156	140	127	114	107	98	92	105	112
Regulated Assets	217	232	241	249	251	247	235	219	202	187
	12,712	13,434	13,901	14,626	15,876	17,513	19,032	20,978	22,488	24,251
LIABILITIES AND EQUITY										
Long-Term Debt	8,507	8,927	8,949	10,279	11,294	12,969	13,841	15,187	17,073	14,673
Current and Other Liabilities	1,292	1,470	2,056	1,321	1,555	1,394	1,787	2,133	1,542	5,421
Contributions in Aid of Construction	291	291	286	282	278	276	274	272	270	269
Retained Earnings	2,354	2,479	2,595	2,779	2,922	3,139	3,406	3,679	3,904	4,196
Accumulated Other Comprehensive Income	266	266	14	(35)	(173)	(264)	(275)	(293)	(300)	(307)
	12,712	13,434	13,901	14,626	15,876	17,513	19,032	20,978	22,488	24,251

Integrated Financial Forecast (IFF11-2)

2011/12 - 2031/32



Financial Planning
Finance & Administration



8.0 FINANCIAL TARGETS

Manitoba Hydro has the following financial targets for consolidated operations:

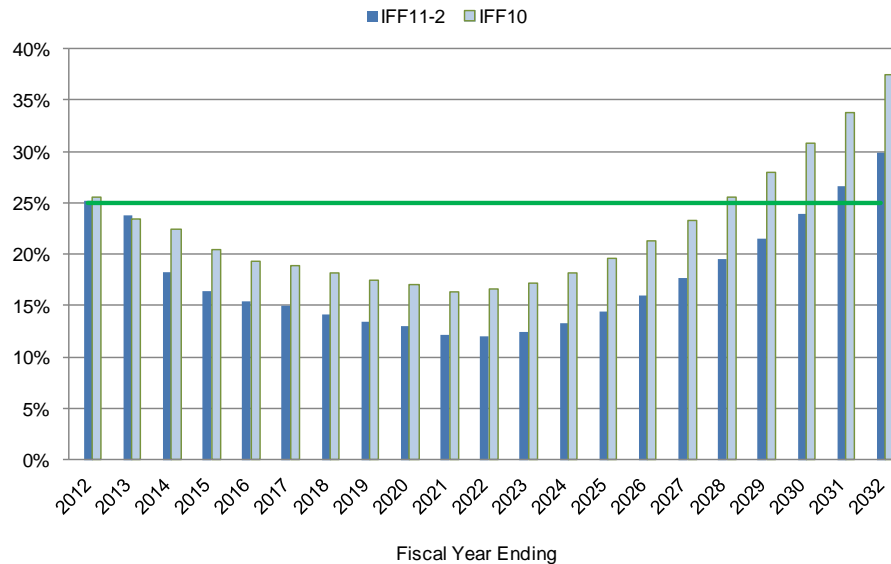
Debt/Equity Ratio	Maintain a minimum debt/equity ratio of 75:25
Interest Coverage	Maintain an annual gross interest coverage ratio of greater than 1.20
Capital Coverage	Maintain a capital coverage ratio of greater than 1.20 (excepting major new generation and transmission)

It is recognized that it may not be possible to maintain financial targets during years of major investment in the generation and transmission system.

8.1 Debt/Equity Ratio

The debt/equity ratio indicates the portion of Manitoba Hydro’s assets that have been financed by internally generated funds rather than through debt. Figure 6 below shows the projected consolidated equity ratio for IFF11-2 compared to IFF10. High levels of capital investment in major new generation and transmission combined with reduced net extraprovincial revenues result in a deterioration of the equity ratio to 12% by 2021/22. In the longer term, the equity ratio is projected to show steady improvement following the in-service of Keeyask and Conawapa generating stations and returns to the target 25% by 2030/31.

Figure 6
Projected Consolidated Equity Ratio

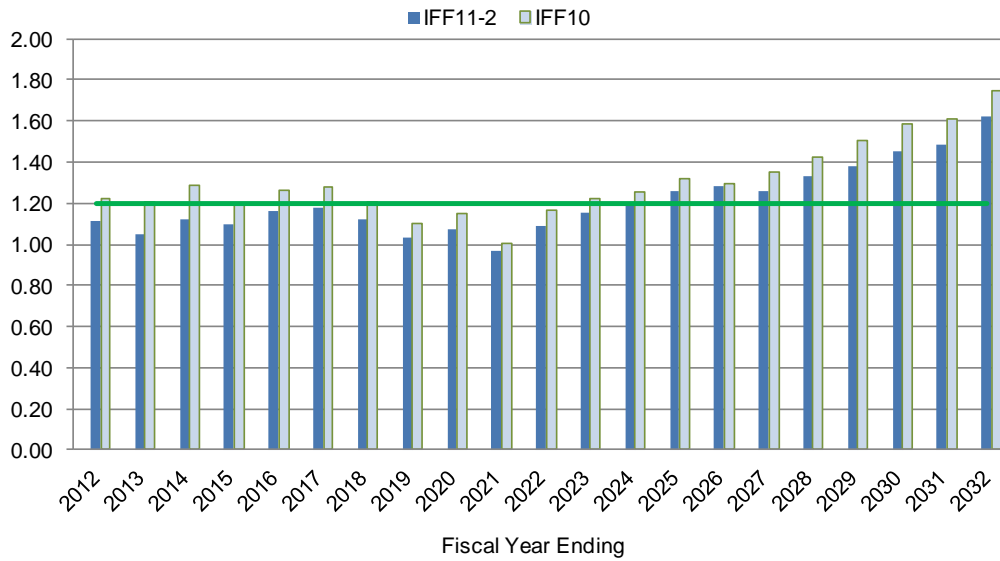


8.2 Interest Coverage Ratio

The interest coverage ratio provides an indication of the ability of the Corporation to meet interest payment obligations with the net income generated by the Corporation. Figure 7 below shows that the reduction in net extraprovincial revenues compared to IFF10 results in interest coverage ratios lower than target for the first 13 years the forecast. In the longer term, interest coverage is projected to return to the 1.20 target level immediately following Conawapa generating station in-service in 2024/25 and grows steadily thereafter.

Figure 7

Projected Consolidated Interest Coverage Ratio

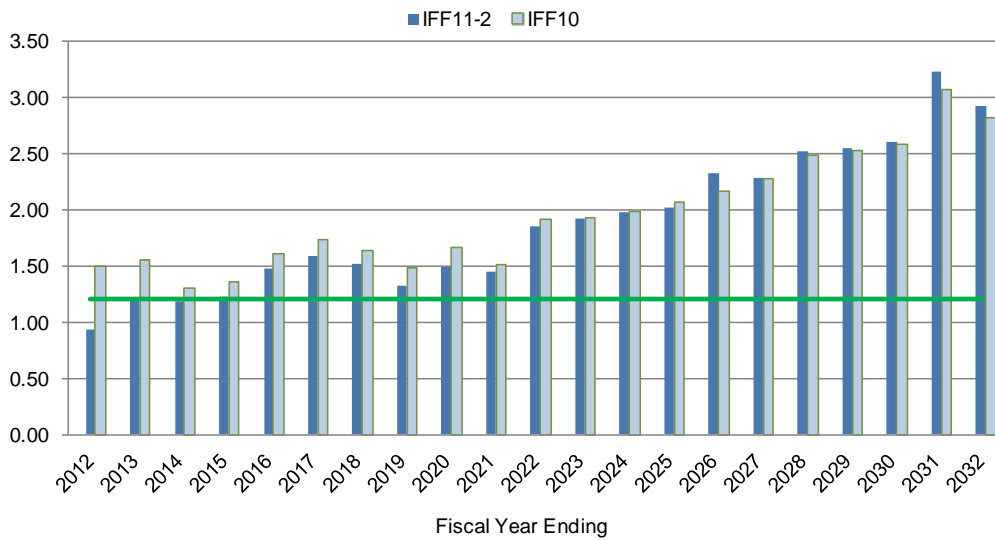


8.3 Capital Coverage Ratio

The capital coverage ratio measures the ability of current period internally generated funds to finance capital expenditures excluding major new generation and related transmission. Capital coverage is below target for the first three years of the forecast and then projected cash flows are sufficient to enable this target to be met in remaining years of the forecast. Figure 8 below shows the comparative capital coverage ratios for IFF11-2 and IFF10.

Figure 8

Projected Consolidated Capital Coverage Ratio



ELECTRIC OPERATIONS (MH11-2)
PROJECTED OPERATING STATEMENT
(In Millions of Dollars)

For the year ended March 31

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
REVENUES											
General Consumers											
at approved rates	1 186	1 290	1 294	1 306	1 313	1 330	1 350	1 361	1 382	1 403	1 422
additional*	0	45	106	156	208	265	325	387	455	527	603
Extraprovincial	363	341	363	394	469	502	531	554	611	821	913
Other	7	16	16	16	17	17	17	18	18	18	19
	<u>1 556</u>	<u>1 693</u>	<u>1 778</u>	<u>1 873</u>	<u>2 007</u>	<u>2 114</u>	<u>2 224</u>	<u>2 320</u>	<u>2 466</u>	<u>2 769</u>	<u>2 957</u>
EXPENSES											
Operating and Administrative	398	447	532	542	548	554	571	580	595	611	622
Finance Expense	385	440	452	504	537	570	640	763	803	1 147	1 109
Depreciation and Amortization	353	401	354	358	375	387	422	468	483	550	576
Water Rentals and Assessments	119	106	112	113	113	113	113	113	114	123	128
Fuel and Power Purchased	146	182	158	187	193	204	220	236	249	256	257
Capital and Other Taxes	82	87	92	99	107	116	126	132	139	128	134
Corporate Allocation	9	9	8	8	8	8	8	8	8	8	8
	<u>1 492</u>	<u>1 672</u>	<u>1 709</u>	<u>1 810</u>	<u>1 881</u>	<u>1 952</u>	<u>2 100</u>	<u>2 300</u>	<u>2 393</u>	<u>2 823</u>	<u>2 833</u>
Non-controlling Interest	-	(1)	(1)	(1)	(2)	(2)	(2)	(3)	(3)	(3)	(10)
Net Income	<u>64</u>	<u>20</u>	<u>68</u>	<u>62</u>	<u>124</u>	<u>159</u>	<u>121</u>	<u>18</u>	<u>70</u>	<u>(57)</u>	<u>113</u>
* Additional General Consumers Revenue											
Percent Increase	0.00%	3.57%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Cumulative Percent Increase	0.00%	4.50%	8.16%	11.94%	15.86%	19.92%	24.11%	28.46%	32.95%	37.61%	42.42%

ELECTRIC OPERATIONS (MH11-2)
PROJECTED OPERATING STATEMENT
(In Millions of Dollars)

For the year ended March 31

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
REVENUES										
General Consumers										
at approved rates	1 441	1 460	1 479	1 498	1 521	1 541	1 562	1 582	1 602	1 622
additional*	683	767	822	880	941	1 004	1 069	1 136	1 205	1 277
Extraprovincial	931	946	1 124	1 408	1 526	1 544	1 539	1 544	1 565	1 574
Other	19	20	20	20	21	21	22	22	23	23
	<u>3 074</u>	<u>3 193</u>	<u>3 445</u>	<u>3 806</u>	<u>4 008</u>	<u>4 110</u>	<u>4 191</u>	<u>4 284</u>	<u>4 394</u>	<u>4 497</u>
EXPENSES										
Operating and Administrative	634	646	669	676	688	700	713	727	741	755
Finance Expense	1 091	1 079	1 173	1 398	1 545	1 512	1 473	1 424	1 438	1 338
Depreciation and Amortization	579	583	615	682	733	741	753	761	793	814
Water Rentals and Assessments	129	128	135	148	153	153	153	154	155	155
Fuel and Power Purchased	269	301	282	279	301	320	332	347	359	372
Capital and Other Taxes	140	145	151	153	154	156	158	160	161	162
Corporate Allocation	8	8	8	8	8	8	8	8	8	8
	<u>2 850</u>	<u>2 891</u>	<u>3 032</u>	<u>3 345</u>	<u>3 582</u>	<u>3 591</u>	<u>3 591</u>	<u>3 580</u>	<u>3 655</u>	<u>3 604</u>
Non-controlling Interest	(10)	(11)	(11)	(11)	(12)	(12)	(13)	(13)	(14)	(14)
Net Income	<u>213</u>	<u>291</u>	<u>402</u>	<u>450</u>	<u>415</u>	<u>507</u>	<u>588</u>	<u>691</u>	<u>726</u>	<u>878</u>
* Additional General Consumers Revenue										
Percent Increase	3.50%	3.50%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Cumulative Percent Increase	47.41%	52.57%	55.62%	58.73%	61.91%	65.14%	68.45%	71.82%	75.25%	78.76%

ELECTRIC OPERATIONS (MH11-2)
PROJECTED BALANCE SHEET
(In Millions of Dollars)

For the year ended March 31

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
ASSETS											
Plant in Service	13 795	15 212	15 723	16 485	17 410	17 993	21 415	21 904	25 521	28 275	28 636
Accumulated Depreciation	(4 917)	(5 266)	(5 581)	(5 911)	(6 272)	(6 638)	(7 065)	(7 539)	(8 028)	(8 583)	(9 165)
Net Plant in Service	8 878	9 947	10 142	10 574	11 138	11 355	14 351	14 365	17 492	19 692	19 472
Construction in Progress	2 443	2 196	3 149	3 997	5 014	6 410	5 346	6 447	4 558	3 595	4 964
Current and Other Assets	1 906	1 864	1 327	1 372	1 559	1 740	1 987	1 779	1 951	2 171	2 048
Goodwill and Intangible Assets	181	179	162	149	136	126	117	109	103	97	93
Regulated Assets	240	241	-	-	-	-	-	-	-	-	-
	13 648	14 426	14 780	16 092	17 847	19 631	21 800	22 701	24 105	25 555	26 577
LIABILITIES AND EQUITY											
Long-Term Debt	9 253	9 469	10 909	12 169	13 789	15 260	17 025	18 518	19 480	20 990	22 434
Current and Other Liabilities	1 351	1 917	1 407	1 520	1 574	1 736	2 035	1 432	1 810	1 814	1 289
Contributions in Aid of Construction	317	328	341	348	355	365	376	386	396	407	418
Retained Earnings	2 391	2 411	2 203	2 265	2 389	2 548	2 669	2 687	2 757	2 700	2 814
Accumulated Other Comprehensive Income	335	302	(79)	(209)	(261)	(279)	(306)	(322)	(338)	(356)	(379)
	13 648	14 426	14 780	16 092	17 847	19 631	21 800	22 701	24 105	25 555	26 577

ELECTRIC OPERATIONS (MH11-2)
PROJECTED BALANCE SHEET
(In Millions of Dollars)

For the year ended March 31

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ASSETS										
Plant in Service	29 045	29 610	34 023	38 098	39 357	39 988	40 557	41 087	43 107	43 823
Accumulated Depreciation	(9 752)	(10 344)	(10 970)	(11 663)	(12 407)	(13 160)	(13 926)	(14 701)	(15 509)	(16 338)
Net Plant in Service	19 293	19 267	23 053	26 435	26 951	26 828	26 631	26 386	27 599	27 485
Construction in Progress	6 099	6 969	4 170	1 022	545	786	1 259	1 722	618	758
Current and Other Assets	2 158	2 426	2 660	2 640	3 029	3 431	3 695	3 929	4 486	5 143
Goodwill and Intangible Assets	91	89	88	86	85	83	82	81	81	80
Regulated Assets	-	-	-	-	-	-	-	-	-	-
	27 641	28 752	29 972	30 183	30 609	31 128	31 667	32 118	32 783	33 466
LIABILITIES AND EQUITY										
Long-Term Debt	23 437	24 240	24 593	24 795	24 796	24 738	24 489	24 391	24 180	23 152
Current and Other Liabilities	1 140	1 146	1 599	1 146	1 145	1 203	1 390	1 236	1 374	2 193
Contributions in Aid of Construction	429	440	451	463	475	487	499	512	525	538
Retained Earnings	3 026	3 317	3 719	4 170	4 584	5 092	5 679	6 370	7 096	7 974
Accumulated Other Comprehensive Income	(392)	(391)	(391)	(391)	(391)	(391)	(391)	(391)	(391)	(391)
	27 641	28 752	29 972	30 183	30 609	31 128	31 667	32 118	32 783	33 466

ELECTRIC OPERATIONS (MH11-2)
PROJECTED CASH FLOW STATEMENT
(In Millions of Dollars)

For the year ended March 31

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
OPERATING ACTIVITIES											
Cash Receipts from Customers	1 556	1 693	1 778	1 873	2 007	2 114	2 224	2 320	2 466	2 769	2 957
Cash Paid to Suppliers and Employees	(742)	(816)	(886)	(931)	(951)	(976)	(1 018)	(1 048)	(1 084)	(1 103)	(1 125)
Interest Paid	(406)	(466)	(475)	(516)	(564)	(598)	(683)	(817)	(841)	(1 188)	(1 151)
Interest Received	26	28	27	20	27	34	41	43	40	36	35
	434	439	444	447	519	574	564	499	580	514	717
FINANCING ACTIVITIES											
Proceeds from Long-Term Debt	811	900	1 630	1 405	1 990	2 000	2 590	1 800	1 590	2 190	1 590
Sinking Fund Withdrawals	23	129	395	105	24	-	4	424	177	265	689
Retirement of Long-Term Debt	(25)	(119)	(808)	(179)	(312)	(408)	(530)	(837)	(309)	(640)	(692)
Other	(81)	(21)	(14)	(5)	(7)	(7)	(7)	(16)	(5)	26	(6)
	729	889	1 203	1 326	1 695	1 585	2 057	1 371	1 452	1 841	1 581
INVESTING ACTIVITIES											
Property, Plant and Equipment, net of contributions	(1 163)	(1 226)	(1 481)	(1 616)	(1 934)	(1 986)	(2 336)	(1 567)	(1 820)	(1 856)	(1 697)
Sinking Fund Payment	(98)	(117)	(208)	(124)	(192)	(157)	(231)	(209)	(219)	(288)	(346)
Other	(19)	(20)	(20)	(21)	(19)	(46)	(36)	(30)	(30)	(34)	(40)
	(1 280)	(1 363)	(1 709)	(1 761)	(2 146)	(2 189)	(2 603)	(1 806)	(2 069)	(2 179)	(2 083)
Net Increase (Decrease) in Cash	(116)	(36)	(62)	12	68	(29)	18	64	(36)	176	215
Cash at Beginning of Year	66	(50)	(86)	(148)	(135)	(67)	(96)	(79)	(15)	(51)	126
Cash at End of Year	(50)	(86)	(148)	(135)	(67)	(96)	(79)	(15)	(51)	126	340

ELECTRIC OPERATIONS (MH11-2)
PROJECTED CASH FLOW STATEMENT
(In Millions of Dollars)

For the year ended March 31

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
OPERATING ACTIVITIES										
Cash Receipts from Customers	3 074	3 193	3 445	3 806	4 008	4 110	4 191	4 284	4 394	4 497
Cash Paid to Suppliers and Employees	(1 154)	(1 201)	(1 215)	(1 234)	(1 272)	(1 303)	(1 329)	(1 358)	(1 383)	(1 410)
Interest Paid	(1 108)	(1 092)	(1 196)	(1 433)	(1 582)	(1 561)	(1 534)	(1 490)	(1 484)	(1 423)
Interest Received	20	21	31	36	38	49	60	64	71	84
	832	921	1 066	1 175	1 192	1 295	1 388	1 501	1 598	1 748
FINANCING ACTIVITIES										
Proceeds from Long-Term Debt	980	790	790	190	(10)	-	(10)	(10)	(30)	(10)
Sinking Fund Withdrawals	159	-	-	401	-	-	60	250	-	13
Retirement of Long-Term Debt	(159)	-	-	(450)	-	-	(60)	(220)	(100)	(213)
Other	(7)	(6)	(6)	(8)	(8)	(7)	(7)	(6)	(4)	(19)
	973	784	784	133	(18)	(7)	(17)	14	(134)	(229)
INVESTING ACTIVITIES										
Property, Plant and Equipment, net of contributions	(1 510)	(1 401)	(1 578)	(891)	(746)	(834)	(1 003)	(953)	(876)	(814)
Sinking Fund Payment	(234)	(246)	(263)	(282)	(274)	(285)	(297)	(306)	(305)	(317)
Other	(29)	(30)	(27)	(28)	(30)	(28)	(29)	(29)	(29)	(30)
	(1 773)	(1 677)	(1 869)	(1 201)	(1 051)	(1 148)	(1 328)	(1 288)	(1 211)	(1 160)
Net Increase (Decrease) in Cash	32	28	(19)	108	124	140	43	227	253	359
Cash at Beginning of Year	340	372	400	381	489	613	752	796	1 023	1 276
Cash at End of Year	372	400	381	489	613	752	796	1 023	1 276	1 635

Needs For and Alternatives To

APPENDIX A

Integrated Financial Forecast (IFF12)

6.0 FINANCIAL TARGETS

Manitoba Hydro has the following financial targets for consolidated operations:

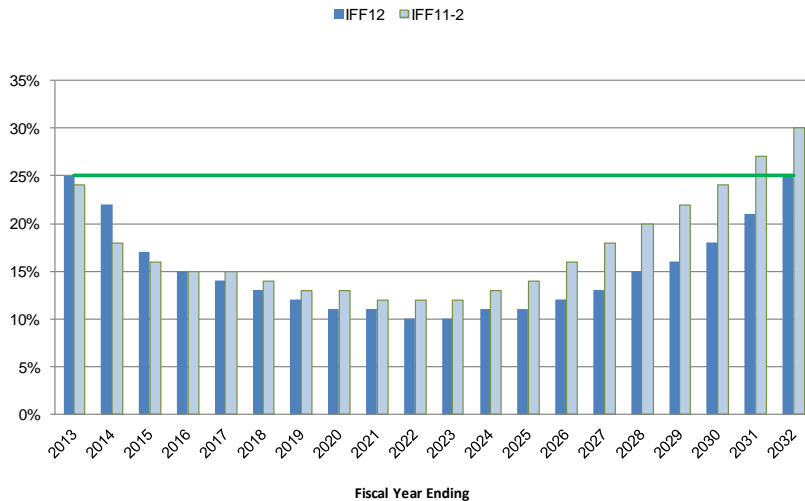
Debt/Equity Ratio	Achieve and maintain a minimum debt/equity ratio of 75:25
Interest Coverage	Maintain an annual gross interest coverage ratio of greater than 1.20
Capital Coverage	Maintain a capital coverage ratio of greater than 1.20 (excepting major new generation and transmission)

Financial targets may not be achieved during years of major investment in the generation and transmission system.

6.1 Debt/Equity Ratio

The debt/equity ratio indicates the portion of Manitoba Hydro’s assets that have been financed by internally generated funds rather than through debt. Figure 6-1 below shows the projected consolidated equity ratio for IFF12 compared to IFF11-2. Further reductions in net extraprovincial revenue relative to IFF11-2 combined with capital cost increases result in a deterioration of the equity ratio to 10% by 2021/22. Higher projected rate increases are necessary to prevent further deterioration of the debt/equity ratio. The equity ratio is projected to show improvement following the in-service of Keeyask and Conawapa generating stations and returns to the target 25% by 2031/32.

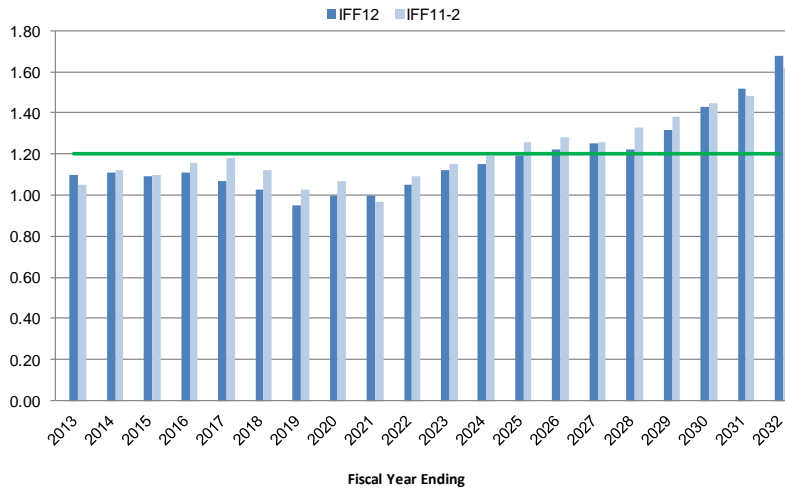
Figure 6-1: Projected Consolidated Equity Ratio



6.2 Interest Coverage Ratio

The interest coverage ratio provides an indication of the ability of the Corporation to meet interest payment obligations with the net income generated by the Corporation. Figure 6-2 below shows that the reductions in net extraprovincial revenues compared to IFF11-2 results in interest coverage ratios lower than target for the first 13 years of the forecast. In the longer term, interest coverage is projected to return to the 1.20 target level following Conawapa generating station in-service in 2025/26 and grows thereafter.

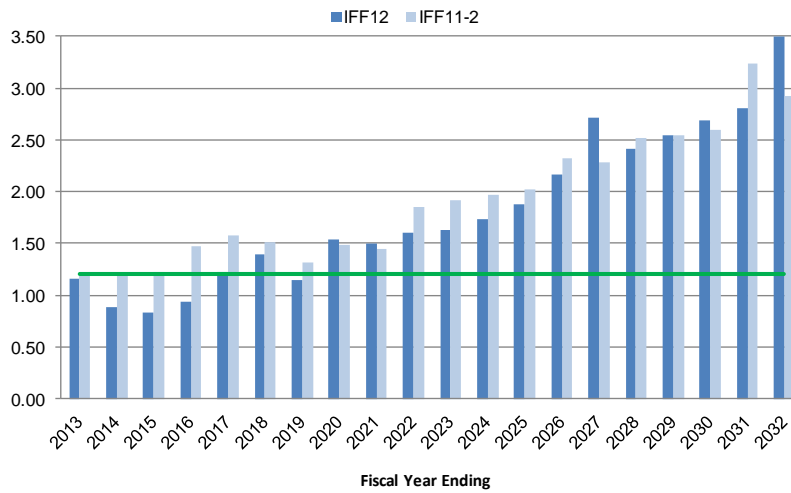
Figure 6-2: Projected Consolidated Interest Coverage Ratio



6.3 Capital Coverage Ratio

The capital coverage ratio measures the ability of current period internally generated funds to finance capital expenditures excluding major new generation and related transmission. Capital coverage is below target for the first four years of the forecast and then projected cash flows are sufficient to enable this target to be met in remaining years of the forecast. Figure 6-3 below shows the comparative capital coverage ratios for IFF12 and IFF11-2.

Figure 6-3: Projected Consolidated Capital Coverage Ratio



10.0 ELECTRIC OPERATIONS FINANCIAL FORECAST (MH12)

**ELECTRIC OPERATIONS (MH12)
PROJECTED OPERATING STATEMENT
(In Millions of Dollars)**

For the year ended March 31

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
REVENUES										
General Consumers										
at approved rates	1 331	1 361	1 374	1 390	1 404	1 424	1 447	1 462	1 485	1 506
additional*	0	48	104	165	228	297	371	447	531	619
Extraprovincial	357	344	343	380	406	435	441	464	711	839
Other	14	15	15	15	15	16	16	16	17	17
	<u>1 702</u>	<u>1 768</u>	<u>1 836</u>	<u>1 950</u>	<u>2 054</u>	<u>2 172</u>	<u>2 274</u>	<u>2 390</u>	<u>2 743</u>	<u>2 981</u>
EXPENSES										
Operating and Administrative	455	471	544	556	567	590	601	617	639	653
Finance Expense	452	444	492	524	586	656	767	781	1 001	1 097
Depreciation and Amortization	399	430	372	391	410	447	494	508	580	619
Water Rentals and Assessments	117	116	112	112	112	112	112	113	121	126
Fuel and Power Purchased	143	166	179	191	206	221	230	231	253	264
Capital and Other Taxes	88	96	101	110	119	129	136	143	149	158
Corporate Allocation	9	9	8	8	8	8	8	8	8	8
	<u>1 664</u>	<u>1 732</u>	<u>1 808</u>	<u>1 892</u>	<u>2 009</u>	<u>2 163</u>	<u>2 349</u>	<u>2 401</u>	<u>2 753</u>	<u>2 926</u>
Non-controlling Interest	14	24	21	16	13	10	6	3	4	(3)
Net Income	<u>53</u>	<u>60</u>	<u>50</u>	<u>73</u>	<u>57</u>	<u>19</u>	<u>(68)</u>	<u>(9)</u>	<u>(7)</u>	<u>52</u>
* Additional General Consumers Revenue										
Percent Increase	0.00%	3.50%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%
Cumulative Percent Increase	0.00%	3.50%	7.59%	11.84%	16.26%	20.85%	25.62%	30.58%	35.74%	41.10%

ELECTRIC OPERATIONS (MH12)
PROJECTED OPERATING STATEMENT
(In Millions of Dollars)

For the year ended March 31

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
REVENUES										
General Consumers										
at approved rates	1 529	1 552	1 575	1 598	1 621	1 644	1 669	1 693	1 717	1 741
additional*	713	814	921	1 035	1 155	1 283	1 419	1 564	1 716	1 878
Extraprovincial	873	863	851	937	1 209	1 288	1 304	1 312	1 331	1 341
Other	17	18	18	18	19	19	19	20	20	21
	<u>3 133</u>	<u>3 246</u>	<u>3 366</u>	<u>3 588</u>	<u>4 003</u>	<u>4 234</u>	<u>4 411</u>	<u>4 588</u>	<u>4 784</u>	<u>4 980</u>
EXPENSES										
Operating and Administrative	667	681	696	727	741	757	775	789	805	823
Finance Expense	1 087	1 086	1 076	1 193	1 440	1 622	1 589	1 546	1 552	1 482
Depreciation and Amortization	630	637	645	690	770	828	837	849	880	893
Water Rentals and Assessments	128	127	126	134	147	151	151	151	152	153
Fuel and Power Purchased	278	292	318	281	277	291	304	318	328	341
Capital and Other Taxes	167	176	183	188	192	193	196	198	203	203
Corporate Allocation	8	8	8	8	8	8	8	8	7	7
	<u>2 964</u>	<u>3 008</u>	<u>3 052</u>	<u>3 220</u>	<u>3 575</u>	<u>3 850</u>	<u>3 860</u>	<u>3 859</u>	<u>3 926</u>	<u>3 901</u>
Non-controlling Interest	(5)	(10)	(13)	(9)	(11)	(14)	(16)	(20)	(22)	(25)
Net Income	<u>163</u>	<u>228</u>	<u>301</u>	<u>358</u>	<u>418</u>	<u>370</u>	<u>534</u>	<u>710</u>	<u>835</u>	<u>1 054</u>
* Additional General Consumers Revenue										
Percent Increase	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%
Cumulative Percent Increase	46.68%	52.47%	58.49%	64.75%	71.26%	78.03%	85.06%	92.37%	99.97%	107.86%

ELECTRIC OPERATIONS (MH12)
PROJECTED BALANCE SHEET
(In Millions of Dollars)

For the year ended March 31

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
ASSETS										
Plant in Service	15 374	16 435	17 104	18 255	18 807	22 348	22 781	25 825	29 899	30 432
Accumulated Depreciation	(5 173)	(5 536)	(5 856)	(6 223)	(6 622)	(7 064)	(7 553)	(8 057)	(8 632)	(9 248)
Net Plant in Service	10 201	10 899	11 248	12 032	12 185	15 285	15 228	17 769	21 267	21 184
Construction in Progress	2 108	2 878	4 198	5 128	6 794	5 439	6 879	5 422	3 038	4 821
Current and Other Assets	1 869	1 735	1 391	1 578	1 790	2 027	1 844	1 974	2 059	1 725
Goodwill and Intangible Assets	180	165	150	134	123	113	105	98	92	88
Regulated Assets	231	225	-	-	-	-	-	-	-	-
	14 590	15 902	16 988	18 873	20 892	22 864	24 056	25 262	26 456	27 816
LIABILITIES AND EQUITY										
Long-Term Debt	9 428	11 199	12 741	14 614	16 304	18 077	19 972	20 739	22 062	23 412
Current and Other Liabilities	2 086	1 569	1 743	1 726	2 032	2 233	1 610	2 073	1 966	1 945
Contributions in Aid of Construction	336	345	350	355	359	369	375	382	389	396
Retained Earnings	2 442	2 502	2 295	2 368	2 425	2 444	2 376	2 368	2 361	2 413
Accumulated Other Comprehensive Income	299	287	(142)	(189)	(228)	(259)	(278)	(298)	(321)	(349)
	14 590	15 902	16 988	18 873	20 892	22 864	24 056	25 262	26 456	27 816

ELECTRIC OPERATIONS (MH12)
PROJECTED BALANCE SHEET
(In Millions of Dollars)

For the year ended March 31

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ASSETS										
Plant in Service	30 962	31 525	32 212	37 906	43 040	44 544	45 284	45 838	47 824	48 551
Accumulated Depreciation	(9 876)	(10 512)	(11 157)	(11 848)	(12 618)	(13 446)	(14 284)	(15 135)	(16 016)	(16 911)
Net Plant in Service	21 086	21 013	21 055	26 059	30 422	31 098	31 000	30 703	31 808	31 640
Construction in Progress	6 576	8 048	9 200	5 077	1 364	737	1 070	1 513	464	539
Current and Other Assets	1 802	2 215	2 362	2 205	2 492	2 880	3 337	3 663	3 749	4 896
Goodwill and Intangible Assets	85	83	82	82	81	80	79	78	77	76
Regulated Assets	-	-	-	-	-	-	-	-	-	-
	29 548	31 359	32 699	33 422	34 359	34 794	35 486	35 957	36 099	37 151
LIABILITIES AND EQUITY										
Long-Term Debt	25 414	27 217	27 770	28 572	28 974	29 115	29 066	28 369	28 358	27 931
Current and Other Liabilities	1 520	1 293	1 771	1 325	1 436	1 352	1 551	2 001	1 310	1 726
Contributions in Aid of Construction	403	411	418	426	433	441	449	457	466	474
Retained Earnings	2 576	2 804	3 105	3 463	3 881	4 251	4 785	5 495	6 330	7 384
Accumulated Other Comprehensive Income	(365)	(365)	(365)	(365)	(365)	(365)	(365)	(365)	(365)	(365)
	29 548	31 359	32 699	33 422	34 359	34 794	35 486	35 957	36 099	37 151

ELECTRIC OPERATIONS (MH12)
PROJECTED CASH FLOW STATEMENT
(In Millions of Dollars)

For the year ended March 31

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
OPERATING ACTIVITIES										
Cash Receipts from Customers	1 692	1 768	1 836	1 950	2 054	2 172	2 274	2 390	2 743	2 981
Cash Paid to Suppliers and Employees	(782)	(822)	(909)	(941)	(975)	(1 020)	(1 047)	(1 069)	(1 126)	(1 162)
Interest Paid	(466)	(476)	(509)	(556)	(608)	(700)	(816)	(826)	(1 050)	(1 144)
Interest Received	28	17	24	26	31	39	41	39	35	32
	<u>472</u>	<u>486</u>	<u>442</u>	<u>478</u>	<u>502</u>	<u>491</u>	<u>453</u>	<u>533</u>	<u>602</u>	<u>707</u>
FINANCING ACTIVITIES										
Proceeds from Long-Term Debt	1 036	1 970	1 760	2 190	2 180	2 580	2 190	1 390	1 980	1 790
Sinking Fund Withdrawals	129	393	102	26	-	16	416	187	269	676
Retirement of Long-Term Debt	(180)	(808)	(176)	(312)	(347)	(530)	(829)	(306)	(635)	(679)
Other	(42)	(7)	(17)	(19)	(17)	(13)	(24)	(13)	(34)	(9)
	<u>943</u>	<u>1 548</u>	<u>1 670</u>	<u>1 886</u>	<u>1 817</u>	<u>2 053</u>	<u>1 753</u>	<u>1 258</u>	<u>1 580</u>	<u>1 777</u>
INVESTING ACTIVITIES										
Property, Plant and Equipment, net of contributions	(1 381)	(1 922)	(2 028)	(2 083)	(2 214)	(2 174)	(1 863)	(1 666)	(1 799)	(2 299)
Sinking Fund Payment	(107)	(208)	(124)	(188)	(166)	(227)	(219)	(224)	(248)	(343)
Other	(21)	(20)	(21)	(20)	(32)	(42)	(28)	(28)	(33)	(38)
	<u>(1 509)</u>	<u>(2 151)</u>	<u>(2 173)</u>	<u>(2 291)</u>	<u>(2 412)</u>	<u>(2 443)</u>	<u>(2 111)</u>	<u>(1 919)</u>	<u>(2 080)</u>	<u>(2 679)</u>
Net Increase (Decrease) in Cash	(94)	(117)	(62)	73	(94)	101	96	(128)	102	(195)
Cash at Beginning of Year	<u>43</u>	<u>(51)</u>	<u>(168)</u>	<u>(230)</u>	<u>(157)</u>	<u>(251)</u>	<u>(150)</u>	<u>(54)</u>	<u>(182)</u>	<u>(80)</u>
Cash at End of Year	<u>(51)</u>	<u>(168)</u>	<u>(230)</u>	<u>(157)</u>	<u>(251)</u>	<u>(150)</u>	<u>(54)</u>	<u>(182)</u>	<u>(80)</u>	<u>(275)</u>

ELECTRIC OPERATIONS (MH12)
PROJECTED CASH FLOW STATEMENT
(In Millions of Dollars)

For the year ended March 31

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
OPERATING ACTIVITIES										
Cash Receipts from Customers	3 133	3 246	3 366	3 588	4 003	4 234	4 411	4 588	4 784	4 980
Cash Paid to Suppliers and Employees	(1 198)	(1 233)	(1 276)	(1 281)	(1 305)	(1 337)	(1 368)	(1 394)	(1 422)	(1 450)
Interest Paid	(1 115)	(1 101)	(1 108)	(1 239)	(1 490)	(1 689)	(1 668)	(1 640)	(1 661)	(1 567)
Interest Received	18	19	29	34	42	57	73	81	92	73
	837	932	1 011	1 102	1 251	1 265	1 448	1 635	1 793	2 037
FINANCING ACTIVITIES										
Proceeds from Long-Term Debt	1 970	1 780	990	790	390	190	190	(50)	(10)	(10)
Sinking Fund Withdrawals	156	-	-	450	-	-	60	250	700	13
Retirement of Long-Term Debt	(432)	-	-	(450)	-	-	(60)	(220)	(700)	(13)
Other	(1)	(0)	(1)	(1)	(0)	0	2	2	3	(16)
	1 693	1 780	989	789	390	190	192	(18)	(7)	(26)
INVESTING ACTIVITIES										
Property, Plant and Equipment, net of contributions	(2 268)	(2 018)	(1 822)	(1 553)	(1 403)	(858)	(1 054)	(977)	(918)	(781)
Sinking Fund Payment	(249)	(269)	(295)	(317)	(316)	(334)	(348)	(359)	(361)	(341)
Other	(29)	(32)	(25)	(25)	(28)	(26)	(26)	(26)	(26)	(26)
	(2 546)	(2 319)	(2 142)	(1 896)	(1 746)	(1 217)	(1 428)	(1 362)	(1 305)	(1 148)
Net Increase (Decrease) in Cash	(16)	393	(141)	(5)	(106)	238	211	254	481	862
Cash at Beginning of Year	(275)	(291)	102	(39)	(44)	(150)	89	300	555	1 036
Cash at End of Year	(291)	102	(39)	(44)	(150)	89	300	555	1 036	1 898

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Financial Information MFR 6

A table, which details the debt to equity ratio, capital coverage ratio and interest coverage ratio, net assets, net income, total debt and retained earnings for each of the years in the 20-year electric IFF.

Please see the following table for the requested information related to electric operations.

Fiscal Year Ended	Debt/Equity Ratio	Capital Coverage Ratio	Interest Coverage Ratio	Total Assets	Net Income	Total Debt	Retained Earnings
2015	78:22	0.98	1.16	16 993	102	11 854	2 717
2016	82:18	1.02	1.16	18 866	115	14 046	2 778
2017	84:16	0.94	1.07	21 801	59	16 822	2 837
2018	85:15	1.09	1.06	24 961	64	19 747	2 902
2019	86:14	0.88	0.92	26 585	(90)	21 366	2 812
2020	87:13	0.80	0.91	27 668	(116)	22 549	2 696
2021	88:12	0.82	0.86	28 299	(178)	23 194	2 518
2022	89:11	0.94	0.85	27 727	(206)	23 130	2 312
2023	90:10	1.09	0.86	27 788	(187)	23 378	2 126
2024	90:10	1.22	0.91	27 965	(124)	23 672	2 001
2025	90:10	1.27	0.96	27 914	(53)	23 668	1 948
2026	90:10	1.31	0.98	28 063	(24)	23 832	1 924
2027	90:10	1.48	1.06	28 316	84	23 991	2 007
2028	89:11	1.58	1.11	28 533	155	24 044	2 161
2029	88:12	1.70	1.20	28 884	266	24 106	2 427
2030	86:14	1.94	1.30	29 191	400	24 009	2 826
2031	84:16	2.04	1.42	29 030	536	23 292	3 361
2032	81:19	2.20	1.53	29 675	647	23 263	4 008
2033	78:22	2.29	1.61	30 366	725	23 227	4 732
2034	75:25	2.41	1.71	31 189	826	23 221	5 557

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Manitoba Hydro

Financial Targets Review

May 2015

KPMG LLP

Notice

KPMG LLP (“KPMG”) has drafted this report (the “Report”) pursuant to its engagement to assist Manitoba Hydro-Electric Board (“Manitoba Hydro” or “MH”) in its review of financial targets (“Financial Targets Review”) in accordance with the terms of a services agreement dated December 5, 2014.

This Report has been prepared for Manitoba Hydro. Its contents may not be shared with or disclosed to anyone by the recipient without the express written consent of Manitoba Hydro and KPMG, unless Manitoba Hydro files the report or substantive components of the report for its regulatory purposes. KPMG does not accept any liability or responsibility to any third party who may use or place reliance on this Report.

Purpose of the Report

The purpose of this Report is to:

- Provide background information on the Financial Targets Review, as well as an overview of the process used by KPMG to assist Manitoba Hydro in its work;
- Present Canadian and international research material on subjects relevant to conducting the financial targets review;
- Outline various analyses undertaken; and
- Summarize other relevant considerations and recommendations with respect to Financial Targets.

Basis of Information

The data and information included in this Report were obtained primarily from secondary sources such as annual reports, financial statements and regulatory filings of MH and other power utilities, Decisions and Orders of the Public Utilities Board of Manitoba (“PUB”) and of other regulatory agencies, credit agency reports, bank reports, and other sources of Canadian and international research and statistics. Financial forecasts were derived from MH’s Integrated Financial Forecast (“IFF14”) and similar documents from other sample power utilities. Scenario analyses were performed on KPMG’s behalf by MH using its own in-house models.

This Report relies on data and information from these secondary sources and makes no representations with respect to their accuracy or completeness.

The procedures performed do not constitute an audit, examination or review in accordance with standards established by the Canadian Institute of Chartered Accountants (“CICA”), and we have not otherwise verified the information we obtained or presented in this report. KPMG expresses no opinion or any other form of assurance on the information presented in our report, and make no representations concerning its accuracy or completeness.

Executive Summary

In December 2014, Manitoba Hydro-Electric Board retained KPMG to undertake a review of its current financial targets, and to provide recommendations with respect to appropriate financial targets for Manitoba Hydro that align with the mandate of Manitoba Hydro and the interests of its stakeholders considering its operating and business outlook and associated risks.

The financial target review considered: the objective of maintaining rate stability for customers while at the same time maintaining safe and reliable service; the period of significant capital investment and infrastructure renewal that Manitoba Hydro is entering into; and the maintenance of Manitoba Hydro's self-supporting status for credit rating purposes.

The scope of the work did not extend to reviewing broader policy questions associated with Manitoba Hydro's overall structure, governance framework, and business strategy and plans. The objective was to identify appropriate targets in light of Manitoba Hydro's current structure and plans, i.e., the proposed development plan in Manitoba Hydro's Integrated Financial Forecast ("IFF14"), dated December 2014.

Our research work was based on three primary streams of research and analyses – benchmarking, capital markets analysis, and scenario analysis – designed to provide a comprehensive and balanced perspective on the development of financial targets for Manitoba Hydro.

There is no single method or formula that can readily identify the most appropriate target or targets. Rather, the selection of targets must be based on judgment, taking into account a broad range of evidence and multiple objectives. The material in this report is designed to provide an appropriate base of evidence for target selection.

The report is organized in eight chapters. Chapters 2 through 7 conclude with summary observations.

- Chapter 1 outlines the objectives, scope and review process.
- Chapter 2 reviews the legislative framework within which Manitoba Hydro operates and discusses the notion of self-supporting status.
- Chapter 3 summarizes Manitoba Hydro's current financial targets, recent financial results and current financial forecast.
- Chapter 4 identifies regulatory and other developments at other government-owned power utilities in Canada that are similar to Manitoba Hydro for context.
- Chapter 5 provides research and analysis from benchmarking Manitoba Hydro to other government-owned power utilities, primarily in Canada, as the peer group.
- Chapter 6 summarizes the perspectives of capital markets and rating agencies.
- Chapter 7 provides scenario analysis and quantitative and probabilistic assessments of Manitoba Hydro's possible future financial position.
- Chapter 8 outlines our recommendations on Manitoba Hydro's financial targets.

The three streams of research and analysis were used to inform our recommendations on financial targets. The determination of specific financial targets is a decision of the Manitoba Hydro-Electric Board.

Key factors that influence our recommendations on financial targets are as follows:

- Relative to other Crown utilities with a significant base of hydro-electric generation, Manitoba Hydro faces a number of heightened risks:
 - Manitoba Hydro has a large capital investment program relative to its current installed asset base and its projected revenues going forward.
 - Manitoba Hydro faces relatively greater hydrology risks than other major utilities.
 - Manitoba Hydro relies on export markets for a significant proportion of its revenue.
 - Utility debt and utility assets in Manitoba are relatively high on a per capita basis compared to other jurisdictions. Manitoba Hydro thus has a relatively limited customer base over which to spread potential future cost overruns or business set-backs.

These risks suggest that Manitoba Hydro should have financial targets that provide a significant amount of equity cushion.

- Two of Manitoba Hydro's three financial targets are consistent with those used at other government-owned power utilities: debt/equity ratio, and an interest coverage ratio.
- As shown through benchmarking, Manitoba Hydro's target equity ratio is at the low end of those maintained or forecast by other power utilities: both Hydro-Quebec and Nalcor maintain equity ratios that are close to 30%; BC Hydro and NB Power have plans to increase their equity ratio over the long-term to 40% and 30% respectively.
- A weakening of Manitoba Hydro's relative financial position over the next decade may put pressure on Manitoba Hydro to improve its own equity base, given that rating agencies and lenders will compare Crown utilities' relative financial strengths.
- Loss of self-supporting status would have very detrimental effects on the Province and the utility. It could lead to credit downgrades and significantly higher interest costs for both the utility and the Province. Notwithstanding this point, the exact point at which Manitoba Hydro's self-supporting status would be put at risk is unclear. Uncertainty with respect to when self-supporting status would be at risk suggests that financial targets should err on the side of caution.
- Additional rate increases in the early years of the forecast horizon could result in a significant improvement in Manitoba Hydro's financial metrics in later years. This improvement reflects the benefit of reducing the impact of interest compounding on the additional debt that is required when rate increases are lower.
- Manitoba Hydro has limited ability to restrain a drop in financial ratios during adverse conditions, such as a drought. This highlights the risk of having an equity ratio that approaches 10%. For this reason, we believe that equity ratios near 15% or higher are the minimum that should be accepted even for short periods.
- Unlike the shareholders of Hydro-Quebec and, in the near term, of BC Hydro, the shareholder of Manitoba Hydro does not expect to receive dividend income. The absence of dividend payments removes one lever that the utility could use in adjusting its financial position in times of stress.
- Manitoba Hydro's capital investment program is characterized by periodic "bumps" or "hills" of large magnitude. These fluctuations magnify the challenges associated with Manitoba Hydro's limited levers for financial control.
- As shown in benchmarking, Manitoba Hydro's current electricity rates for its domestic consumers are among the lowest in North America. This may give Manitoba Hydro additional ability to raise rates in the event of financial distress.
- Government guarantees enable government-owned utilities to have lower equity ratios in their capital structure and to have lower financial metrics than averages observed for investor-owned utilities.
- Credit rating agencies recognize that hydro generation may support higher debt leverage than fossil-fuel generation.

The following is a summary of our recommendations:

Recommendation 1: debt/equity ratio target of 75/25 to 70/30

- Manitoba Hydro's current debt/equity target of 75/25 is a reasonable long-term target. Notwithstanding this finding, we note that a target of 70/30 would provide additional financial strength to address the utility's unique financial challenges and risks. Accordingly, our overall recommendation is that the debt/equity ratio should fall within the range of 75/25 to 70/30.
- Manitoba Hydro will need to depart from its equity target during major build programs: this reflects the utility's limited financing tools and reliance on retained earnings as its dominant source of equity. Accordingly, the equity position should rise above 25% in advance of major build programs to mitigate the deviations from target that are observed.
- We have significant concerns that an 11% equity level, as forecast under IFF14, provides a less than desirable equity base to accommodate potential adverse developments. We suggest that Manitoba Hydro's plans be adjusted to maintain an equity ratio near 15% under forecast conditions.
- In the long-term, with respect to deviations from any target, it would be desirable to limit decreases in the equity ratio to 5-10 percentage points.
- Higher equity ratios need not translate into higher rates, because Manitoba Hydro has the option to seek lower rates of return on equity than investor-owned utilities.

Recommendation 2: minimum EBITDA interest coverage ratio target of 1.8 or greater

- An interest coverage ratio is an important element of financial targets.
- Our recommendation is a minimum EBITDA interest coverage ratio, at a target level of 1.8 or greater.
- Should Manitoba Hydro continue its existing debt/equity target and prefer to stay with a minimum EBIT interest coverage ratio, the current target of 1.2 or greater is reasonable.

Recommendation 3: maintain a minimum capital coverage ratio target of 1.2 or greater

- The capital coverage ratio is also an important financial target and a unique measure to Manitoba Hydro.
- The current target of 1.2 or greater is reasonable.
- An inherent limitation of this ratio is that it does not reflect the financial challenges associated with major expansion programs. Hence it may be misunderstood or misinterpreted by stakeholders. We suggest a note in the annual reports and/or financial statements that outlines the capital coverage ratio calculation including the specific value of the numerator and denominator.

Recommendation 4: other metrics to continue to monitor

- Manitoba Hydro should maintain three Financial Targets.
- Manitoba Hydro should also continue to regularly monitor other financial metrics. These include but are not limited to: revenue growth, controllable operating costs, EBITDA, net income, cash flow from operations to net debt, net debt to assets, EBITDA to revenue, capital expenditures to fixed assets, average electricity prices across different customer groups.

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1 Background

This chapter outlines the objectives, scope and process of the project.

1.1 Objective

Manitoba Hydro-Electric Board (“Manitoba Hydro” or “MH”) has retained KPMG LLP (“KPMG”) to undertake a review of its current financial targets (the “Financial Targets Review”). The specific objectives of this engagement are to:

- Provide recommendations with respect to appropriate financial targets for Manitoba Hydro that align with the mandate of Manitoba Hydro and the interests of its stakeholders considering its operating and business outlook and associated risks.
- The financial target recommendations should consider at a minimum the following:
 - The objective of maintaining rate stability for customers while at the same time maintaining safe and reliable service.
 - The period of significant capital investment and infrastructure renewal that Manitoba Hydro is entering into.
 - The maintenance of Manitoba Hydro’s self-supporting status for credit rating purposes.
- Conduct scenario analysis to help address PUB’s directive to Manitoba Hydro to review key operating and financial risks in order to assess the adequacy of financial reserves.

This report presents the results of our review.

1.2 Scope and Overview of Review Process

1.2.1 Scope of review

As noted above, KPMG was retained to review Manitoba Hydro’s financial targets. The scope of our work does not extend to reviewing broader policy questions associated with Manitoba Hydro’s overall structure, governance framework, and business strategy. Rather, our objective was to identify appropriate targets in light of Manitoba Hydro’s current structure and plans. Accordingly, our work has been performed in the context of the following:

- The current proposed development plan as embodied in Manitoba Hydro’s Integrated Financial Forecast (“IFF14”), dated December 2014.
- The integrated structure of the utility, in which generation and export activities are combined in one business entity with the transmission and distribution of electricity to Manitoba ratepayers.
- The existing relationship of the utility to the government, including:
 - The government’s role as shareholder and as guarantor of the utility’s debt.
 - The level of payments made to the Province as a fee for its debt guarantee.
 - Policies with respect to the payment of water rental charges.
 - Expectations for direct investment by the government in the utility and for the payment of dividend income.

Our recommendations on financial targets take into account Manitoba Hydro’s current business structure and strategy. If significant changes to this structure were to be made, our recommendations on financial targets may be affected.

1.2.2 Work streams

Our research work was based on three streams of research and analyses as follows:

- **Benchmarking:** This entailed research into other jurisdictions to understand and compare the current financial targets and metrics of other government-owned power utilities, as well as to assess their relevance for Manitoba Hydro.
- **Capital Markets Analysis:** In this stream, the perspectives of financial markets and ratings agencies were documented. Their implications for financial targets going forward were then considered.
- **Scenario Analysis:** This involved analytical work to understand the range of scenarios that Manitoba Hydro may face in the future, based on MH's projected build-plan, potential provincial demand growth, and MH's current export sales contracting strategy.

1.2.3 Rationale for Work Streams

The three primary streams of analysis noted above are designed to provide a comprehensive and balanced perspective on the development of financial targets for Manitoba Hydro. They help address the fact that financial targets must take into account not only the economic and market context within which Manitoba Hydro operates but also its specific challenges and needs. There is no single method or formula that can readily identify the most appropriate target or targets. Rather, the selection of targets must be based on judgment, taking into account a broad range of evidence and multiple objectives. The material in this report is designed to provide an appropriate base of evidence for target selection. Thus:

- Our benchmarking process, which is summarized in Chapters 4 and 5 of our report, identifies developments at other organizations that are similar to Manitoba Hydro. Since these organizations face many similar challenges, the decisions that they have made with respect to their own financial targets may be useful for Manitoba Hydro and its stakeholders to consider in the selection of its targets.
- Our capital markets perspective, which is summarized in Chapter 6 of our report, identifies the requirements of capital markets and rating agencies and, by implication, of the lending community. This provides evidence on the minimum requirements that targets must meet.
- Our scenario analysis, which is summarized in Chapter 7 of our report, provides some quantitative analyses of Manitoba Hydro's possible future financial position. These scenario analyses are designed to shed light on the implications for rates and for Manitoba Hydro's financial risks of existing and potential alternative financial and rate-setting strategies.

These streams of research and analysis are discussed in Chapters 4 through 7 of our report. They were used to inform our recommendations on financial targets as outlined in Chapter 8. Additional context for our review is provided as follows:

- Chapter 2 reviews the legislative framework within which Manitoba Hydro operates. The framework identifies the statutory mandate of the corporation, and its objectives.
- Chapter 3 summarizes Manitoba Hydro's recent financial results and current financial forecast.

1.3 The Objectives of Manitoba Hydro's Financial Targets

In the process of setting financial targets for Manitoba Hydro, an important first step is to explicitly identify the objectives that these targets will be designed to achieved. To set the context for this review, the following goals were identified as the primary objectives for Manitoba Hydro in its financial planning process:

Financial targets should enable Manitoba Hydro to provide reasonable rate stability to Manitoba ratepayers while maintaining its self-supporting status. Manitoba Hydro's long-term plans are to avoid short-term rate increases and fluctuations that would cause undue shocks to ratepayers and/or interfere with MH's own financial planning and budgeting.

Financial targets should be established so as to reduce the risk of Manitoba Hydro experiencing financial distress over the projection horizon to at or below a threshold level. Financial distress is interpreted to mean that Manitoba Hydro would be unable to meet its financial obligations, including the repayment of outstanding debt, and hence would no longer be deemed to be self-supporting.

The objectives established above were based on a review of Manitoba Hydro's statutory mandate, discussions with management, and our understanding of the requirements of capital markets. In interpreting these primary objectives, it should be noted that:

- The level of risk to accept under the primary objectives is a policy decision for the Manitoba Hydro-Electric Board, its shareholder, and the regulator.
- The ability of Manitoba Hydro to meet its financial obligations must be evaluated on a long-term basis. Because of temporary business and/or market conditions (e.g. drought, recession), Manitoba Hydro may have to borrow additional debt in any given period to meet its operating costs and other financial commitments. Short-term shortfalls in the ability of rates to cover costs do not necessarily imply that Manitoba Hydro is no longer self-sustaining. In this context, short-term may refer to periods of up to several years.

In the context of Manitoba Hydro financial objectives, maintaining sufficient retained earnings is an important strategy for ensuring rate stability. Retained earnings provide a reserve, or "cushion", to offset financial events that could cause financial distress, require undue rate increases, or both.

Our scope of work included a review of Manitoba Hydro's key operating and financial risks to assess the adequacy of financial reserves. This included quantitative and probabilistic analysis with respect to significant risk factors impacting Manitoba Hydro's financial outlook. As noted in the section on the scenario analysis undertaken, however, there are limitations to such analysis.

1.3.1 Self-supporting status

The objectives that are identified above are closely linked to the imperative that Manitoba Hydro should remain "self-supporting". A loss of self-supporting status would be a very adverse event for the utility and the Province. In this section, we provide additional detail as to how this concept may be interpreted.

A reasonable hypothesis is that Manitoba Hydro would be considered unable to meet its financial commitments, and therefore no longer self-supporting, once its debt has grown to the point at which it cannot reasonably be recovered from Manitoba Hydro electricity ratepayers going forward. Under this scenario, some portion of debt would need to be assumed by the Province.

As noted in our analysis in Chapter 6, the exact point at which rating agencies might deem Manitoba Hydro (and its debt) to be no longer self-supporting is not clear. Similarly, it may not be clear when debt reaches a level where it cannot reasonably be expected to be repaid by ratepayers. However, to create a working definition of financial distress for the purposes of scenario analysis, the following general approach was used:

Manitoba Hydro would be deemed to be no longer self-supporting once it reaches a position of near zero retained earnings and rates have increased in real terms such that Manitoba can no longer be considered a cost-competitive jurisdiction with respect to electricity rates.

Considerations in support of this definition of financial distress include the following:

- The level of retained earnings is a useful metric because it captures the cumulative earnings effect of decisions and events over time. It is a key indicator of whether or not the utility has been profitable over time. Thus, it is a more robust measure than single-period measures such as earnings in a period and the associated debt service coverage ratios. **While companies can operate with negative net income for a period of time, a retained earnings deficit is an accepted harbinger of potential financial distress. A severe downward trajectory approaching technical insolvency could also signal financial distress.**
- **Once rates have increased to a level where Manitoba is no longer a low-cost jurisdiction for electricity, the Province's competitive position would have been compromised. In such a circumstance, the ability of ratepayers to accept additional rate increases to support company costs would be called into question.** This would make it difficult for Manitoba Hydro to build a positive equity balance and to thereby ensure its ongoing status as a self-supporting entity.
- In light of the above considerations, the two metrics combined (level of retained earnings and the cumulative real rate increase) should therefore provide an indication of financial distress and potential loss of self-sufficiency.

In respect of Manitoba Hydro's rate levels, we acknowledge that the threshold beyond which Manitoba would no longer be considered a low-cost jurisdiction is difficult to identify precisely. The threshold will be influenced by a number of factors such as the future rate trajectory of other utilities and the exchange rate that is used to compare Canadian and U.S. utility rate levels. It is likely, however, that a doubling of real (or inflation-adjusted) rates by Manitoba Hydro would be highly problematic. A doubling of rates equates to a 100% increase. In comparison, real rates increase by only about 34% by 2033 under the current IFF.

A conceptual approach for identifying acceptable rate increases might be to determine, for example, that Manitoba Hydro should remain among the bottom quartile of North American utilities in its consumer rates. Within this framework and given Manitoba Hydro's current very cost-competitive position among North American utilities, cumulative real rate increases of 50% or more might still be acceptable from a competitiveness perspective (notwithstanding the fact that they would be perceived negatively by affected ratepayers). The appropriate objectives with respect to the level and annual rates of increase of Manitoba Hydro tariffs are ultimately policy questions for Manitoba Hydro, its shareholder and regulator. Decisions on these issues will nevertheless have implications for Manitoba Hydro's financial targets and for the deviations from targets that will be acceptable in the short term.

Just as it is difficult to quantify the threshold beyond which rate increases would render Manitoba uncompetitive in cross-jurisdictional comparisons, it is also difficult to quantify, under any particular rate trajectory and/or forecast financial position, the level of risk of financial distress. The primary objectives outlined earlier in this Chapter suggest that financial targets should be set to reduce the risk of financial distress below some threshold level. In practice, difficulties in precisely quantifying risk mean that we cannot reliably target any specific risk level. Nevertheless, the concept of targeting a particular level of risk is a useful conceptual approach and can thus help stakeholders consider risk issues in a structured manner.

The above issues are further addressed later in this report.

2 Legislative Context

This chapter reviews the legislative context in which Manitoba Hydro operates, and discusses the notion of a self-funding or self-supporting government business enterprise.

2.1 Manitoba Hydro Act

The Manitoba Hydro-Electric Board (“Manitoba Hydro”) operates under the provisions of the Manitoba Hydro Act (“the Act”). This Act was initially proclaimed in 1988 but has been subject to a number of amendments, most recently in 2014.

2.1.1 Key provisions of the Act

In this section, we review a number of key sections within the Act that are particularly relevant to the setting of financial targets for the corporation. These sections are:

- Section 39 (1) Price of power sold by corporation
- Section 40 (1) Establishment of reserves
- Section 40 (2) Use of reserves.

Each of these sections is reproduced in the sections below, along with a short review of its intent and/or implications.

Section 39 (1) Price of power sold by corporation

Section 39 (1) reads as follows:

The prices payable for power supplied by the corporation shall be such as to return to it in full the cost to the corporation, of supplying the power, including

- a.) the necessary operating expenses of the corporation, including the cost of generating, purchasing, distributing, and supplying power and of operating, maintaining, repairing, and insuring the property and works of the corporation, and its costs of administration;*
- b.) all interest and debt service charges payable by the corporation upon, or in respect of, money advanced to or borrowed by, and all obligations assumed by, or the responsibility for the performance or implementation of which is an obligation of the corporation and used in or for the construction, purchase, acquisition, or operation, of the property and works of the corporation, including its working capital, less however the amount of any interest that it may collect on moneys owing to it;*
- c.) the sum that, in the opinion of the board, should be provided in each year for the reserves or funds to be established and maintained pursuant to subsection 40(1).*

Section 39 addresses the need for the corporation to cover its full costs, consistent with its operation as a self-sustaining entity.

Section 40 (1) Establishment of reserves

Section 40 (1) reads as follows:

The board shall establish and maintain, and may adjust as required, such reserves or funds of the corporation as are sufficient, in the opinion of the board, to provide

- a.) for the amortization of the cost to the corporation of the property and works, (whether as a whole or in its component parts), of the corporation during the period, or remaining period, of the useful life thereof; The necessary operating expenses of the corporation, including for the amortization of the cost to the corporation of the property and works, (whether as a whole or in its component parts), of the corporation during the period, or remaining period, of the useful life thereof;*
- b.) insurance, for which provision is not otherwise made, against loss or damage to any property of the corporation, or to the persons or property of others, caused by or arising out of the works or operations of the corporation;*
- c.) for the stabilization by the board of rates or prices for power sold by the corporation, the meeting of extraordinary contingencies, and such other requirements or purposes as in the opinion of the board are proper.*

Section 40(1) thus indicates that the corporation should establish and maintain reserves. These reserves are to help fund the operating expenses of the corporation, to protect against adverse events, and to help stabilize rates.

Section 40(2) Use of reserves

Section 40(2) provides additional detail regarding the use of reserves, beyond that provided in Section 40(1). It reads as follows:

The reserves created pursuant to subsection (1) may be used or employed by the board,

- a.) towards the reservation and setting aside of the sinking fund established under section 41;*
- b.) towards the renewal, reconstruction, or replacement, or depreciated, damaged, or obsolescent property and works;*
- c.) towards restoration of any property lost or damaged, or the payment of any claims, in respect of which a reserve as insurance has been established;*
- d.) in such manner towards the stabilization of rates or prices for power, the meeting of extraordinary contingencies, and for such other requirements or purposes, as the board in its discretion deems proper; and*
- e.) subject to the approval of the Lieutenant Governor in Council, towards the cost of construction of new works and extensions, improvements, or additions, to any property and works of the corporation.*

Based on our interpretation of the language in Section 40(2), the primary objectives of Manitoba Hydro's reserves are therefore to:

- To allow for the stabilization of rates.
- To provide for the funding of sinking funds.
- To help fund new or replacement construction.

2.2 Our Observations with Respect to the Act

Overall, our observations with respect to the Manitoba Hydro Act are as follows:

- Retained earnings are considered to be reserves and are maintained for a number of specific purposes (e.g. funding of new construction, rate stabilization). These purposes do not include the earning of a return on these reserves, although a return may be made as a consequence of meeting other objectives.
- With the exception of some distributions that were made in Fiscal 2002, 2003 and 2004 as specifically called for under Sections 45(5) and 43(6) of the Act, the Act does not envisage the distribution of retained earnings (i.e. dividends) to the Province. Thus, a return on equity is used to build reserves, rather than to provide dividends to the corporation's legal shareholder.

In evaluating both the source and use of reserves, the equity of the corporation consists largely of retained earnings. Further, there is no expectation, either in legislation or in recent statements by the shareholder, that the Province would contribute new equity funding to Manitoba Hydro.

2.3 Self-Supporting Status

Almost all of Manitoba Hydro's debt is either obtained through or guaranteed by the Province of Manitoba.¹ As such, the credit ratings assigned to this debt are a flow-through of the ratings associated with debt issued by the Province of Manitoba. In turn, Manitoba Hydro debt is included in the overall fiscal position of the Province.

In their review of Manitoba's ratings position, the ratings agencies consider Manitoba Hydro's debt to be "self-supporting". They thus remove this debt when calculating the financial metrics related to the Province's fiscal position. The provincial debt that is remaining is referred to as "tax-supported debt".

From the Province's perspective, it is important that Manitoba Hydro's debt continue to be viewed as self-supporting. A change in this designation would likely have a very negative impact on perceptions of the Province's overall fiscal position and could lead to a downgrade in its debt rating. Such a downgrade could increase interest rates paid both by the Province and by Manitoba Hydro.

2.3.1 Criteria for Being Self-Supporting

While the maintenance of self-supporting status is essential, the specific criteria used to define self-supporting are not necessarily clear nor are they readily interpreted in practice. For example, in a drought-year, Manitoba Hydro's financial metrics may fall below those consistent with a self-supporting corporation over time. Thus, interest coverage ratios may fall below 1.0 in any given year without resulting in the loss of self-supporting status. In such a year, Manitoba Hydro would need to draw on its cash reserves and/or obtain additional debt to cover just its operating expenses and current debt service obligations. Thus, achievement of self-supporting status must be evaluated over time, and not just in any period.

In considering credit ratings, both the level and trend in the level of financial metrics appear to be important. Thus a weaker metric that is nevertheless improving may pose fewer concerns than a stronger metric that is deteriorating over time. Similarly, a deterioration in financial metrics may be acceptable if it results from temporary operating constraints (e.g. drought conditions and/or capital expenditures) and circumstances indicate that metrics will recover.

¹ Manitoba Hydro 2014 Annual Report, p.91, note to audited financial statements, "long-term debt is guaranteed by the Province of Manitoba, with the exception of Manitoba Hydro-Electric Board Bonds in the amount of \$65 million issued for mitigation projects."

In its October 2014 rating report on the Province of Manitoba, Moody's noted²:

"In anticipation of demand increase by 2022-23, and in order to boost electricity exports, Manitoba Hydro is currently executing major generation and transmission projects. Manitoba's financial metrics will be strained by the associated capital expenditures and debt needs in the coming years. We will monitor the increase in Manitoba Hydro's debt ratios and the progress of construction of these projects.

"We note positively, that Manitoba Hydro has flexibility to increase utility rates given fairly low rates compared to other provinces and that it has already negotiated future long-term export contracts with customers in the U.S."

In its October 2014 rating report, Moody's noted³:

"The province issues debt on behalf of its wholly-owned utility company Manitoba Hydro, which we view as a self-supporting entity and therefore, exclude the related net debt from the Province of Manitoba's debt metrics.

"The anticipated increase in debt at Manitoba Hydro could increase the contingent liability for the Province of Manitoba in the next few years."

In its November 2014 report focused on Manitoba Hydro, Moody's noted⁴:

"As part of its debt management strategy, Manitoba Hydro targets certain financial metrics such as an interest coverage ratio greater than 1.2 and equity to capitalization greater than 25%. However, both targets are not expected to be met for an extended period of time due to large generation and transmission projects underway such as Keeyask and Bipole III. Total capital expenditures are forecasted to be \$13 billion, or on average \$2.6 billion per year from FY2015 to FY2019.

"The weakening financial profile restricts financial flexibility and adds risk in case of unexpected events such as low water levels, cost overruns and construction delays given the nature of a hydroelectric plant's long construction cycle prior to the start of operations and cash flow. However, we view Manitoba Hydro as being capable of prudently managing debt and mitigating such risks by seeking rate increases and curtailing spending to continue as a self-supporting corporation."

The following elements could be considered to be consistent with self-funding status:

- Revenues, taking into account both domestic and export markets, are sufficient to fund all of the costs incurred by the corporation and to build reserves in a manner consistent with the statutory framework.
- The corporation does not need to call upon the Province to add additional equity.
- The corporation is able, over time, to service (and repay) all debt issued on its behalf.

² Moody's Investors Service, Province of Manitoba, October 17, 2014, p.3.

³ Moody's Investors Service, Province of Manitoba, October 17, 2014, p.3.

⁴ Moody's Investors Service, Credit Opinion: Manitoba Hydro Electric Board, November 6, 2014.

2.3.2 Payments to the Province

Manitoba Hydro makes a number of payments to the Province that could, from a narrow perspective, be considered to be discretionary and that could theoretically be postponed or reduced in times of financial stress. For example:

- Manitoba Hydro makes water rental payments to the Province, at a rate of \$3.34 per MWh of electricity generated from hydro sources (\$125 million in fiscal 2014).
- Manitoba Hydro pays a Provincial Debt Guarantee fee equal to 1.0% of outstanding applicable debt annually. This fee recognizes the benefit that Manitoba Hydro and its ratepayers gain by having access to debt guaranteed by the Province (\$99 million in fiscal 2014).
- Manitoba Hydro pays capital taxes equal to 0.5% of paid-up capital (debt and equity). (Capital taxes represent the majority of \$117 million in capital, property and other taxes in fiscal 2014.)

In practice, there would be disadvantages for the Province in reducing these payments, perhaps through reductions in applicable tax, fees or water rental rates, in times of fiscal stress. In times of drought, water rentals will already have been reduced as a result of reduced water flows. Additional reductions in revenues through fee changes would further impair the Province's fiscal position, and thus its reported deficit or surplus. Funds from these fees help support other Provincial programs and objectives. In the event that payments were reduced, the government may then itself have to borrow additional funds, thus simply transferring any funding shortfall to its own debt position.

2.3.3 Defining a government business enterprise

Another important consideration in defining self-sustaining status is Section 1300 guidance by the Public Sector Accounting Board (PSAB) on what defines a Government Business Entity ("GBE").

PSAB Section 1300⁵ guidance is as follows:

1300.28 A government business enterprise is an organization that has all of the following characteristics:

- a) it is a separate legal entity with the power to contract in its own name and that can sue and be sued;*
- (b) it has been delegated the financial and operational authority to carry on a business;*
- (c) it sells goods and services to individuals and organizations outside of the government reporting entity as its principal activity; and*
- (d) it can, in the normal course of its operations, maintain its operations and meet its liabilities from revenues received from sources outside of the government reporting entity.*

1300.29 Selling goods and services involves a direct exchange relationship between the revenues and the goods and services provided. Selling prices are related to the quantity and quality of goods or services sold, and not just to the recovery of administrative costs. Imposed fees and penalties, such as licenses and fines, do not represent sales of goods and services. Insurance premiums charged by a government organization are a sale of a service and not an imposed fee.

1300.30 A government business enterprise should, in the normal course of its operations, be able to maintain its operations and meet its liabilities from revenues received from sources outside of the government reporting entity. These revenues include not only amounts from the sale of goods and

⁵ Public Sector Accounting Board Section 1300.

services, but also transfers received from other governments or sources outside of the government reporting entity.

1300.31 When determining if an organization can maintain its operations and meet its liabilities with revenues received from outside of the government reporting entity, the following factors should be considered:

- (a) the organization's history of maintaining its operations and meeting its liabilities;*
- (b) whether the organization would continue to maintain its operations and meet its liabilities without relying on sales to, or subsidies in cash or kind from, the government reporting entity;*
- (c) past, present and future economic conditions within which the organization operates; and*
- (d) whether the organization has realistic and specific plans that show how it expects to be able to maintain its operations and meet its liabilities in the future.*

Consistent with other provinces, the Province of Manitoba in its budgets defines a Government Business Enterprise: it is a Crown organization delegated with the financial and operating authority to carry on a business. It sells goods or services to individuals and organizations outside the GRE [Government Reporting Entity] and can maintain its business on those revenues.⁶

The importance of this definition is that financial information for a GBE is consolidated only on a modified equity basis in a provincial government's consolidated Summary Financial Statements. Under the modified equity method, the original investment of the government in a GBE is initially recorded at cost. It is then adjusted annually to include the net income or losses and other net equity changes of the enterprise. The entity does not need to adjust its accounting policies to a basis consistent with that of the Government Reporting Entity. GBE debt is considered self-supporting and is not consolidated in Summary Financial Statements. Any change in GBE status could have major impacts on the provincial government's reported debt and fiscal position if the entity's debt were to be consolidated into the government's debt position.

PSAB discusses the notion of Government Business Enterprises as self-supporting:

*"Government business enterprises (GBEs) are different from other government organizations because their objectives and operations are more akin to a business. Business GAAP, as set out in the *CICA Handbook – Accounting*, is the best way of measuring a GBE's results of operations. GBEs sell goods or services to individuals and organizations outside of government. In the normal course of business, a GBE is able to maintain its operations and meet its liabilities with revenue from outside the government reporting entity. In other words, GBEs are "self-supporting" or "financially self-sustaining."⁷*

Furthermore, PSAB notes that accounting for a GBE using the modified equity method shows the unique relationship with government, but separates the GBE's self-supporting debt from the government's tax-supported debt.

"Because GBEs are self-supporting, they have a different relationship with the government than other departments and agencies. Government financial statements report a GBE as an investment because the government expects the enterprise to repay its debts and perhaps even to generate surpluses that may be available for the government to use. The investment in a GBE is reported as a financial asset because at a minimum, the GBE is expected to be financially self-sufficient and may

⁶ Province of Manitoba 2014 Budget.

⁷ Public Sector Accounting Board, The Canadian Institute of Chartered Accountants, *20 Questions About the Government Reporting Entity* (p. 25)

even provide resources that will finance future operations. Accounting for a GBE by the modified equity method avoids co-mingling the GBE's results with those of the government. By reporting net assets as a single-line investment in a GBE and by showing net income as a separate item on the statement of results, the accounting reflects the unique accountability relationship between a government and a GBE. Recording the net assets of a GBE as an investment shows the impact of the organization on the government's ability to repay its own debts or finance future government operations."⁸

2.4 Summary Observations

Both Manitoba Hydro's statutory framework and the presentation of its results for accounting purposes are consistent with its operation as a self-supporting entity. The statutory framework provides that Manitoba Hydro should recover its full costs over time from ratepayers and that it should operate on a stand-alone basis. The shareholder does not require Manitoba Hydro to pay dividends but nor does the shareholder expect to make direct equity injections. Overall, Manitoba Hydro is therefore expected to operate on a "closed-loop", user-pay basis.

For the corporation's financial targets, this has the following implications:

- Continuation of the corporation's status as a self-supporting entity is essential.
- Because the shareholder does not expect to earn a return as equity owner nor does it expect to provide new equity capital, financial targets need to recognize the dominant role that retained earnings play in building up the financial reserves of the corporation. Further, targets that are designed for investor-owned, or private-sector utilities are not directly applicable to Manitoba Hydro and its unique financial objectives, which focus on recovering costs from consumers over time.

⁸ Public Sector Accounting Board, The Canadian Institute of Chartered Accountants, *20 Questions About the Government Reporting Entity* (p. 25)

3 Manitoba Hydro's Financial Targets

This chapter summarizes Manitoba Hydro's current financial targets, historical trends in key metrics, and its financial outlook under current plans, which involve major capital expenditures.

3.1 Structure of the Chapter

This Chapter is organized into the following sections:

- Section 3.2 reviews Manitoba Hydro's current financial targets.
- Section 3.3 summarizes data on the evolution of Manitoba Hydro's financial position over time.
- Section 3.4 reviews Manitoba Hydro's projected financial position in the future, as forecast under IFF14.
- Section 3.5 identifies key risks to Manitoba Hydro's performance.

3.2 Manitoba Hydro's Financial Targets

Manitoba Hydro has established three financial targets:

1. A debt/equity ratio of 75/25;
2. A minimum gross interest coverage ratio of 1.20; and
3. A minimum capital coverage ratio of 1.20, to facilitate funding of base or sustaining capital expenditure requirements out of current cash flow from operations, excluding major new generation and transmission facilities.

The three financial targets were established by Manitoba Hydro's Board in 1995. In connection with these targets, Manitoba Hydro commissioned two reports in 1995: Deloitte & Touche undertook a review of trends in the electric utility industry and RBC Dominion Securities provided a capital markets perspective on appropriate financial targets for Manitoba Hydro. The financial targets have been internally reviewed and periodically modified since 1995. These modifications have generally entailed modest adjustments in the minimum interest coverage ratio and the minimum capital coverage ratio. The debt/equity ratio target has remained at 75/25 since 1995, although the long-term timeline target to reach the target was pushed back from 2005/06 to 2011/12 following the drought in the early 2000s.

Manitoba Hydro has established the financial targets as long-term targets, recognizing that the targets will not be maintained during years of major investments in the generation and transmission.

3.2.1 Debt/Equity Ratio

The debt/equity ratio measures the relationship of long-term and short-term debt to equity. Effectively, Manitoba Hydro's calculation of its debt/equity ratio compares net debt to total capital (calculated as net debt plus equity). This ratio identifies the capital structure of the corporation and assesses the overall financial risk to Manitoba Hydro.

The ratio is calculated as follows:

Debt/Equity Ratio =

$$\frac{(A-B+C-D)}{(E+F+G+H+A-B+C-D)}$$

Where:

- A = Long-Term Debt
- B = Sinking Fund Investment
- C = Short-Term Debt
- D = Short-Term Investments
- E = Retained Earnings
- F = Unamortized Customer Contributions
- G = Accumulated Other Comprehensive Income
- H = Non-Controlling Interest

The capital structure as measured through the debt/equity (or debt to capital) ratio is universally accepted by the capital markets and financial and investment industry as one of the primary measures of financial strength.

Manitoba Hydro's objective is to maintain the appropriate balance between debt and equity. An adequate level of retained earnings is required to withstand the financial impacts of risks faced by Manitoba Hydro, including but not limited to drought and water flow, and is an important consideration in credit ratings and financing costs.

3.2.2 Interest Coverage Ratio

The Interest Coverage Ratio assesses the degree to which Manitoba Hydro can meet its interest ratio obligations with the net income generated annually.

Manitoba Hydro's Interest Coverage Ratio is calculated as:

$$\frac{(A+B+C)}{(B+C)}$$

Where:

- A = Net Income
- B = Finance Expense (interest on debt less capitalized interest and other adjustments)
- C = Capitalized Interest

3.2.3 Capital Coverage Ratio

The Capital Coverage Ratio measures Manitoba Hydro's ability to fund its base capital expenditure (e.g., ongoing maintenance and replacement capital expenditure ("capex")) from its current cash flow from operations.

The Capital Coverage Ratio is calculated as:

$$A/B$$

Where:

- A = Cash Flow from Operations
- B = Capital Expenditures (excluding Major New Generation and Transmission)

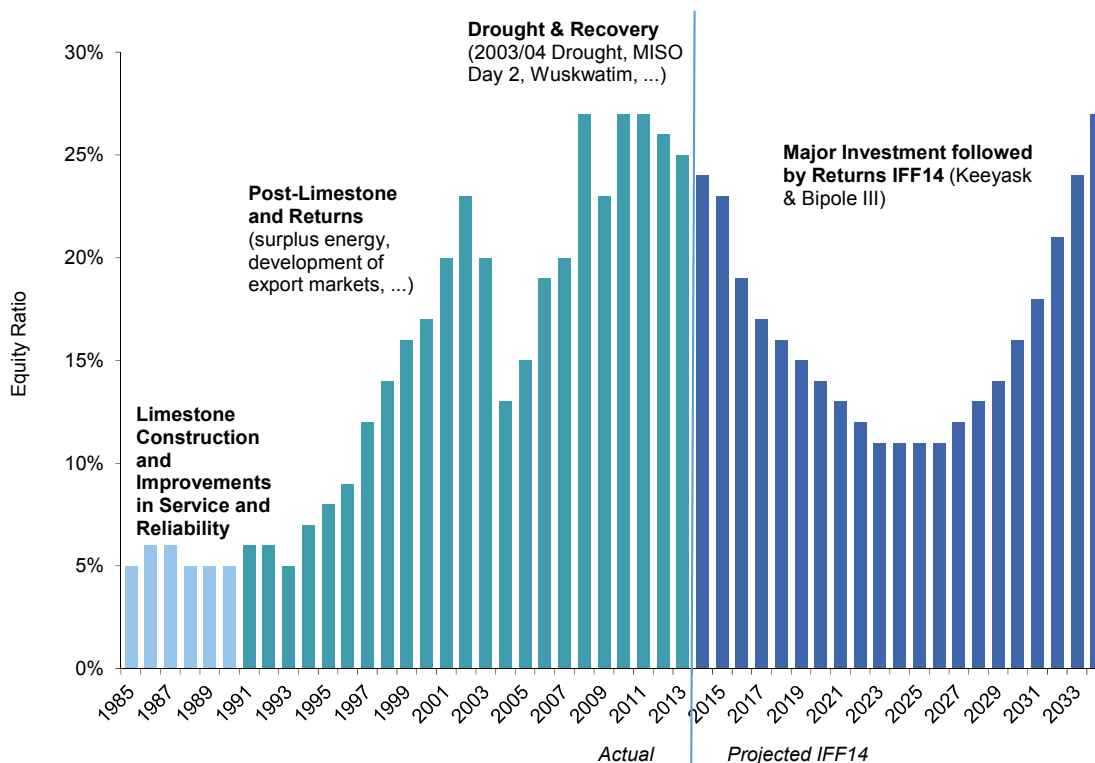
3.3 Historical Data and Trends

3.3.1 Equity ratio

The debt/equity ratio is often expressed simply as an equity ratio, thus focusing on the 25% equity component of capital and disregarding the proportion of debt (which remains at 75% by implication). Figure 3-1 below illustrates the long-term historical trends in Manitoba Hydro’s equity ratio in the period from construction of the Limestone Generating Station, which started in 1985, through to 2014. The figure also shows the projected equity ratio under IFF14 over the next 20 years.

- During periods of development of large hydroelectric projects, Manitoba Hydro has experienced very low equity ratios (of under 10%).
- In the period following the completion of Limestone and with the development of export markets, the equity ratio grew rapidly. This continued through the 1990s until the drought in 2003-2004. The equity ratio then dropped sharply, from 25% in 2001/02 to below 15% in 2003/04.
- Since 2004, Manitoba Hydro has experienced a significant increase and recovery in the equity ratio, reaching the 25% equity ratio target in 2008 and in most years since 2008 until 2013/14. Under the IFF14 plan, however, the equity ratio is projected to deteriorate over the next decade as major capital projects are constructed, recovering once new assets are in service. Recovery is based on the rate increases of 3.95% annually under IFF14.

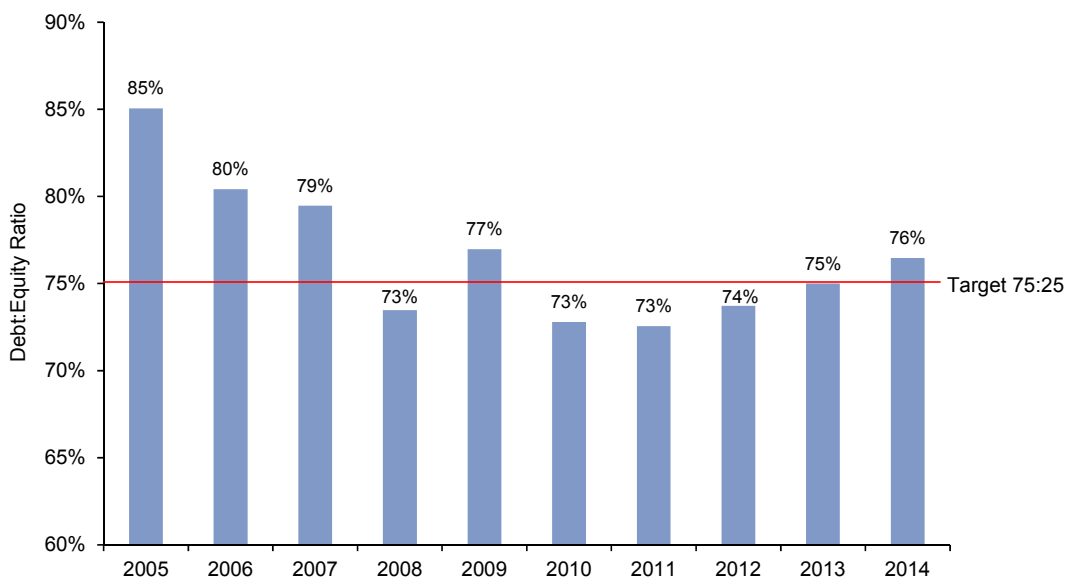
Figure 3-1: Manitoba Hydro's Equity Ratio from 1985 – 2034



Source: Manitoba Hydro

As indicated in Figure 3-2, over the past decade, after recovering from the 2003-2004 drought period, Manitoba Hydro's debt/equity ratio achieved the target in 2008 and has remained close to target through to 2013/14. The improvement in the debt/equity ratio since the 2003-2004 drought was assisted by above normal water conditions in the period following the drought.

Figure 3-2: Manitoba Hydro, Debt/Equity Ratio, 2004/05 to 2013/14



Source: Derived from annual report and financial statements for the years ended March 31.

The importance of capital structure is noted both in Manitoba Hydro's annual report and in an external review done on Manitoba Hydro's risk management practices in 2010.⁹ The Board noted:

"Manitoba Hydro manages its capital structure to ensure there is sufficient equity to absorb the financial effects of adverse circumstances and to ensure continued access to stable low-cost funding for capital projects and ongoing operational requirements. The Corporation monitors its capital structure on the basis of its equity ratio. Manitoba Hydro's long-term target is to achieve a minimum equity ratio of 25%. It is recognized that the equity ratio target may not be achieved during years of major investment in the generation and transmission systems."¹⁰

The external review noted:

"Capital intensive industries such as electric utilities typically use greater leverage and have relatively high debt to equity ratios compared to most industries. In particular, a regulated utility with significant tangible assets and stable, relatively predictable future earnings will tend to use more debt financing and can take on higher debt than most companies in other industries. The more debt it can take on in its capital structure, the lower the overall cost of capital as the cost of debt is lower than the cost of equity. For utilities, equity, through retained earnings, provides confidence to financial markets and aids in securing financing at attractive rates, and provides increased assurance of future rate stability and a cushion against risk."¹¹

⁹ KPMG, Manitoba Hydro – External Quality Review, April 15, 2010.

¹⁰ Manitoba Hydro 2014 Annual Report, p.97.

¹¹ KPMG, Manitoba Hydro – External Quality Review, April 2010, p.16-17.

3.3.2 PUB comments on capital structure

Manitoba Hydro's capital structure has been a long standing issue that has drawn much attention in hearings at the Public Utilities Board of Manitoba ("PUB").

In September 1995, Manitoba Hydro adopted a target to achieve and maintain a debt/equity ratio of 75/25 by no later than 2006. Manitoba Hydro had an equity ratio of 9% in 1996 but, in response to its target, managed to increase the equity ratio to 20% in 2001.

In Board Order 101/04¹², the PUB noted that the 2003-2004 drought made it more difficult for Manitoba Hydro to achieve its equity target. The losses associated with the drought pushed back the date of realizing a 25% equity ratio by several years.

Prior to the drought, Manitoba Hydro had built up retained earnings of \$1.3 billion. This equity provided a buffer for the financial impacts of the drought experienced in 2002/03 and 2003/04. Manitoba Hydro experienced a large loss in net income (\$436 million) in 2003/04. Retained earnings subsequently declined to \$734 million in fiscal 2004, a decrease of nearly 44% in just two years.

As a hydro-based system, drought periods have a significant adverse impact on power sales through reduced exports and, consequently, on net income. Conversely, high water flow periods contribute to additional surplus power and export sales and higher net income and retained earnings. Hence, drought is a major financial risk.

In 2004, the PUB provided the following comments on Manitoba's Hydro's debt/equity financial target:

"Achieving a debt:equity level of 75:25 would provide increased rate stability benefits, and hold down financial charges. The 75:25 benchmark represents a modest target, one comparable with the current debt:equity ratios of similar Crown hydroelectric utilities in other Canadian provinces (BC Hydro and Hydro-Quebec). In summary, meeting this target within a reasonable period of time would reduce long-term pressure on domestic electricity rates, better assure bondholders and thus constrain financial charges and provide a hedge against a future drought."¹³

Subsequent PUB Board Orders reiterated the PUB's concern about Manitoba Hydro's overall debt level and the need to achieve the debt/equity target of 75:25 as quickly as possible. In a 2009 order, the PUB Board called for faster progress towards the 75:25 debt/equity target:

"The Board notes the reported improvement in Manitoba Hydro's actual and forecast debt:equity ratio, and understands the improvement is largely attributable to two factors, the rate increases approved by the Board and recent favourable river flows bringing additional export revenues."¹⁴

The PUB has also commented on the importance of Manitoba Hydro's financial strength. For example, in 2008:

"It is the Board's [PUB] understanding that rating agencies look prominently at MH's financial strength in assessing the credit rating of the Province. A weakening of the financial strength of MH would not be viewed favourably by those credit agencies and may have implications impacting the credit rating of the Province, making provincial borrowing more expensive. Such a development would not be in the public interest."¹⁵

¹² PUB Board Order 101/04, July 28, 2004, p.15.

¹³ PUB, Board Order 101/04, July 28, 2004, p.31.

¹⁴ PUB Board Order 31/09, March 30, 2009, p.14.

¹⁵ PUB, Board Order 116/08, July 29, 2008, p.130.

In 2013, the PUB stated:

“Manitoba Hydro currently has achieved its debt-to-equity target of 75:25. However, the Board is concerned about the contemplated deterioration in the utility’s financial targets, particularly the fact that by 2021, the debt-to-equity ratio is projected to be 90:10. Any further escalations in the capital cost for Manitoba Hydro’s major new capital projects will cause the financial structure to deteriorate further.

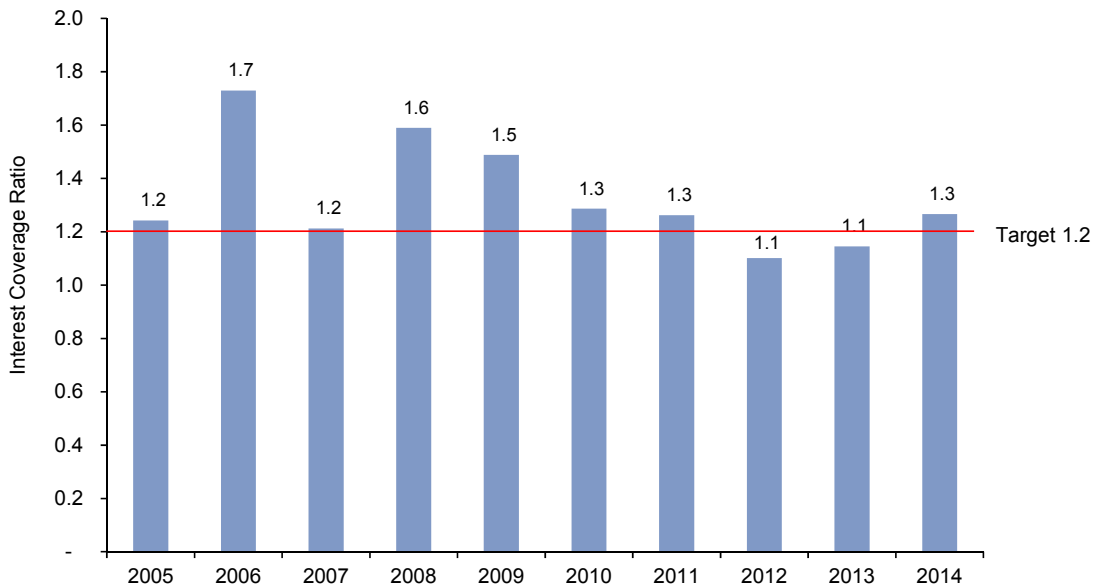
“The Board is concerned that, by moving towards a 90:10 debt-to-equity ratio by the end of the decade, there will be an insufficient retained earnings reserve to deal with droughts and other risks such as infrastructure failure or rising interest rates.

“The Board notes that Manitoba Hydro shares the benefit of the flow-through credit rating of the Province, which affords it preferential interest rates on its debt and access to funds to meet its major capital spending program. However, as its debt grows, there is a potential for Manitoba Hydro’s financial condition to affect the credit rating of the Province. It is important that Manitoba Hydro remains a financially strong and viable organization.”¹⁶

3.3.3 Interest coverage ratio

Figure 3-3 shows interest coverage ratios at Manitoba Hydro over the last decade. Manitoba Hydro has met its internal minimum interest coverage targets of greater than 1.2 in most years (except 2012 and 2013).

Figure 3-3: Manitoba Hydro, Interest Coverage Ratio, 2004/05 to 2013/14



Source: Derived from annual report and financial statements for the years ended March 31.

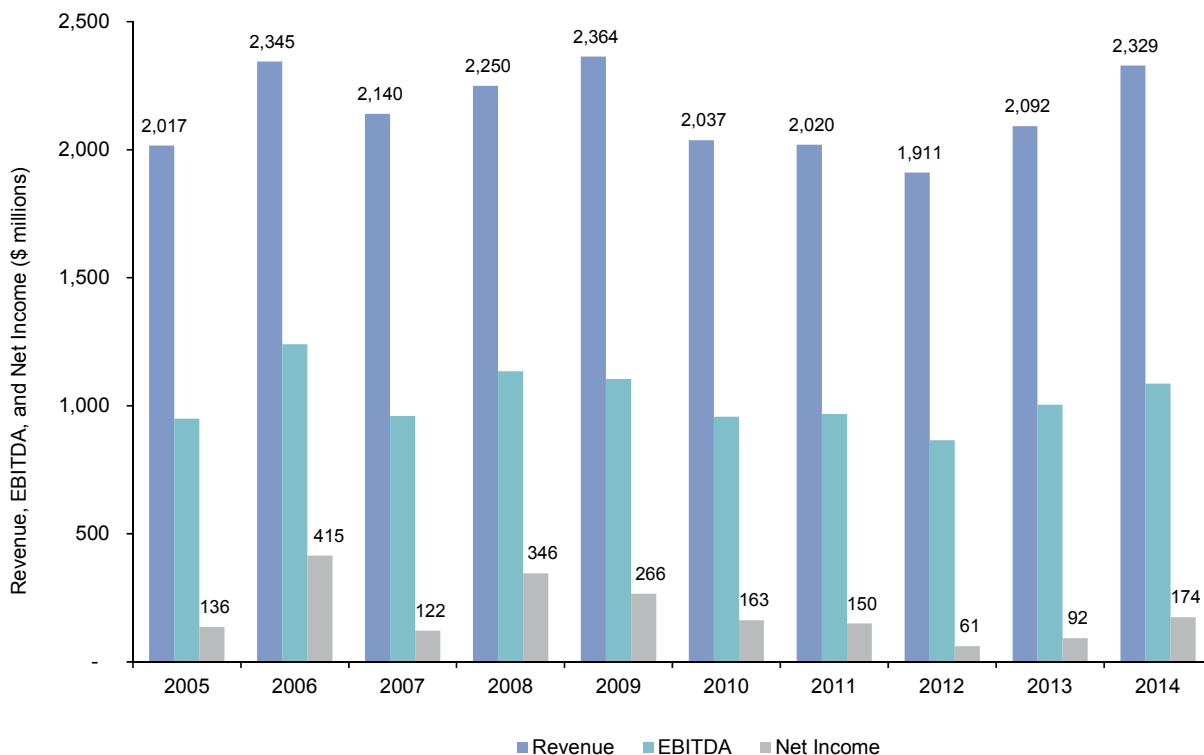
¹⁶ PUB Board Order 43/13, pg.23.

3.3.4 Other financial indicators

Figure 3-4 shows trends in Manitoba Hydro’s total revenues, in EBITDA (earnings before interest, taxes, depreciation and amortization), and in net income over the past ten years.

- Within total revenues, domestic electric sales within Manitoba have steadily increased throughout most of the past ten years to \$1.4 billion in 2013/14.
- Extra-provincial electric sales have been significantly lower since 2010 and have averaged near \$400 million annually from 2010 to 2014, compared to an annual average of \$640 million from 2005 to 2009. A deterioration in pricing levels in adjacent US markets was the major reason for this decline.
- EBITDA has averaged over \$1 billion annually over the past 10 years, and has fluctuated with net income.
- Manitoba Hydro’s net income averaged over \$190 million annually from 2005 to 2014, but net income has averaged \$128 million in the past five years.

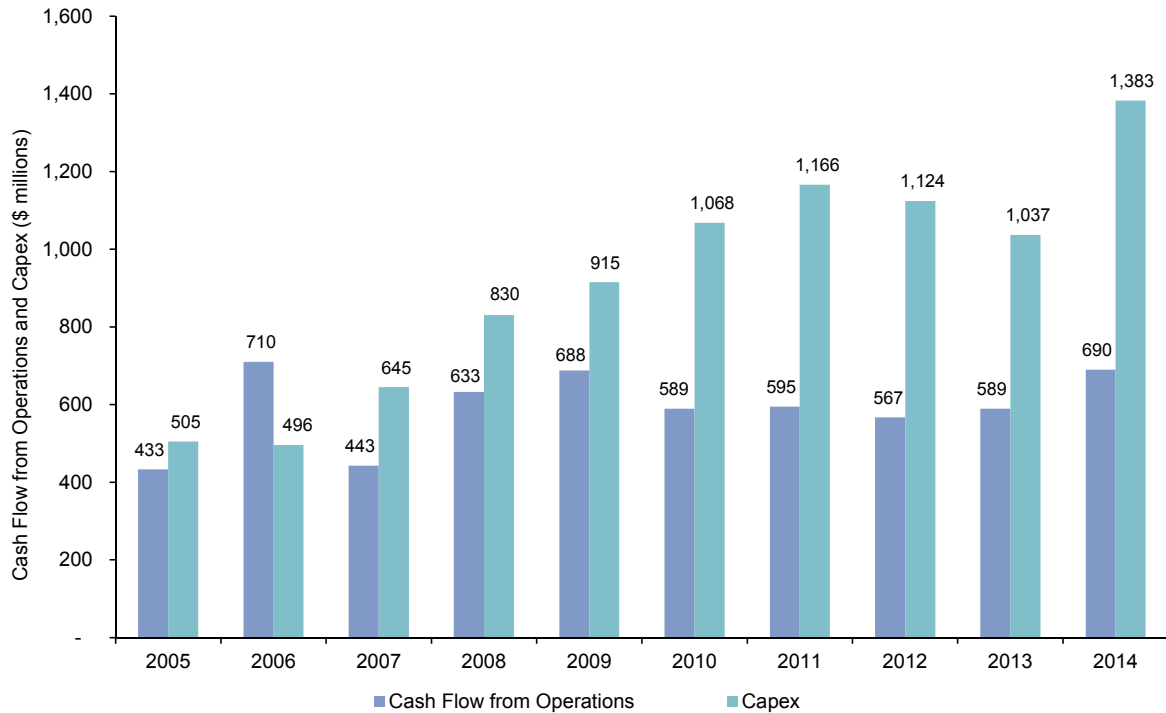
Figure 3-4: Manitoba Hydro Trends of Revenues, EBITDA and Net Income, 2004/05 to 2013/14



Source: Derived from annual report and financial statements for the years ended March 31.

Figure 3-5 shows trends in cash flow from operations and capital expenditures over the past 10 years. Manitoba Hydro’s cash flow from operations has grown to \$690 million in 2013/14 and has averaged close to \$600 million from 2005 to 2014. Total capital expenditures have ramped up more rapidly since 2008, with the increase primarily related to the construction of the Wuskwatim generating station. This has resulted in an increasing gap between the two metrics, which is reflected in an increase in Manitoba Hydro’s borrowing needs.

Figure 3-5: Manitoba Hydro, Cash Flow from Operations and Capex, 2004/05 to 2013/14

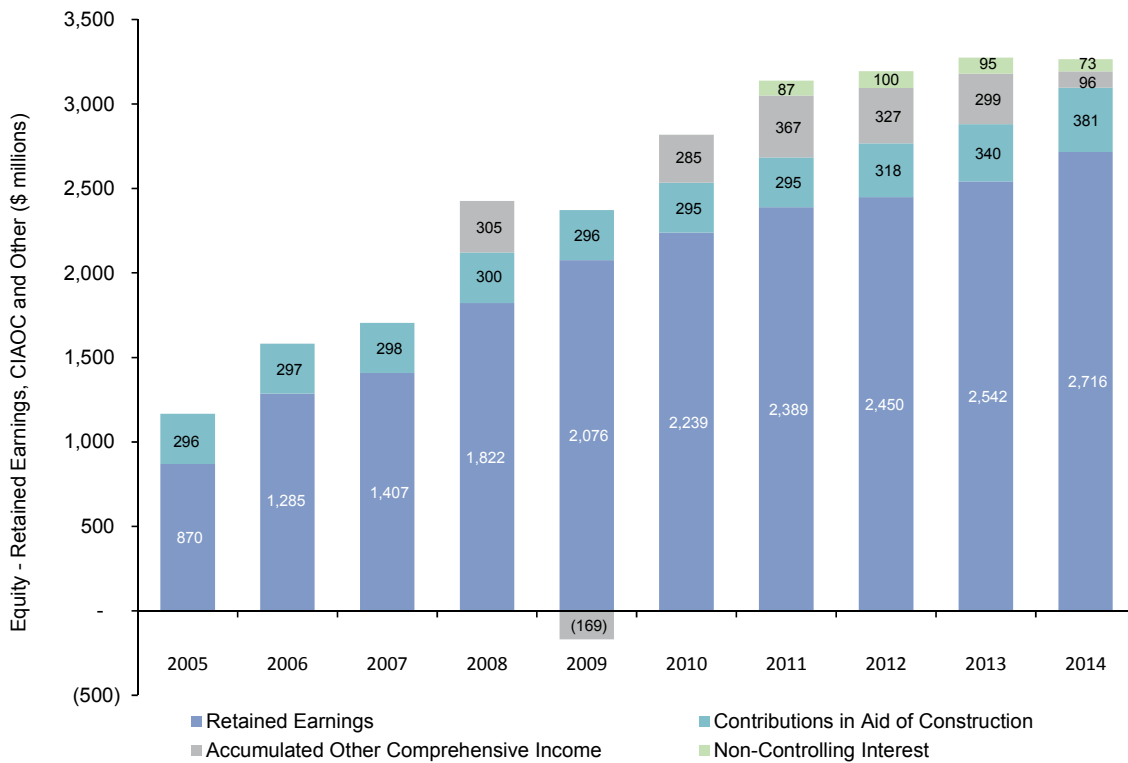


Source: Derived from annual report and financial statements for the years ended March 31.

Manitoba Hydro’s retained earnings were significantly reduced during the 2002–2004 drought period. However, as shown in Figure 3-6, retained earnings then steadily increased over the ten year period to 2014, reaching a level of \$2.7 billion in 2014. Total equity has grown to over \$3.2 billion including contributions in aid of construction (“CIAOC”), accumulated other comprehensive income (“AOCI”), and non-controlling interest.

Manitoba Hydro’s capital structure is put under considerable stress during times of major capital expenditures or a drought, due to reliance on retained earnings as its dominant source of equity.

Figure 3-6: Manitoba Hydro, Equity - Retained Earnings, Contributions in Aid of Construction, AOCI and Other, 2004/05 to 2013/14

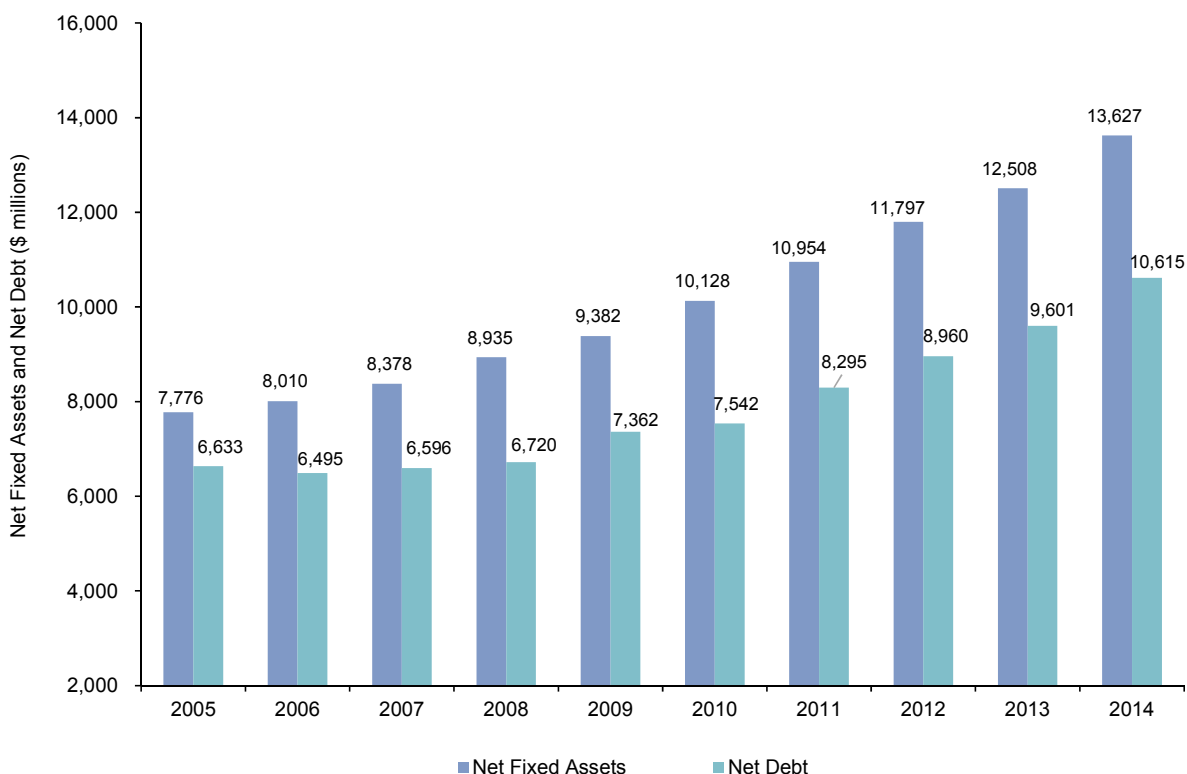


Source: Derived from annual report and financial statements for the years ended March 31.

Figure 3-7 indicates the level of Manitoba Hydro’s net fixed assets and net debt over the past ten years.

- Manitoba Hydro’s net fixed assets (net plant in service and construction in progress) have increased by approximately 75% since 2005 to over \$13.6 billion in 2014.
- Manitoba Hydro’s total assets were \$15.6 billion in 2014 and are projected to nearly double over the next decade to over \$28 billion in 2024 under IFF14, with net fixed assets expected to nearly double to over \$25 billion in 2024.
- Net debt was relatively steady in the early and mid-2000s, but ramped up from 2009 to 2014 with the construction of the Wuskwatim project completed in 2012/13, and early stages of the Bipole III and Keeyask projects. Net debt increased from \$6.7 billion in 2008 to over \$10.6 billion in 2014, an average growth rate of nearly 10% annually. With major capital additions under construction, long-term debt is projected to double from 2015 to a level of over \$23 billion in 2024.

Figure 3-7: Manitoba Hydro, Net Fixed Assets and Net Debt, 2004/05 to 2013/14



Source: Derived from annual report and financial statements for the years ended March 31. Net fixed assets include net plant in service and construction in progress.

3.4 Financial Metrics Forecast Over the Next 20 Years Under IFF14

Figure 3-8A illustrates forecast financial metrics over the next 20 years based on consolidated Manitoba Hydro projections under IFF14. Figure 3-8B provides the data table, and for illustrative purposes, shades the years where projections are above the target and within 10% of the target.

Figure 3-8A: Manitoba Hydro Financial Targets Based on Forecasts under IFF14

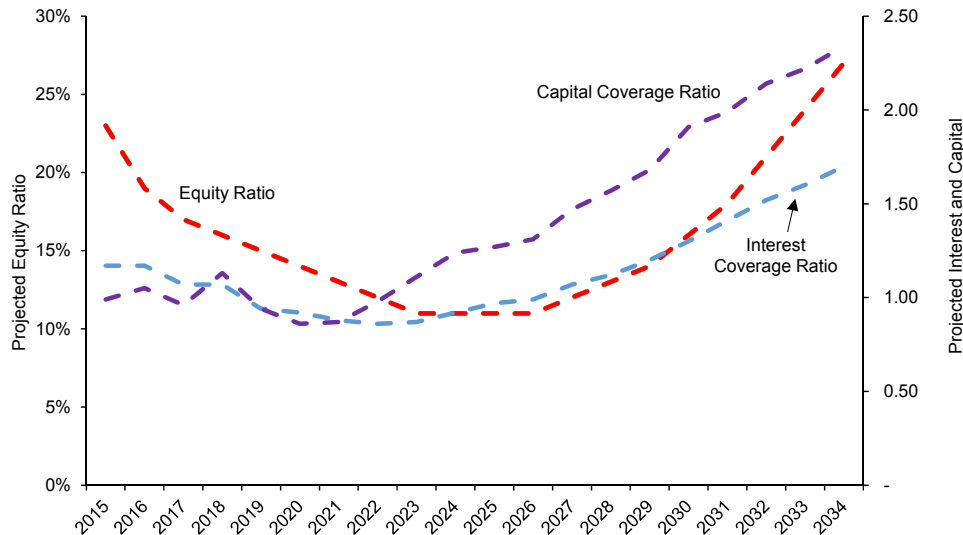
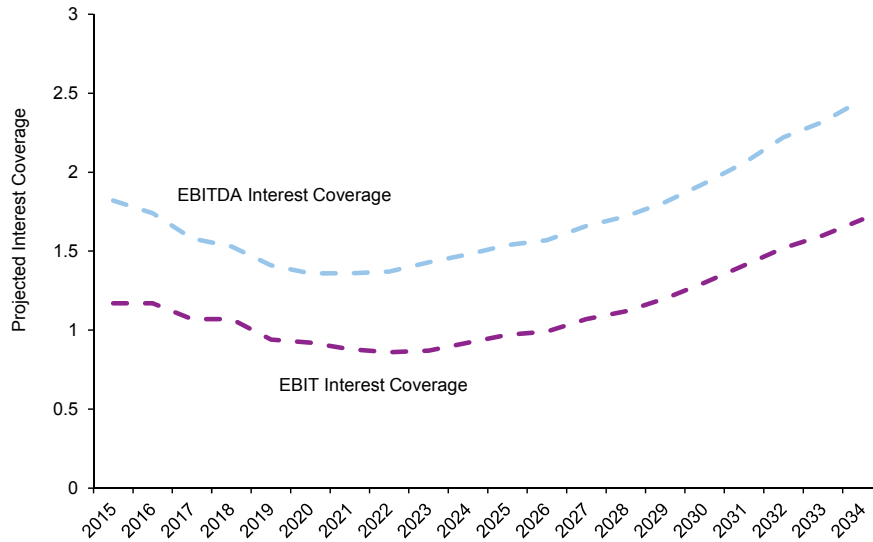


Figure 3-8B: Manitoba Hydro Financial Targets Data from Forecasts under IFF14

Projections from IFF14 (■ reflects within 10% of target)			
Year	Equity Ratio %	Interest Coverage	Capital Coverage
2015	23	1.17	0.99
2016	19	1.17	1.05
2017	17	1.07	0.96
2018	16	1.07	1.13
2019	15	0.94	0.94
2020	14	0.92	0.86
2021	13	0.88	0.87
2022	12	0.86	0.98
2023	11	0.87	1.11
2024	11	0.92	1.24
2025	11	0.97	1.27
2026	11	0.99	1.31
2027	12	1.07	1.47
2028	13	1.12	1.57
2029	14	1.20	1.68
2030	16	1.30	1.91
2031	18	1.41	1.99
2032	21	1.52	2.14
2033	24	1.60	2.22
2034	27	1.70	2.34

Source: from Projected Consolidated Financial Statements in Manitoba Hydro Integrated Financial Forecast (IFF14) 2014/15 - 2033/34, December 2014

Figure 3-9: Comparison of EBITDA and EBIT Interest Coverage Ratios under IFF14 for Manitoba



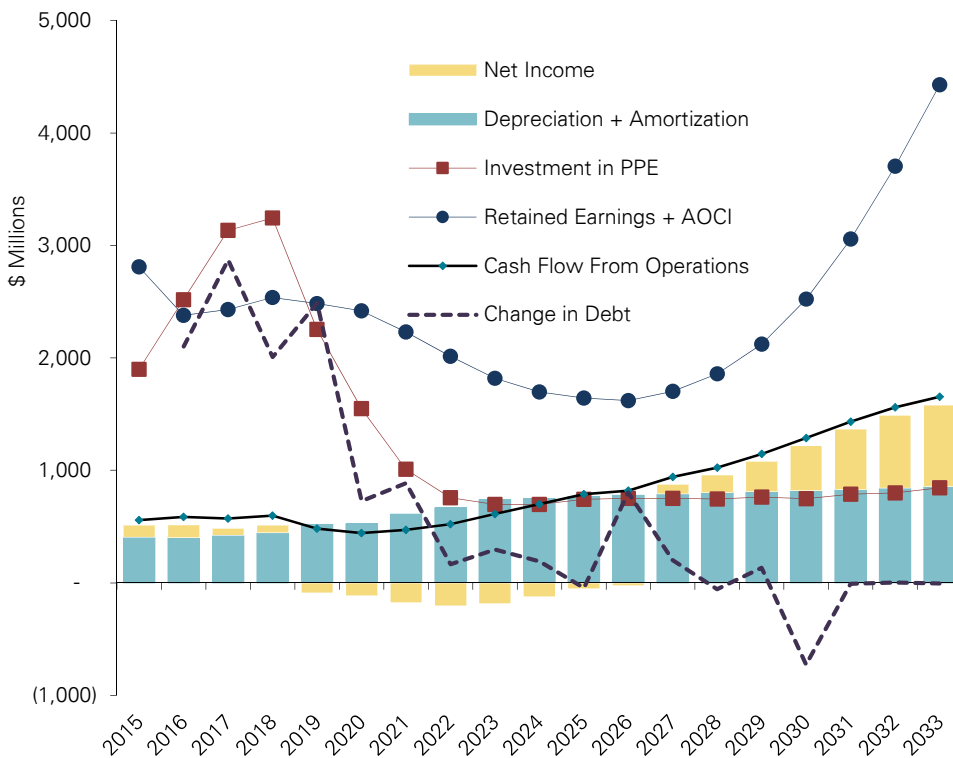
Source: IFF Projected Consolidated Financial Statements

Figure 3-9 provides a comparison of EBIT interest coverage and EBITDA interest coverage ratios under IFF14. As shown, these two ratios move in parallel, with the EBITDA interest coverage ratio, on average, approximately 50% higher than the EBIT interest coverage ratio. The EBITDA ratio provides an indication of cash flow interest coverage, since it adds back the non-cash expenses of depreciation and amortization to EBIT.

Although not shown on this graph, EBITDA grows steadily over the period. This is driven, in large measure, by increases in revenues as a result of the cumulative impact of successive 3.95% annual rate increases. The EBITDA interest coverage initially declines because of increases in interest expense. The EBITDA coverage ratio then grows steadily from its minimum level of 1.36 in 2021.

Figure 3-10 shows the forecast evolution of Manitoba Hydro’s financial position over the next 20 years, based on projections in IFF14. All figures are shown in nominal dollars.

Figure 3-10: Forecast Evolution of Manitoba Hydro's Financial Position – IFF14



A review of Figure 3-10 indicates the following:

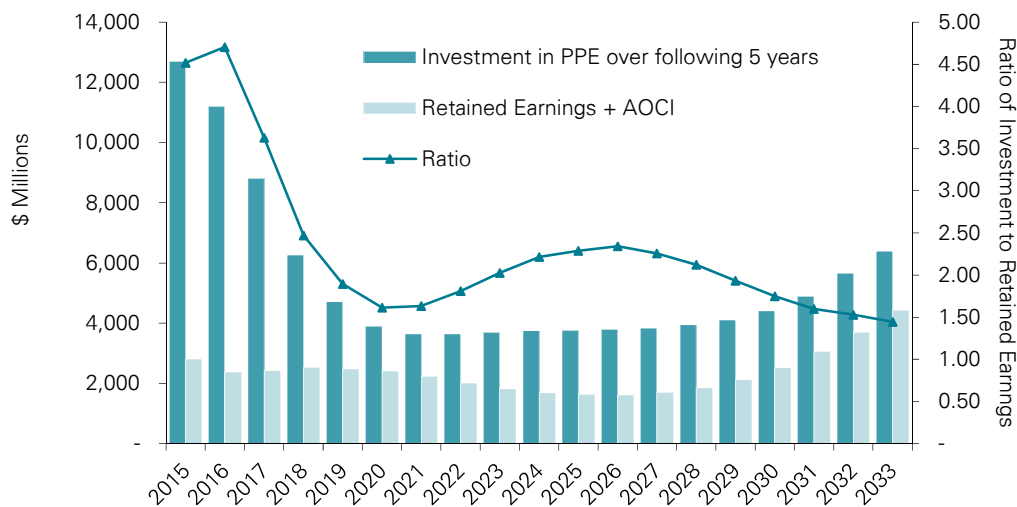
- Projected capital expenditures in property plant and equipment (“PPE”) increase significantly over the next four years, reaching a peak of \$3.2 billion in Fiscal 2018. They fall back again to about \$800 million by Fiscal 2022 and then remain flat through to the end of the projection period. Growth in capital expenditures in the near term reflects work associated with the construction of Keeyask and Bipole III.
- Depreciation and amortization expense is just over \$400 million in 2015, but increases gradually to \$820 million by 2033. This non-cash expense provides a significant source of funding for new capital expenditures over the period.
- Net Income averages less than \$100 million over the next four years, before turning negative in 2019 through to 2026.
- Cash Flow from Operations is roughly equal to the sum of net income and of expenses for depreciation and amortization over the period.
- Given the limited cash flow available from net income and from depreciation and amortization, capital expenditures in the near term must largely be funded by debt. Thus, the annual change in debt during the years 2016 through 2021 is closely related to capital expenditures.
- Beyond 2026, net income grows strongly. At the same time, projected capital expenditures are roughly equal to the cash flow available from depreciation and amortization expense. Because net income is retained rather than distributed as dividends, there is strong growth in retained earnings in this period. Strong cash flow avoids the need to add new debt and thus the annual change in debt falls to near zero or is negative.

The following observations and conclusions are in order:

- Retained earnings are currently the only source of new equity for Manitoba Hydro, given that the Province has not made a practice of investing new equity into its operations.
- Because annual earnings are relatively modest in comparison to projected capital expenditures in the near term, the result is a decline in the equity ratio. To maintain a stable equity ratio would require very large increases in rates to generate the income necessary to allow retained earnings to grow in proportion to the increase in debt.
- If rates are increased more than is forecast under IFF14 to improve the equity position during the upcoming period of construction, this will result in further increases in net income, and therefore additional potential reductions in debt, during the period post-2026.

Figure 3-11 provides an additional approach to examining Manitoba Hydro’s financial position. This graph shows retained earnings (including AOCI) in each year as well as projected investments in PPE over the following 5 years.¹⁷ The line shows the ratio between the two values. Higher ratios are indicative of higher capital cost risks, relative to the corporation’s existing equity position, than lower ratios. Measured through this metric, capital cost risks peak on a relative basis in 2016. The ratio falls rapidly over the period to 2020, as investments in Keeyask and Bipole III are completed. The ratio rises again (to about 2.5) in the period to 2025. The rise in the ratio primarily reflects the fact that retained earnings are reduced over this period, reflecting annual net losses. Thus, although forward-looking capital expenditures remain roughly constant, they are divided by a smaller base of retained earnings. This increases the calculated ratio.

Figure 3-11: Ratio of Projected Capital Investment to Retained Earnings



¹⁷ AOCI stands for Accumulated Other Comprehensive Income. It is a line item of the corporation’s equity position.

Our observations with respect to Figure 3-11 are as follows:

- Relative to its equity base, Manitoba Hydro’s risk with respect to capital costs is higher in the next two or three years than it will be for some time thereafter. There is a large cash outflow in the near term without corresponding cash inflows until Keeyask is in-service.
- The decline in Manitoba Hydro’s relative capital cost risk going forward is contingent on there being no new large capital projects after Keeyask. The introduction of Conawapa into the planned development sequence would result in a significant increase in capital cost risks in the future.
- Manitoba Hydro’s nominal equity position, as measured through retained earnings plus AOCI, does not grow beyond its current level until 2031. This indicates a substantial length of time during which Manitoba Hydro’s nominal financial capacity will remain below current levels. Given the decline in real purchasing power over time with inflation, this suggests that Manitoba Hydro’s real financial capacity will fall.
- As noted earlier in this Chapter, the projected equity position of the corporation is contingent on successive annual rate increases of 3.95%. Rate increases below this level would have a detrimental impact on relative capital cost risks.

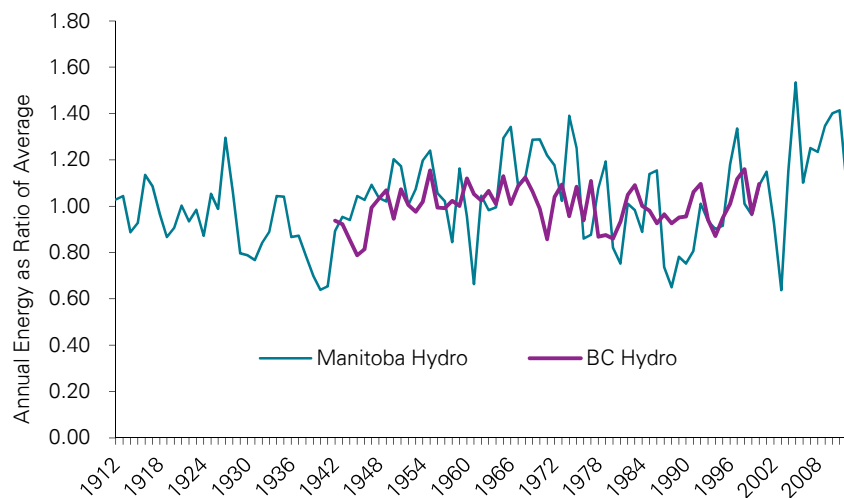
3.5 Key Risks at a High Level

3.5.1 Water Flows and Production Volatility

A distinguishing feature of Manitoba Hydro’s system is that it is subject to relatively wide fluctuations in available energy due to variation in annual water flows. This is also referred to as hydrology risk. Figure 3-12 illustrates the annual variation in available inflow energy over the period 1912 to 2013. Energy available from water flows in any year is compared to average annual energy available over the sample period for the Manitoba Hydro system. Showing energy as a ratio of average energy is a way of normalizing the data to facilitate comparison with other systems of different size. For any year, available energy is estimated by assuming that the current MH system in place was in place for the entire period. This removes distortions associated with the growth in the MH system over time.

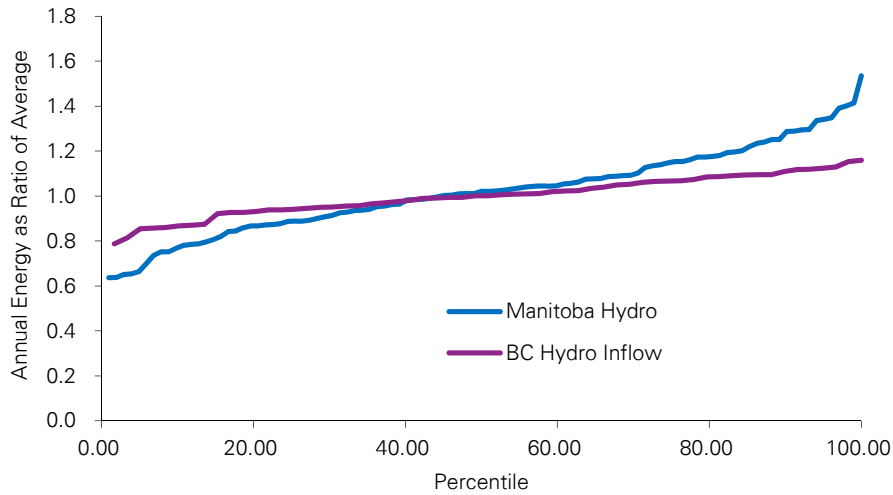
Data from BC Hydro are also shown, although for a shorter period (1942 to 2000). As shown, the MH system has a much wider fluctuation in available energy on a relative, or normalized, basis.

Figure 3-12: Comparison of Production Volatility



An alternative approach to showing the same data is to present data points for individual years in order of highest to lowest. This is done in Figure 3-13 below. As shown, the lowest flow year for the Manitoba Hydro system has just under 64% of the energy of an average year. In comparison, the lowest flow year for the BC Hydro system has about 79% of the average energy observed. These data show that the Manitoba system has higher flow volatility and, hence, higher inherent production risk. An additional consideration is that water flows in Manitoba exhibit greater serial correlation than those of other systems, resulting in greater potential for multi-year droughts. This heightens concerns over production risk.

Figure 3-13: Annual Production Levels from Lowest to Highest



Flow volatility is an important consideration in setting utility financial targets, since targets must be set so as to accommodate potential deviations from expected flows.

3.5.2 Other Key Risks

In addition to hydrology risk, Manitoba faces a number of other key risks. These are as follows:

- Infrastructure;
- Export markets;
- Interest rates;
- Construction cost and schedules.

These are discussed further below.

Infrastructure

Much of Manitoba Hydro’s generating capacity is located in the northern part of the Province and is distant from major load centres and from inter-ties with neighbouring jurisdictions. As a result, Manitoba Hydro is very dependent on its long-distance transmission lines and supporting infrastructure. Service on these lines is at risk from catastrophic disruption, including as a result of weather events, equipment malfunction, or sabotage. Failure of one or more transmission lines could result in disruptions to service and in revenue losses. Failures may also require large expenditures for repair and rehabilitation.

Export Markets

As noted elsewhere, the nature of Manitoba Hydro's system is that, in most years, it has large amounts of excess (or "opportunity") energy that is available for export. The availability of excess supply reflects the fact that Manitoba Hydro builds out its system so that the amount of dependable energy available is sufficient to serve domestic and firm export commitments in low water flow years. Dependable energy is the sum of hydro-electric energy available under the lowest river flow conditions in the historical record, plus energy available from wind and thermal sources and from firm and contracted non-firm imports. The opportunity energy available in higher flow years is not viewed as dependable and hence not sold on a long-term basis.

Manitoba Hydro's extra-provincial and export revenues are very dependent on price levels in adjacent electricity markets, particularly that operated by the Midcontinent Independent System Operator ("MISO"). Further, because opportunity energy is, by definition, not available to support firm long-term contracts, this energy must generally be sold on a short-term basis. This heightens exposure to external price volatility.

Interest Rates

As a utility with a significant level of debt in its capital structure, Manitoba Hydro is very dependent on the level of interest rates, which influence its interest expense. This risk will grow as the utility completes the capital expansion program noted below. As a result of this program, both the quantity of debt and its share in Manitoba Hydro's capital structure will grow significantly.

Construction

Manitoba Hydro is embarking on a major capital expansion program, with the building of both Keeyask and Bipole III in the next few years. These major projects heighten Manitoba Hydro's exposure to the risks of construction cost over-runs and delays. While these construction risks moderate after the completion of these projects, Manitoba Hydro will also continue to face uncertainty with respect to the value of rehabilitation and renewal expenditures that will be required on its existing generation, transmission and distribution infrastructure. If additional expenditures are required relative to current forecasts, demands on the utility's cash flows will increase.

3.6 Summary Observations

Key observations from the analysis in this chapter are as follows:

- Manitoba Hydro has significantly increased its financial strength over the past two decades, consistent with the long-term objectives laid out when the current financial targets were first established back in 1995.
- Manitoba Hydro's financial position will be significantly challenged by the upcoming period of large capital expenditures.
- Manitoba Hydro faces a number of business and market risks that suggest that financial targets should provide additional equity cushion than if these risks were not present.

4 Overview of Developments and Issues Raised by Regulatory Bodies and Other Stakeholders in Canada

This chapter reviews developments with respect to the financial targets of Manitoba Hydro and of other Crown utilities in Canada. This includes discussions of issues raised by regulators, government shareholders, and other stakeholders in connection with utilities' financial targets.

4.1 Structure of the Chapter

This Chapter is organized into the following sections:

- Section 4.2 reviews statements by the Public Utilities Board of Manitoba on Manitoba Hydro's financial targets.
- As a prelude to our review of specific Crown utilities, Section 4.3 provides an overview of some conceptual issues that need to be taken into account when comparing the financial targets of Manitoba Hydro with those of other Crown utilities. These issues are also important when examining statements or decisions by other regulators with respect to financial targets.
- Section 4.4 reviews developments at BC Hydro.
- Section 4.5 reviews developments at Hydro Quebec,
- Section 4.6 reviews developments at Nalcor.
- Section 4.7 reviews developments at NB Power.
- Section 4.8 reviews conceptual issues with respect to the use of private-sector benchmarks for Crown-owned utilities.
- Section 4.9 provides our overall summary observations with respect to the analysis in this Chapter

4.2 Public Utilities Board of Manitoba

4.2.1 Mandate

Section 26(1) of *The Crown Corporations Public Review and Accountability Act* provides that rates for services provided by Manitoba Hydro shall be reviewed by The Public Utilities Board ("PUB") under *The Public Utilities Board Act*. Thus, Manitoba Hydro shall make no change in rates for services nor shall it introduce any new rates for services without the approval of The Public Utilities Board.

4.2.2 Rate setting methodology

The PUB has stated that Manitoba Hydro is regulated on a cost of service basis and that it recovers its costs from domestic consumers through PUB-approved rates.¹⁸ In practice, this means that rates are set to allow Manitoba Hydro to meet, over the longer term, a number of financial targets. As noted elsewhere in this report, Manitoba Hydro's financial targets provide for Manitoba Hydro to maintain:

- A debt/equity ratio of 75/25.
- A minimum interest coverage ratio of 1.20, and

¹⁸ NFAT Final Report, June 20, 2014, p. 162.

- A minimum capital coverage ratio of 1.20.

The PUB has referred to these targets as “self-imposed”.¹⁹

It should be noted that rates are not set to produce a target return on equity. Manitoba Hydro is not regulated on a cost of capital or return on equity basis. Further, Manitoba Hydro may, in practice, deviate from the financial targets noted above in any given period.

4.2.3 Cost of capital

Although it does not target a particular return on equity, Manitoba Hydro does incorporate a notional cost of equity into the discount rate that it uses for evaluating alternative development plans. Thus, the discount rate used in its resource planning process is intended to represent a Weighted Average Cost of Capital (“WACC”), where:

- The cost of debt is based on Manitoba Hydro’s actual cost of borrowing, including the debt guarantee fee.
- The cost of equity is estimated to be 3.00% plus the cost of debt.
- Debt and equity are weighted according to the 75/25 target shares for each.

The figure for WACC is not used directly in the rate setting process. In most years, the actual return on equity for Manitoba Hydro departs from the deemed cost of equity used in setting the discount rate for resource planning. In most recent years, the return on equity has been much lower than the return on equity used for resource planning.

4.2.4 Historical PUB statements on financial targets

In recent years, the PUB has expressed concern over the projected deterioration in Manitoba Hydro’s financial position during its upcoming period of investment. In its review of Manitoba Hydro’s preferred development plan, however, the PUB also suggested that financial targets might be relaxed to reduce rate impacts on consumers. Thus, PUB statements reflect the tension between the desire to minimize rate increases and the need to maintain Manitoba Hydro’s financial health.

Specific statements by the PUB are summarized in more detail in the sections below.

Review of Manitoba Hydro’s General Rate Application

In its Final Order with respect to Manitoba Hydro’s 2012/13 and 2013/14 General Rate Application, the PUB wrote:

“The Board is concerned with the projected future deterioration of Manitoba Hydro's financial targets, in particular the debt-to-equity ratio that will fall from a current level of 75:25 to 90:10 by 2021, even with projected annual rate increases of approximately 4%, which is twice the projected level of inflation. This deterioration will put Manitoba Hydro in a weaker financial position given its planned capital spending over the next two decades.”²⁰

¹⁹ NFAT Final Report, June 20, 2014, p. 164.

²⁰ Manitoba PUB, Order No. 43/13, April 26, 2013, p.2.

NFAT Proceeding

In the NFAT proceeding following the above Final Order, the PUB noted as Recommendation 13:

“The Panel recommends that Manitoba Hydro relax its 75/25 debt-to-equity ratio policy to moderate its proposed electricity rate increases.”²¹

Elsewhere in the same report, the PUB noted:

“The Panel supports a relaxation of Manitoba Hydro’s 75/25 debt-to-equity ratio to smooth out rate increases and the Panel concludes that Manitoba Hydro would still be left with sufficient retained earnings if the equity level was decreased.”²²

Summary Discussion

In reviewing the statements made by the PUB above, it is important to recognize that a major challenge associated with MH’s financial targets is that actual results will tend to fall short of these targets during periods of major investment. This reflects MH’s reliance on retained earnings for growth in its equity base. Thus, the PUB’s statement that the 75/25 debt/equity ratio should be relaxed could be interpreted simply as a practical recognition that this target will not be met during a period of large capital expenditures and when newly constructed assets are placed in service.

Accordingly, the 75/25 target could remain the long-term objective. The short-term question is then how large a short-fall can be allowed in the interim. In this respect, the Board expressed concern in an earlier rate proceedings regarding an increase in debt to 90% of capital. Thus, in the body of its Final Order following the 2013 rate proceeding, the PUB wrote:

“The Board is concerned that, by moving towards a 90:10 debt-to-equity ratio by the end of the decade, there will be an insufficient retained earnings reserve to deal with droughts and other risks such as infrastructure failure or rising interest rates.”²³

The above quotation is consistent with a desire to minimize the risk that Manitoba Hydro will face financial distress, which is an important objective in the setting of financial targets. It also suggests that it would be helpful to have some guidance regarding how much deviation is appropriate in any circumstance.

4.2.5 Requirement for risk analysis

Inherent in the setting of financial targets is the need to analyse risk. Since a key objective of targets is to ensure that the corporation has adequate reserves to avoid financial distress, it is important to quantify the magnitude of the risks that could give rise to such distress. Risks are likely to grow in a period of large capital expenditures. The PUB has noted:

“The Board notes that Manitoba Hydro shares the benefit of the flow-through credit rating of the Province, which affords it preferential interest rates on its debt and access to funds to meet its major capital spending program. However, as its debt grows, there is a potential for Manitoba Hydro’s

²¹ NFAT Final Report, June 20, 2014, p. 36.

²² NFAT Final Report, June 20, 2014, p. 29.

²³ Manitoba PUB, Order No. 43/13, April 26, 2013, p.23.

financial condition to affect the credit rating of the Province. It is important that Manitoba Hydro remains a financially strong and viable organization.”²⁴

In response to its concerns over risk, the PUB ordered Manitoba Hydro to file an analysis of its reserve requirements as follows:

“It is ordered...That Manitoba Hydro file, with its next General Rate Application, a detailed quantitative and probabilistic risk assessment and review of all of its operating and financial risks in order to allow the Board to assess the adequacy of the reserves.”²⁵

Scenario analysis undertaken by Manitoba Hydro in the course of our review, and as outlined in more detail in Chapter 7, will help to address these requirements of the PUB.

4.3 Business and Regulatory Context

4.3.1 Overview of section

This section reviews a number of issues that need to be considered in evaluating statements by regulators and by other parties on the financial targets of Crown utilities. These issues are as follows:

- Business structure.
- The scope of financial targets.
- Requirements for dividend payments.
- Requirements for a target return on equity.

These issues are addressed in each of the sub-sections below in turn.

4.3.2 Business structure

In comparing the financial targets of Manitoba Hydro to other Crown utilities, differences in the various utilities' corporate structure need to be considered. Partly as a consequence of differences in structure, provinces also vary in the scope of a regulator's jurisdiction. Manitoba Hydro operates as an integrated utility and all generation and distribution activities, including those associated with export sales, are undertaken within one corporate entity. In many other jurisdictions, in contrast, generation and/or export activities are undertaken outside of the regulated utility. In these other jurisdictions, the regulator may then have jurisdiction only over a narrower scope of activity associated with the provision of electricity to consumers of the monopoly distribution utility. For example:

- Hydro-Quebec has separate business segments associated with generation, transmission and distribution. The regulator approves tariffs and makes associated decisions on capital structure only for the transmission and distribution segments. (The segments operate within a single corporate entity but have separate reporting.)
- Nalcor Energy (“Nalcor”) is the holding company that owns Newfoundland and Labrador Hydro (“NLH”), in addition to the province's interest in the original Churchill Falls development and in the more recent Lower Churchill Project. Of these companies, only NLH is regulated by the Newfoundland and Labrador Board of Commissioners of Public Utilities (“Newfoundland PUB”).
- Prior to the most recent restructuring in 2013, NB Power had been divided into separate generation, transmission and distribution companies. This division was in anticipation of the ultimate opening of a

²⁴ Manitoba PUB, Order No. 43/13, April 26, 2013, p.23.

²⁵ Manitoba PUB, Order No. 43/13, April 26, 2013, p.3.

competitive generation market following the standard competitive market model. The regulator had jurisdiction only over the transmission and distribution companies.

In jurisdictions with business separation, the pricing between an unregulated generation company and the monopoly utility may be the result of government legislation rather than being something that is subject to regulatory oversight. As a result, the regulator may be mandated to accept these pricing arrangements rather than having the jurisdiction to review them. Thus, for example, legislation provides that Hydro-Quebec Distribution has access from Hydro-Quebec Production to a set amount of power (the “Heritage Pool”) at a favourable price. The regulator does not have oversight over associated generation costs.

4.3.3 The scope of financial targets

Because regulators may not have oversight over the entire scope of a Crown utility’s operations, they may not have passed judgement on the financial objectives and targets of the overall corporation. This will make statements by these other regulators less relevant as precedents for Manitoba Hydro.

In those jurisdictions with limited scope of regulatory review, financial targets and guidelines of the overall corporation may thus be determined by decisions made outside of the regulatory process. Such decisions may be implemented through government legislation or via covenants associated with debt at the holding company level. Decisions may reflect considerations beyond simply an assessment of the utility’s business risk profile; they may reflect, for example, government policy and related economic development or social objectives, such as desires for rate continuity or smoothing. Thus:

- Financial targets for BC Hydro have been imposed by the government as part of the government’s 10-year plan issued in 2013.
- The New Brunswick government has directed NB Power to achieve a target equity ratio of 20% of total capital and to reduce its outstanding debt by 20% relative to levels in place in 2011.
- The government of Newfoundland and Labrador has specified the limits for the capital structure of NLH and also specified the benchmark that is used for its target equity return (which is the return set for Newfoundland Power). Thus, the Newfoundland PUB does not directly set the cost of equity reflected in rates or the capital structure of the utility.
- Nalcor has debt agreements that limit the ratio of unconsolidated debt to total capitalization to 70% and that require that debt service coverage ratios exceed 1.5.²⁶

4.3.4 Requirements for dividend payments

Another consideration in the comparison of financial targets is the income expectations of the Province as shareholder. Many jurisdictions other than Manitoba have an expectation that the Crown utility will provide regular dividend payments. For example:

- BC Hydro was required to make dividend payments to the Province equal to 85% of its Net Income in each fiscal year. This requirement was subject to the constraint that dividends would only be paid to the extent that they did not result in increasing debt to more than 80% of the utility’s capital.²⁷ (It is important to note that the requirement to pay dividends has recently been relaxed to allow the utility to move toward a long-term debt to equity ratio of 60:40.)

²⁶ Nalcor Energy, 2013 Business and Financial Report, p. 77.

²⁷ Review of BC Hydro, June 2011, p. 96.

- Hydro-Quebec's dividend policy is to distribute 75% of its net result.²⁸

4.3.5 Target equity return

Manitoba Hydro has been one of the few Crown utilities in which rates have not been set using a specific weighted average cost of capital, based on a specific mix of equity and debt in the utility's capital structure, a target return on equity, and recovery of the costs of debt. It should be noted, however, that:

- For jurisdictions with regulation of only the distribution and transmission companies, such as Quebec and (formerly) New Brunswick, target rates of return set by the regulator applied only to the monopoly regulated activities and have not included generation.
- Similarly, the Newfoundland PUB regulates rates for NLH (which includes on-island generation) but not for the broader generation activities of Nalcor Energy, its parent. The target return on equity for NLH has been set by the government to equal that applied by the PUB to Newfoundland Power. The proportion of equity is limited by legislation to the proportion allowed by the PUB for Newfoundland Power, but the shareholder and management can choose (and have chosen) to have a lower proportion. Hence, the Newfoundland PUB does not have an unfettered role in setting NLH's level of return or its capital structure – it influences these parameters only through its decisions with respect to Newfoundland Power.
- The BC government has abandoned the use of specific target equity return for BC Hydro with the implementation of its 10-year plan for the utility.

For Manitoba Hydro, setting rates to achieve a specific target return on equity could be problematic. This reflects a number of considerations:

- The shareholder does not expect to earn a dividend stream and retained earnings are viewed as reserves that are to be used for rate smoothing and for protection against business and market risks. In the context of this "closed loop", there is limited practical difference between the ratepayer and shareholder. Accordingly, earnings generated in any period will necessarily be retained, facilitating investment in current or future periods. Additional earnings in one period will result, all else being equal, in lower required rates in future periods. Setting a specific target return on equity would limit the freedom of the utility and its regulator to smooth rates. Further, it may impede the utility's ability to achieve its financial targets and, in particular, its desire to maintain a certain debt/equity ratio.
- Export sales and supply to domestic consumers are integrated into one entity. Earnings from exports are used to lower the revenues that must be collected from local consumers. There is no business separation between market and monopoly services.

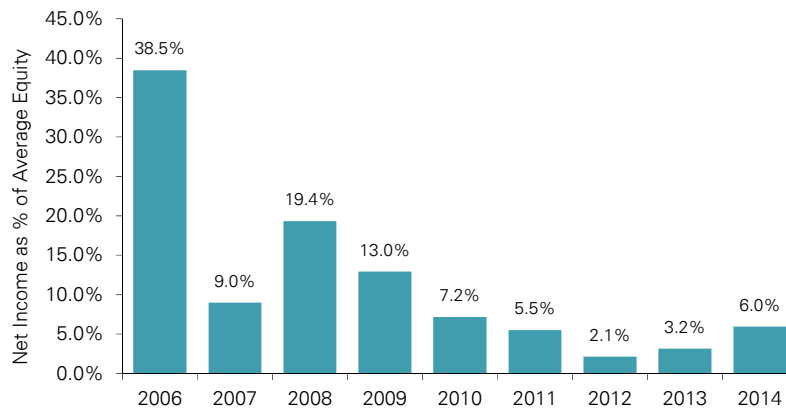
It is worth noting that Manitoba Hydro's actual return on equity over the past five years has generally been well below that of the allowed equity returns for other regulated utilities. Prior to that, however, earnings as a percent of equity have been higher than that of regulated utilities. This is shown in Figure 4.1 below. In this context, however, note:

- Earnings in 2006 were influenced by very high water flows. Above average flow conditions also applied in 2008 and 2009 (as well as in the years subsequent to this).
- Manitoba Hydro's equity base was below target prior to 2008, meaning that the observed return on actual equity is biased upward by the high leverage of the utility at the time.

²⁸ Hydro Quebec 2013 Form 18-K, p. 22.

- Prior to the global economic downturn in 2008, and subsequent weakness in natural gas prices and electricity demand growth, earnings were supported by high export prices for power sold into adjacent US markets.

Figure 4-1: Manitoba Hydro’s Return on Average Equity²⁹



Developments in specific jurisdictions are summarized in more detail in the following sections of this chapter.

4.4 BC Hydro

As a result of cost pressures associated with demand growth and the need for new generation expansion, BC Hydro’s financial position has been the focus of significant attention. In particular, the Government of British Columbia commissioned a comprehensive financial and administrative review of the utility in response to a series of proposed rate increases. The government then provided specific direction to the utility and its regulator with respect to financial targets and objectives. As a result of this policy attention, this utility is an important component of our jurisdictional review.

Orders in Council from the Province of British Columbia establish the basis for determining BC Hydro’s equity for regulatory purposes, as well as for the purpose of calculating the annual payment to the Province of BC. For these purposes, the applicable Order in Council defines debt as revolving borrowings and interest-bearing borrowings less investments held in sinking funds and cash and cash equivalents. Equity comprises retained earnings, accumulated other comprehensive income (loss) and contributed surplus.

4.4.1 New 10-Year Plan

In November 2013, the BC government announced a new 10-year plan for BC Hydro. A notable feature of this plan is that it provides very specific directives to the utility and to the regulator on issues related to rates and capital structure. It therefore pre-empts regulatory processes that might have otherwise been applied to these issues.

²⁹ For the purpose of this calculation, equity has been defined to include Accumulated Other Comprehensive Income (AOCI) and Non-Controlling Interest, but does not include Contributions in Aid of Construction.

The 10-year plan entailed significant changes in the utility's financial targets and in payments by the utility to its shareholder, the Province. Notable elements of this plan include the following:

- Dividend payments will be gradually reduced after Fiscal 2017, and will fall to zero by Fiscal 2022.
- The reduction in dividends noted above will support an increase in retained earnings and, hence, a decrease in the ratio of debt to equity from 80:20 to 66:34 by Fiscal 2022.
- Dividends will remain at zero after 2022 until the utility's debt/equity ratio reaches 60:40.
- Beginning in Fiscal 2018, the allowed net income will be increased annually simply by inflation.³⁰ The concepts of deemed equity and an allowed rate of return on such equity will no longer be used. As a result of this shift, projections provided at the time the plan was announced show that the return on equity for the utility will fall from 11.84% to 10.42% over the period to Fiscal 2024.³¹
- Tier 3 water rentals are eliminated in fiscal year 2018, which is expected to result in cost savings of near \$50 million annually to BC Hydro. (For context, BC Hydro paid \$361 million in total water rental fees in 2013/14. The Province of B.C. has three tiers of water rental rates for power, which increase for higher output thresholds in megawatt-hours.)

In addition to decreases in dividend payments, the plan also calls for reductions in operating expenses compared to those that would otherwise have been incurred.

The new 10-year plan was prompted by ratepayer concerns over a series of rate increases that had been requested by BC Hydro in 2011. In that year, BC Hydro had announced that it would seek a cumulative increase in rates of 32.1% over 3 years.³² The impact of the plan was to reduce these cumulative rate increases to approximately 20%. More specifically, the government directed the British Columbia Utilities Commission ("BCUC") to impose rate increases of 9% and 6% in the first two years of the plan. For the following three years, BCUC has been directed to set increases within caps of 4%, 3.5%, and 3%.

The rate increases provided will not recover BC Hydro's full revenue requirement over the initial period of the plan. Accordingly, the plan provides for regulatory deferral accounts to cover the revenue shortfall. These deferral accounts grow to \$1.09 billion by Fiscal 2020 but are subsequently eliminated by Fiscal 2024.

4.4.2 BC Hydro's use of deferral accounts

As noted above, regulatory accounts are used to defer costs and to help in rate smoothing over the period of the 10-year plan discussed above. BC Hydro has, in addition, used similar regulatory (or deferral) accounts for postponing the recovery of many other costs. This practice has been ongoing for many years. In particular, such accounts have been used to defer costs associated with large capital projects. The review of BC Hydro noted:

"During periods of large increases in capital expenditures, BC Hydro debt will grow faster than it is being repaid. In an effort to smooth rate impacts, higher regulatory accounts and debt balances are being utilized. These increased balances will put continued pressure on rates for many years to come. Capital structures among other public sector utilities currently range between 60:40 and 73:27 debt to equity and have stated targets in place to maintain levels between 65:35 and 75:25. Private

³⁰ BC Hydro Service Plan 2014/15-2016/17, p.17.

³¹ 10 Year Plan for BC Hydro, Presentation by Bill Bennett, Minister of Energy and Mines, November 26, 2013, p. 31.

³² 10 Year Plan for BC Hydro, Presentation by Bill Bennett, Minister of Energy and Mines, November 26, 2013, p. 31.

sector utilities maintain debt to equity ratios closer to 60:40...BC Hydro's current ratio is debt (80%) to equity (20%)."³³

The report also stated:

"There are also concerns that the extensive use of the regulatory accounts reduces transparency of the financial information, and that the transfer of these costs from present ratepayers to future ratepayers could be considered inequitable and unfair to future ratepayers in cases where the costs are not matched to future benefits to the ratepayers."³⁴

The report went on to note:

"If BC Hydro is unable to recover any of the deferred amounts, the costs would be passed on to the province (as sole shareholder) and covered by taxpayers."³⁵

Regulatory accounts are an important consideration in the evaluation of financial targets. Where regulatory assets are a significant component of the balance sheet, it means that the asset position of the utility, and matching debt and equity balances, will be larger than they otherwise would be. This may have implications for the interpretation of debt/equity ratios: the equity ratio may appear higher than it otherwise would be when regulatory assets are used to defer costs.

Current Position

As at the end of March 31, 2014, BC Hydro's Net Regulatory Assets stood at \$4.434 billion, which was equal to 17.2% of the utility's total assets.³⁶ This is the largest relative investment in regulatory assets among Crown utilities in Canada.

Regulatory assets generally represent costs that would have been recognized in current or prior income statements under typical accounting practice but which will instead be recognized in future periods. Deferral of such costs is allowed given that a regulator may allow these costs to be recovered from consumers in future periods. The concept of regulatory assets has been developed specifically to recognize the fact that regulators can decide when costs will be allowed into rates. The use of regulatory accounts then allows costs and revenues to be matched.

For BC Hydro, relevant deferral accounts at the end of Fiscal 2014 included the following:

- \$1.305 billion in costs related to the transition to IFRS. (IFRS results, for example, in the reduction in costs that can be capitalized and results in greater recognition of certain pension costs.)
- \$788 million in costs for Demand Side Management (DSM) programs.
- \$467 million in costs associated with variances between actual and forecast costs for the operation of generating plants, for the acquisition of power, and for distribution system maintenance.
- \$324 million in costs associated with variances between forecast and actual net income associated with electricity trades.

³³ Review of BC Hydro, June 2011, p.99.

³⁴ Review of BC Hydro, June 2011, p. 112.

³⁵ Review of BC Hydro, June 2011, p. 112.

³⁶ BC Hydro Annual Report 2014, p. 88.

The 2011 BC Hydro Review noted that a portion of the regulatory assets in place as at the end of Fiscal 2010 had resulted from lower than forecast water levels.³⁷ This is reflective of the fact that BC Hydro faces similar hydrology risks as Manitoba Hydro (although relatively less severe).

4.5 Hydro-Quebec

As noted earlier in this Chapter, the regulator in Quebec has jurisdiction only over the regulated business segments of transmission and distribution. It does not have jurisdiction over Hydro-Quebec Production, the business segment associated with generation and export sales.

4.5.1 Targets for regulated transmission and distribution

Relevant metrics set by the regulator for the regulated segments are as follows:

- For transmission, the deemed debt/equity ratio is 70:30.
- For distribution, the deemed debt/equity ratio is 65:35.

In setting equity targets for transmission and distribution, the regulator looked at the capital structure, and associated investor expectations, of similar investor-owned utilities. Rates of return for the transmission and distribution segments were also set based on benchmarks from investor-owned utilities. For 2014, the Return on Equity for both segments was set at 8.2%.³⁸

The corporation as a whole has an equity capitalization rate of 30.5%. This is just slightly more than the allowed equity ratio of 30% for transmission, and less than the 35% equity ratio allowed for distribution. By implication, the equity ratio for the generation division is about the same, if perhaps slightly less than, the deemed equity ratio of transmission and generation combined. Like Manitoba Hydro, Hydro-Quebec's access to a provincial debt guarantee allows it, overall, to operate with higher levels of debt than a stand-alone investor-owned utility.

4.5.2 Role of generation

Exports play a significant role in Hydro-Quebec's business strategy (although such sales generally represent a smaller proportion of output than at Manitoba Hydro). Figure 4-2 summarizes revenues by segment. Exports account for 15% of overall sales volume and 12% of sales revenue. (In this table, export sales cover all sales outside of the province.) Revenue figures for sales in Quebec are at delivered prices and thus include amounts for transmission and distribution.

³⁷ Review of BC Hydro, June 2011, p. 112.

³⁸ Hydro-Quebec Form 18-K, 2013, p.23.

Figure 4-2: Hydro-Quebec’s Sales Volume and Revenue by Segment³⁹

Sales By Segment			
	Volume	Revenue	Unit Price
	(TWh)	(\$ Millions)	(\$/MWh)
Quebec	173.3	11,085	63.97
Long-Term Export	2.5	229	90.91
Short-Term Export	29.7	1,296	43.65
Subtotal - Export	32.2	1,525.0	47.35
Total	205.5	12,610	61.37
Quebec	84.3%	87.9%	
Long-Term Export	1.2%	1.8%	
Short-Term Export	14.4%	10.3%	
Subtotal - Export	15.7%	12.1%	
Total	100.0%	100.0%	

The revenue per unit for short-term export sales is considerably lower than for long-term export sales and also lower than delivered prices to Quebec consumers. This reflects:

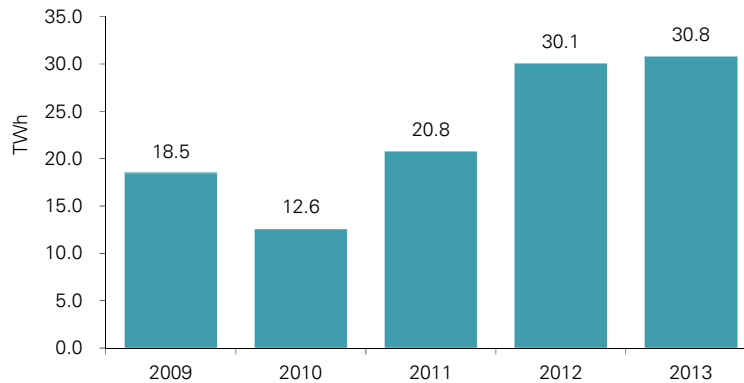
- The non-firm nature of many short-term export sales, which results in lower value in the marketplace.
- Pricing pressures in electricity markets in the US Northeast, which have seen price declines as a result of the availability of low-cost natural gas as an input fuel for thermal generating plants.

These factors play a similar role at Manitoba Hydro, which has also experienced pricing pressures in adjacent US markets. Similarly, Manitoba Hydro faces lower prices for its opportunity energy than for dependable energy. Opportunity energy, by virtue of its non-firm nature, cannot prudently be sold under long-term contract.

Figure 4-3 shows net electricity exports by Hydro-Quebec over a 5-year period ending 2013. Sales volumes have shown considerable volatility, indicating that Hydro-Quebec faces fluctuation in its available energy, similar in nature if not degree to that faced by Manitoba Hydro. Increases in exports in 2012 and 2013 are partly the result of the completion of new hydro and wind generating plants.

³⁹ Hydro-Quebec 2013 Annual Report, p. 99.

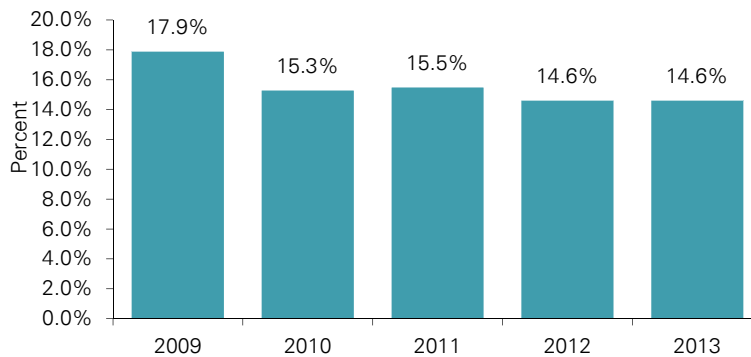
Figure 4-3: Hydro-Quebec’s Trends in Net Electricity Exports



4.5.3 Financial returns

On an overall corporate basis, Hydro-Quebec has been consistently profitable. With a return on equity of 14.6% in 2013, overall corporate profitability has been well above the target returns set by its regulator (the Regie de l’energie) for the regulated segments of transmission and distribution. Figure 4-4 shows returns from continuing operations over a five-year period. Figures for 2012 exclude losses associated with its abandonment of a project to refurbish the Gentilly-2 nuclear generating plant.⁴⁰

Figure 4-4: Hydro-Quebec’s Return on Equity



In recent years, Hydro-Quebec has consistently paid out 75% of its net income to the shareholder. This approach is quite different from practices for Manitoba Hydro, which is not expected to pay dividends to its shareholder. (As noted elsewhere in this report, however, Manitoba Hydro pays higher fees for its debt guarantee and similar rates as Hydro-Quebec for water rentals.)

Under the Hydro-Quebec Act, dividends are declared once a year. For any given year, dividends cannot exceed the distributable surplus, equal to 75% of the net result (which is comparable to net income). Dividends cannot reduce the capitalization rate of the utility to less than 25%.⁴¹

⁴⁰ Hydro-Quebec Form 18-K, 2013, p.5.

⁴¹ Hydro-Quebec Form 18-K, 2013, p.72.

revenue requirement, the test year is to be considered in the context of a longer term statutory goal to reach a targeted debt/equity ratio, and the plan of NB Power to achieve that goal.”⁵⁸

4.8 Applicability of Private-Sector Benchmarks

A recurring theme in discussions on financial targets for Crown utilities is the potential to use private-sector benchmarks as guideposts. Regulators, for example, have sometimes used private-sector benchmarks in setting rates for the business segments of Crown utilities under their jurisdiction. Earlier reports for Manitoba Hydro have also raised the possibility of using private-sector benchmarks. In this section, we explore related issues further.

4.8.1 Differences between investor-owned and public utilities

An important consideration in the evaluation of financial targets is the nature of a utility’s ownership structure and its impact on the default risk of utility debt. Metrics for investor-owned (or private-sector) utilities typically entail a much higher equity ratio than for publicly-owned or Crown utilities, which often have debt guarantees. Thus:

- Debt holders in a private-sector utility require a higher equity investment by shareholders to protect themselves against the risk of default. This reflects the fact that equity investors in a private-sector utility are limited in liability. In the event of financial distress that wipes out shareholders’ equity position, debt-holders have no further ability to pursue such shareholders to compensate for any loss in the value of their debt.
- For Crown utilities such as Manitoba Hydro, in contrast, debt is either guaranteed by the Province or obtained through the province. Hence, in the event of financial distress, debt holders have a call on the resources of the Province and the provincial revenue base in seeking repayment of their debt, to remedy a default by the utility. This is a fundamental distinction and allows such Crown utilities to raise higher amounts of debt than would be consistent with a stand-alone, investor-owned utility.

Although Crown utilities may have access to a debt guarantee, one philosophy is that their financial targets should be set such that they have the same capital structure as a stand-alone, investor-owned, utility. Among other things, this would increase, relative to a more debt-intensive structure, the probability that the utility would remain self-supporting and would not impair the credit rating of its provincial shareholder. For Manitoba Hydro to reach the higher equity position that would be consistent with this approach, it would need to have higher rates for a period of time relative to those that would otherwise have been required. This reflects Manitoba Hydro’s reliance on retained earnings for building its equity position.

4.8.2 Target equity return

A related issue in the determination of capital structure is whether or not a specific equity return should be pursued. For example, a Crown utility could seek to earn a return that is commensurate with the return required by private investors in an investor-owned utility with similar risks. From one perspective, a utility will not recover its full costs in any period in the event that rates are set to provide a lower return. In the case of Manitoba Hydro, however, a further consideration is that the utility does not pay mandatory dividends to the Province. The ultimate beneficiaries of any return earned are the ratepayers themselves.

⁵⁸ New Brunswick Power Corporation, 2015/16 General Rate Application, November 21, 2014, p. 6.

Accordingly, for Manitoba Hydro, the additional earnings from a higher return (and higher rates) in any given period will typically result in one or more of the following:

- A reduction in borrowings in the current period (for example, to fund capital expenditures).
- An increase in cash balances or their equivalent, which can offset borrowing needs in the future or reduce the need for future rate increases.

A consequence of these impacts is that higher rates in any given period will generally allow lower rates in subsequent periods, assuming all of the utility's operating and capital costs are unchanged. Given the closed-loop nature of Manitoba Hydro, which does not pay dividends to the Province, decisions on the corporation's overall equity return can therefore be a mechanism for shifting costs among generations of consumers, as well as for bolstering the utility's financial position.

4.8.3 The implications of debt for a Crown utility

The provincial guarantee of Manitoba Hydro debt represents a potential liability for taxpayers of the Province. Ratepayers, as distinct from taxpayers, benefit from the lower interest costs associated with the guarantee. Lower interest costs reduce the costs to be recovered through rates. In addition, as a result of the utility's ability to use more debt in financing its investments than it otherwise would, ratepayers can reduce the amount of equity that they need to contribute to the utility through earnings in advance of these investments.

While taxpayers face a potential liability as a result of Manitoba Hydro's debt guarantee, they also benefit from the receipt by the Province of the debt guarantee fee. It is beyond the scope of this study to examine the size of this fee or the resulting net benefits or costs to the Province, and hence to taxpayers, from these arrangements. However, while debt guarantee fees generate a steady stream of income, any offsetting liability could arrive in a sudden, large increment. Benefits and costs are therefore difficult to estimate and assess. This would make it more difficult to identify whether guarantee fees are set at an appropriate level, should this analysis be desired.

In considering the impacts of the debt guarantee on various parties, an initial assumption might be that taxpayers, in aggregate, correspond to roughly the same group of economic players as Manitoba Hydro ratepayers. However, there are differences:

- In its January 2014 report for the PUB, MPA noted that individuals and families pay a larger proportion of government revenues than they do of electricity costs.⁵⁹ Thus, any transfer of costs from ratepayers to taxpayers may shift costs from institutions and corporations towards individuals.
- Within the residential sector, income tax burdens may be expected to fall more heavily on higher income households than does electricity usage and hence electricity costs, which are more likely to be evenly distributed.

The overall impact of these factors is difficult to determine. Nevertheless, while the distribution of taxes within the population may differ from the distribution of electricity usage and hence electricity charges, it is still broadly true that the interests of Manitoba Hydro ratepayers and Manitoba taxpayers overlap.

Providing a debt guarantee reduces the immediate costs to the corporation, in terms of higher interest costs, that would result for a private-sector corporation from using excessive levels of debt. This could pose risks in the event that the corporation then pursues uneconomic or overly risky projects. In this context, financial targets can be an important mechanism for restraining the levels of debt. The

⁵⁹ Morrison Park Advisors, Commercial Evaluation of Manitoba Hydro Preferred Development Plan Business Case, January 2014, p. 27.

additional risk associated with additional debt does not disappear as a result of the provincial debt guarantee. This risk may be shared between ratepayers and taxpayers, but it can still result in financial distress for the utility and the Province in the event that debt levels become excessive.

4.8.4 Equity return

Because ratepayers themselves provide the equity at Manitoba Hydro, it is a reasonable and plausible policy outcome if the Province, as shareholder, decides to pursue a lower equity return at Manitoba Hydro in order to allow lower electricity rates, all else being equal. Rather than distribute dividends to itself, the shareholder may prefer that ratepayers pay lower electricity rates.

In this context, however, it is important to note that the selection of an overall return on equity for the corporation in any period can and should be separated from the pursuit of a particular target return for specific incremental investments. Thus, for example, the corporation can reasonably pursue a higher return on equity for the incremental investments needed to pursue additional export sales. Such a return on investment should be commensurate with the additional risks associated with this investment. Because domestic ratepayers shoulder the costs remaining after net export revenues are taken into account, high returns on investments for export should result in lower costs needing to be borne by domestic consumers in the future.

4.8.5 Using capital structure benchmarks to set a rate cap

Private-sector benchmarks could potentially be used to set an overall cap on rates, in addition to or as an alternative to providing a floor. Thus, in its 1995 report on the issue of financial targets for Manitoba Hydro, Deloitte and Touche noted:

“A problem faced by Manitoba Hydro is that earnings are its only source of equity. Major construction programs require significant capital funding and, due to limited earnings, tend to reduce the equity ratio. Therefore prior to a major capital expenditure program, Manitoba Hydro should exceed its equity target. However, customers should not be disadvantaged by the existence of the additional equity. Earnings should be limited to what customers would be required to pay if Manitoba Hydro were a private owned utility with a capital structure comparable to that of the privately owned electricity electric utilities.”⁶⁰

This approach has some initial conceptual appeal:

- A private-sector capital structure, and associated revenue requirement, can serve to define an upper bound on the rates to be charged in any period.
- In many periods, rates can be lower than that defined by the private-sector model, which is consistent with the idea that, for a public-sector utility, ratepayers should benefit from their ownership of the utility through the Province.

Past experience shows that Manitoba Hydro in certain periods has earned an equity return higher than target equity returns for private-sector regulated utilities. This does not, however, necessarily imply that overall rates at Manitoba Hydro have been higher than those that would have been charged by private sector utilities. A proper comparison of rate levels requires consideration of the following factors:

- Private sector utilities have a higher proportion of equity in their capital structure, so target equity returns will be earned on a higher proportion of their capital structure.

⁶⁰ Deloitte and Touche, p. 45.

- Private sector utilities pay corporate income taxes, which must be provided for in the Revenue Requirement (and which are a function of the equity return required).

Given the above factors, it is not clear the extent, if any, to which Manitoba Hydro's rates have exceeded private-sector benchmarks in any period. Nevertheless, mandating that equity returns stay within a particular limit in any period could be too restrictive given that a positive return on equity is the only manner in which Manitoba Hydro is able to build up its reserves. Related challenges include:

- Variations in water flows from year-to-year, which have significant impacts on the energy available for export.
- Changes in market conditions in US competitive electricity markets, which influences the export prices received.
- Manitoba Hydro's need to boost its equity position in advance of major new construction programs.

The first two points above mean that actual returns can vary significantly from forecast, thus high returns may reflect temporary phenomena that should not be taken into account in setting rates. Rather, rates should reflect long-term expected conditions. The third point means that rates may need to be higher than they would be otherwise to support increases in equity in advance of major construction programs. A reasonable approach to having a hard cap on rates in any period might be to say that, over time, rates in Manitoba Hydro would be equal to or lower than what would be in place if Manitoba Hydro were an investor-owned utility with related return targets. This outcome should naturally follow given that the shareholder does not require a dividend income stream and hence retained earnings can be used to pay down debt and offset future costs.

As noted elsewhere, higher returns on equity than are usual for Manitoba Hydro may be required in advance of large capital programs. This will serve to build the corporation's equity position and provide additional debt capacity. However, higher returns on equity in a period preceding the in-service date of large new assets could give rise to concerns over a lack of inter-generational equity. A long-standing tenet of utility regulation is that consumers should pay for an asset only once it is in service and hence is "used and useful". These concerns may be dampened by the following considerations:

- Manitoba Hydro consumers continue to benefit from a large number of generation assets built many years ago. These assets will have a relatively low book value, reflecting both a large amount of accumulated depreciation and the fact that they were built when nominal costs were lower. Hence, costs measured using accounting metrics will be low. The long-life of hydro-electric dams, which form the bulk of Manitoba Hydro's asset base, make this a particularly important issue.
- The nature of cost of service methodologies is that they result in higher costs in the initial years of an asset's life, since this is the period when the asset's book value is higher. For large hydro-electric assets, which have large capital costs relative to their ongoing operating costs, this can result in a particularly large increase in the revenue requirement when these assets come into service. Also, rates under cost of service methodologies will tend to be front-end loaded. Again, this is a particularly relevant issue for hydro-electric assets.

Overall, we believe that issues of inter-generation equity are likely to be very difficult to evaluate objectively and are much less straightforward than they might at first appear. This may dampen some of the policy concerns associated with raising rates in advance of major build programs.

4.8.6 Benefits of a stand-alone financial structure

In its 1995 review of MH's financial targets, RBC Dominion Securities noted:

While there are compelling reasons for the Corporation to continue to increase its financial flexibility beyond the 15% equity level, we are concerned in this report with only the financial aspects. In this

context, once Hydro has sufficient retained earnings to pass its long-term target, and an adequate interest coverage ratio, there is arguably a financial no-man's land until true self sufficiency is achieved, defined as the ability to raise capital without a guarantee. Moving beyond 85:15 (assuming this is sufficient equity for planning purposes) is narrowly inefficient, unless the Provincial guarantee fee is reduced to recognize the improved security of the debt.⁶¹

Later in this report, RBC Dominion Securities noted the benefits of pursuing stand-alone status. This was interpreted to mean that it raises debt without a provincial guarantee, which also implies that Manitoba Hydro's capital structure will need to match those of an investor-owned utility. Their report reads as follows:

"There are clear benefits to the Province to having Hydro finance its requirements away from the Province. A stand-alone Hydro would aid the Province's credit rating in three ways:

- Removal of the Provincial guarantee on \$4.5 billion in debt would improve lenders' view of the Province, since the aggregate obligations of the Province would be considerably lower. This is true despite the stated view by the agencies that this debt is considered self-supporting;
- Hydro would be configured on a comparable basis to investor owned utilities, so that creditors to the Province would consider it a saleable asset from an operational perspective - that is, it would not need to be substantially recapitalized by the purchaser. If necessary to support the obligations of the Province, all or a portion of the equity of the Corporation could be sold to generate cash; and
- Hydro would be in a position to pay dividends. Having a meaningful level of equity would produce sufficient cash flow to allow a cash return on equity. The level of dividends may be greater or less than the guarantee fee income that the Province receives currently."⁶²

In evaluating these assertions, the following observations are noted:

- There is no indication that the Province would contemplate the sale of all or part of its equity interest in Manitoba Hydro. In the absence of such a willingness, the option to pursue such a sale may have little practical value.
- Similarly, Manitoba Hydro is not required to pay dividends to the Province. Any move to pay such dividends on an ongoing basis would be a major policy shift.
- In practice, it may be difficult to identify what capital structure would actually be required by capital markets for a utility such as Manitoba Hydro. We are not aware of any large hydro-electric utility in North America that is investor-owned. Investor-owned utilities, in practice, tend to have very different mixes of generating assets and, hence, will have different operational and risk characteristics. These factors will make it more difficult to determine the actual impact of using private-sector comparisons when setting electricity rates.

4.9 Summary Observations

Based on the findings in this Chapter, the following are overall summary observations:

- Manitoba Hydro differs from other major Canadian Crown utilities in important ways:
 - Manitoba Hydro operates on an integrated basis, with no business separation between generation, transmission, and distribution.
 - Manitoba Hydro is not expected to earn income for its shareholder.

⁶¹ RBC Dominion Securities, Manitoba Hydro Capital Structure Review, p. 24.

⁶² RBC Dominion Securities, Manitoba Hydro Capital Structure Review, p. 26.

- Notwithstanding the differences noted above, it is worth noting that other Crown utilities have specific plans to improve their financial position. This may put pressure on Manitoba Hydro to improve its own financial position, given that rating agencies and lenders will compare Crown utilities' relative financial positions.
- Governments in a number of other jurisdictions (specifically BC and New Brunswick) have stepped in to impose financial targets on their Crown utilities, to address concerns over deterioration in the utilities' financial metrics.
- Because of the "closed-loop" nature of Manitoba Hydro's equity and the utility's relationship with ratepayers, it is probably not useful, and may be counterproductive, to impose specific targets for return on equity as an element of the utility's financial targets.
- There are a number of reasons to suggest that private-sector benchmarks are not necessarily appropriate for Manitoba Hydro. These reasons include:
 - As noted above, the Province does not expect to receive dividend income.
 - The Province of Manitoba does not appear to contemplate sale of the utility.
 - Manitoba Hydro's access to a provincial debt guarantee allows it to raise more debt, at lower cost, than would be available to a private-sector utility.
- While access to a provincial debt guarantee provides important financial benefits for Manitoba Hydro, these benefits come at the cost of increased risk to Manitoba taxpayers. An important role of financial targets is therefore to ensure that access to provincially-guaranteed debt does not result in the utility taking on more debt than is prudent given its business risks and equity base.

5 Comparison to Other Government-owned Power Utilities in Canada

This chapter summarizes the findings from benchmarking and our review of the developments, targets and plans of government-owned power utilities in other jurisdictions.

5.1 Structure of the Chapter

This chapter is organized into the following sections:

- Section 5.2 provides an overview of government-owned power utilities in Canada, which have been selected as the peer benchmarking group, along with key operational metrics and comparisons on a per capita and per customer basis.
- Section 5.3 provides overview information on select government-owned international power utilities, including three based in the United States. These select utilities provide some interesting information but are secondary to benchmarking, and are not peer benchmarking comparisons.
- Section 5.4 compares current debt/equity ratios and capital structures.
- Section 5.5 compares interest coverage ratios among the Canadian peer group.
- Section 5.6 looks at cash flow to capital expenditure comparisons among the Canadian peer group.
- Section 5.7 compares a number of other financial metrics among the Canadian peer group.
- Section 5.8 provides a comparison of recent electricity prices and analysis of trends in electricity prices in Canada over the next ten years based on various assumptions.
- Section 5.9 discusses financial targets and plans of other government-owned utilities in Canada.
- Section 5.10 outlines summary points of the benchmarking comparisons.

5.2 Overview of Government-owned Power Utilities in Canada

5.2.1 Overview of key operational metrics

Figure 5-1: Overview of Operating Information on Government-owned Power Utilities

Overview of Operating Information					
	Installed Capacity (MW)	Peak Demand (MW)	Total Electric System Deliveries (TWh)	% Hydro generation	Number of Electricity Customers
Manitoba Hydro	5,715	4,720	32.9	95%	555,760
BC Hydro	12,047	10,072	103.1	91%	1,914,788
Hydro-Quebec	36,068	39,031	205.5	98%	4,141,990
Nalcor Energy	7,281	7,159	40.3	97%	36,000
Ontario Power Generation	16,229	n/a	80.3	41%	n/a
NB Power	3,513	3,000	18.7	25%	397,502

Source:

1. Manitoba Hydro Annual Report for the year ended March 31, 2014.
2. BC Hydro Annual Report for the year ended March 31, 2014.
3. Hydro-Quebec Annual Report for the year ended December 31, 2013.
4. Nalcor Energy Annual Report for the year ended December 31, 2013. Note Churchill Falls represents installed capacity of 5,428 MW and its electricity is primarily exported to Hydro-Quebec. Number of customers is direct customers only, there are substantially more indirect customers through third party sales.
5. Ontario Power Generation Inc. Annual Report for the year ended December 31, 2013. All electricity generated is sold through Ontario's Independent Electricity System Operator.
6. NB Power Annual Report for the year ended March 31, 2014.

Government-owned power utilities with a significant reliance on hydroelectric generation are the most appropriate peer utilities in Canada for benchmarking the financial and operational position of Manitoba Hydro. These utilities are: BC Hydro, Hydro-Quebec, and Nalcor Energy (“Nalcor”).

In our analysis, NB Power and Ontario Power Generation (“OPG”) are also included, as both of these utilities have significant hydro assets and are Crown owned. NB Power is owned by the Province of New Brunswick and is the largest electric utility in Atlantic Canada. OPG is owned by the Province of Ontario, and operates a portfolio of hydroelectric, nuclear and other generating assets.

This group of six power utilities including Manitoba Hydro will represent the Canadian peer group for benchmarking and analysis in this Chapter.

To put into context the size of these power utilities in relation to their jurisdiction, the following is noted from comparisons in Figure 5-2:

- On a per capita basis, Manitoba Hydro has more installed generation capacity than BC Hydro, similar installed capacity as Hydro-Quebec and NB Power, and much higher capacity than OPG (although note that OPG is not the sole supplier in Ontario). It is lower only in comparison to Nalcor. (Figures for Nalcor, however, are distorted by the sale of power from Churchill Falls to Hydro-Quebec under long-term contract, which boosts its figures for capacity and sales per capita.)
- Manitoba Hydro’s total power generation per capita is slightly higher but generally in line with per capita levels for Hydro-Quebec and NB Power, higher than BC Hydro, much higher than OPG, and much lower than Nalcor.
- Extra-provincial electricity sales represent 23% of total electricity sales, down somewhat in recent years, but a very significant level and a higher share than for other power utilities. BC Hydro categorizes its extra-provincial activity as “trade” revenues and these represent approximately 20% of electricity revenues. Hydro-Quebec, the largest electricity exporter in Canada, has a lower share with exports representing approximately 12% of its total sales.

Figure 5-2: Operational Metrics Per Capita and Value of Export Sales

Select Operational Metrics Per Capita					
	Provincial Population (2013)	Installed Capacity kW per capita	Electric System Deliveries thousands kWh per capita	Extraprovincial Electricity Sales (\$ millions)	Extraprovincial / Trade Sales % electric sales
Manitoba Hydro	1,265,400	4.5	26.0	439	23%
BC Hydro	4,582,600	2.6	22.5	1,073	20%
Hydro-Quebec	8,154,000	4.4	25.2	1,525	12%
Nalcor	528,200	13.8	76.3	143	20%
Ontario Power Generation	13,550,900	1.2	5.9	n/a	n/a
NB Power	755,600	4.6	24.7	391	22%

Source:

1. Manitoba Hydro Annual Report for the year ended March 31, 2014.
2. BC Hydro Annual Report for the year ended March 31, 2014. Extraprovincial exports reflects "trade" revenues.
3. Hydro-Quebec Annual Report for the year ended December 31, 2013.
4. Nalcor Annual Report for the year ended December 31, 2013. Extraprovincial sales from Churchill Falls and NLH's Energy Marketing.
5. Ontario Power Generation Inc. Annual Report for the year ended December 31, 2013.
6. NB Power Annual Report for the year ended March 31, 2014. Extraprovincial exports reflects "interconnection" revenues.
7. Populations from Statistics Canada.

Figure 5-3 indicates the size of Manitoba Hydro, BC Hydro, Hydro-Quebec and NB Power in relation to the size of their domestic customer base. (Nalcor and OPG are not included in this figure as their customer bases are not comparable – Nalcor’s customer base includes Hydro-Quebec and one major wholesale customer, Newfoundland Power Inc., and OPG is one of many suppliers to the broader Ontario market.) For the utilities that are included in Figure 5-3, note the following:

- On a per domestic customer basis, Manitoba Hydro has more installed capacity and electric system deliveries than the other three electric utilities.
- Manitoba Hydro’s domestic electricity revenues per customer is higher than BC Hydro, close to Hydro-Quebec and lower than NB Power. Manitoba Hydro has more extra-provincial export revenues in relation to its domestic customer base than BC Hydro and Hydro-Quebec. NB Power has higher extra-provincial trade revenues per domestic customer than Manitoba Hydro, although NB Power’s trade revenues jumped significantly in 2013/14. NB Power’s position adjacent to the US market makes it a natural conduit for some exports from Quebec and Atlantic Canada.

Figure 5-3: Operational and Financial Information on a Per Customer Basis

Select Operational and Financial Information on a Per Customer Basis					
	Electricity Customers	Installed Capacity kW per Customer	Electric System Deliveries thousands kWh per Customer	Domestic Electricity Sales per Customer	Extraprovincial Electricity Sales per Customer
Manitoba Hydro	555,760	10.3	59.2	\$2,528	\$790
BC Hydro	1,914,788	6.3	53.8	\$2,256	\$560
Hydro-Quebec	4,141,990	8.7	49.6	\$2,676	\$368
NB Power	397,502	8.8	47.0	\$3,341	\$984

Source:

1. Manitoba Hydro Annual Report for the year ended March 31, 2014.
2. BC Hydro Annual Report for the year ended March 31, 2014.
3. Hydro-Quebec Annual Report for the year ended December 31, 2013.
4. NB Power Annual Report for the year ended March 31, 2014.

Figure 5-4 provides an overview of key financial metrics for the Canadian peer group for 2013/14. Appendix A provides financial data for Manitoba Hydro and the government-owned power utilities over the past five fiscal years.

Hydro-Quebec is considerably larger than the other utilities of the peer group, with annual revenues of nearly \$13 billion, approximately 5.5 times that of Manitoba Hydro, and total assets of over \$73 billion, approximately 4.7 times those of Manitoba Hydro. BC Hydro is the next largest. Manitoba Hydro is in the middle of the group, with revenues that are significantly larger than for NB Power and Nalcor. It should be noted, however, that Nalcor's revenues will grow with the completion of the Lower Churchill Project and Muskrat Falls.

Relative to utilities with fossil-fuel generation, the utilities based primarily on hydropower generally have significantly better operating margins and relatively higher EBITDA, EBIT and net income as a share of revenues. Hydro-Quebec's high levels of EBITDA, net income and cash flow relative to other utilities reflect its larger size and is partially due to the benefits of very low-cost electricity received under its long-term power contract with Churchill Falls in Newfoundland and Labrador.

Figure 5-4: Overview of Financial Information, Government-owned Power Utilities in Canada

Overview of Financial Information - Select Canadian Electric Power Utilities (CDN\$ millions)					
(\$CDN millions)	Annual Revenues	EBITDA	EBIT	Depreciation & Amortization	Net Income
Manitoba Hydro	2,329	1,087	645	442	174
BC Hydro	5,392	2,142	1,147	995	549
Hydro-Quebec	12,881	7,867	5,371	2,492	2,942
Nalcor Energy	785	256	168	88	96
Ontario Power Generation	4,863	1,215	252	963	135
NB Power	1,797	389	191	198	55

Overview of Financial Information - Select Canadian Electric Power Utilities (CDN\$ millions)						
(\$CDN millions)	Total Assets	Net Debt	Interest on Debt	Retained Earnings & Other Equity	Cash Flow from Operations	Capex
Manitoba Hydro	15,639	10,615	654	2,885	690	1,383
BC Hydro	25,711	15,461	731	3,865	815	1,943
Hydro-Quebec	73,110	42,211	2,585	19,394	5,017	4,055
Nalcor Energy	9,537	5,810	95	2,334	441	1,010
Ontario Power Generation	38,091	5,095	289	8,334	1,174	1,568
NB Power	6,863	5,018	222	399	223	182

Source:

1. Manitoba Hydro Annual Report for the year ended March 31, 2014
2. BC Hydro Annual Report for the year ended March 31, 2014
3. Hydro-Quebec Annual Report for the year ended December 31, 2013
4. Nalcor Annual Report for the year ended December 31, 2013
5. Ontario Power Generation Inc. Annual Report for the year ended December 31, 2013
6. NB Power Annual Report for the year ended March 31, 2014

Note: Retained earnings and other equity includes share capital or contributed capital, accumulated other comprehensive income and non-controlling interest. Net debt includes long-term debt, short-term borrowings and current portion of long-term debt less sinking funding investments and cash and cash equivalents.

5.3 Some International Comparisons

Figures 5-5 and 5-6 provide an overview of operational and financial information for five international hydro-based utilities that are government owned – three U.S. utilities, New Zealand’s largest hydro-based utility, and Norway’s largest hydro-based utility. These international comparisons are for background information only. The regulatory environments and market structure in these other countries are substantially different than in Canada. As such, these international utilities are not part of our core peer benchmarking group. However, a review of these utilities can result in some interesting observations in relation to capital structure and capital markets.

Tennessee Valley Authority (“TVA”), the largest government-owned power utility in the United States, is a non-profit agency owned by the U.S. Government. TVA provides electricity for nine million people in parts of seven south-eastern states. TVA’s electricity generation is primarily coal-based and nuclear, with some hydro. TVA also provides flood control, navigation and land management for the Tennessee River system and assists utilities and state and local governments with economic development. Tennessee Valley Authority’s total revenue was US \$11.1 billion in 2014, with limited growth over prior years. Net income was near US \$0.5 billion, up from previous years. TVA has nearly US \$46 billion in total assets. Equity grew to US \$6.1 billion in 2014, and is composed primarily of retained earnings.

Bonneville Power Administration (“BPA”) is non-profit agency owned by the U.S. Government and markets wholesale electric power from 31 federal hydro projects in the Columbia River Basin in the Pacific Northwest. The hydro dams are operated by the U.S Army Corp of Engineers and Bureau of Reclamation, and BPA also operates about three-quarters of the transmission in its service territory. Bonneville Power Administration has experienced slow growth in revenues in recent years and fluctuations in net income. Total assets are near US \$25 billion and equity is near US \$3 billion and has been generated primarily from retained earnings.

New York Power Authority (“NYPA”) is owned by the State of New York and is the largest state-owned power utility in the United States. NYPA operates 16 generating facilities, mostly hydro, and 1400 circuit-miles of transmission lines. New York Power Authority revenues grew to over US \$3 billion in 2013, with electricity sales increasing steadily in recent years. Net income was US \$228 million and has been close to that range in recent years. Total assets are US \$9.3 billion and net debt is relatively low at US \$1.7 billion. Equity has grown to US \$3.7 billion in 2013.

Meridian Energy is the largest electricity generator in New Zealand and sells to customers in New Zealand and Australia. Meridian is listed on New Zealand and Australia stock exchanges and is 51% owned by the New Zealand Government. Meridian Energy’s revenues are over US \$2 billion US and its financial metrics have been relatively steady in recent years.

Statkraft AS Group, Norway’s largest hydropower producer is wholly owned by the Norwegian Government. Over 70% of installed capacity is in Norway, and Statkraft is also Europe’s largest generator of renewable energy and is a global player in energy market operations. Statkraft’s revenues, assets and debt have grown significantly in the past few years due to acquisitions, net income has fluctuated considerably, partly due to foreign currency gains and losses.

Overall, for the three US utilities examined, note that capital expenditures are relatively modest in comparison to overall utility size. In two out of the three cases, these expenditures can be covered by cash flow from operations.

**Figure 5-5: Overview of Operating Information,
Select International Government-owned Utilities**

Overview of Operating Information				
	Location	Installed Capacity (MW)	Total Generation (TWh)	% Hydro Generation
Bonneville Power Administration	Portland, OR, USA	22,458	83.7	89%
Tennessee Valley Authority	Knoxville, TN, USA	33,326	142.1	10%
New York Power Authority	White Plains, NY, USA	5,786	24.8	80%
Meridian Energy	Wellington, New Zealand	2,955	13.4	89%
Statkraft AS Group	Oslo, Norway	16,715	55.9	94%

Source:

1. Bonneville Power Administration Annual Report for the year ended September 30, 2014 and website information
2. Tennessee Valley Authority 10K Form for the year ended September 30, 2014
3. New York Power Authority Annual Report for the year ended December 31, 2013
4. Meridian Energy Annual Report for the year ended June 30, 2014
5. Statkraft AS Group Annual Report for the year ended December 31, 2013

**Figure 5-6: Overview of Financial Information,
Select International Government-owned Utilities**

Overview of Financial Information (US\$ millions)					
(US \$millions)	Annual Revenues	EBITDA	EBIT	Deprec. & Amortiz.	Net Income
Bonneville Power Administration (U.S.)	3,600	1,144	703	441	443
Tennessee Valley Authority (U.S.)	11,137	3,481	1,638	1,843	469
New York Power Authority (U.S.)	3,030	628	400	228	228
Meridian Energy (New Zealand)	2,195	465	273	192	201
Statkraft AS Group (Norway)	8,173	2,646	2,144	502	34

Overview of Financial Information (US\$ millions)						
(US \$millions)	Assets	Net Debt	Interest on Debt	Retained Earnings & Other Equity	Cash Flow from Operations	Capex
Bonneville Power Administration (U.S.)	24,932	10,623	334	2,823	698	843
Tennessee Valley Authority (U.S.)	45,596	24,387	1,344	6,104	2,980	2,384
New York Power Authority (U.S.)	9,331	1,685	182	3,719	513	319
Meridian Energy (New Zealand)	6,640	758	77	4,054	379	248
Statkraft AS Group (Norway)	25,343	5,391	245	11,726	1,337	1,525

Source:

1. Bonneville Power Administration Annual Report for the year ended September 30, 2014
2. Tennessee Valley Authority Annual Report for the year ended September 30, 2014
3. New York Power Authority Annual Report for the year ended December 31, 2013
4. Meridian Energy Annual Report for the year ended June 30, 2014; converted to US dollar as of year-end date
5. Statkraft AS Group Annual Report for the year ended December 31, 2013; converted to US dollar as of year-end date

5.4 Capital Structure – Equity Ratio Comparisons

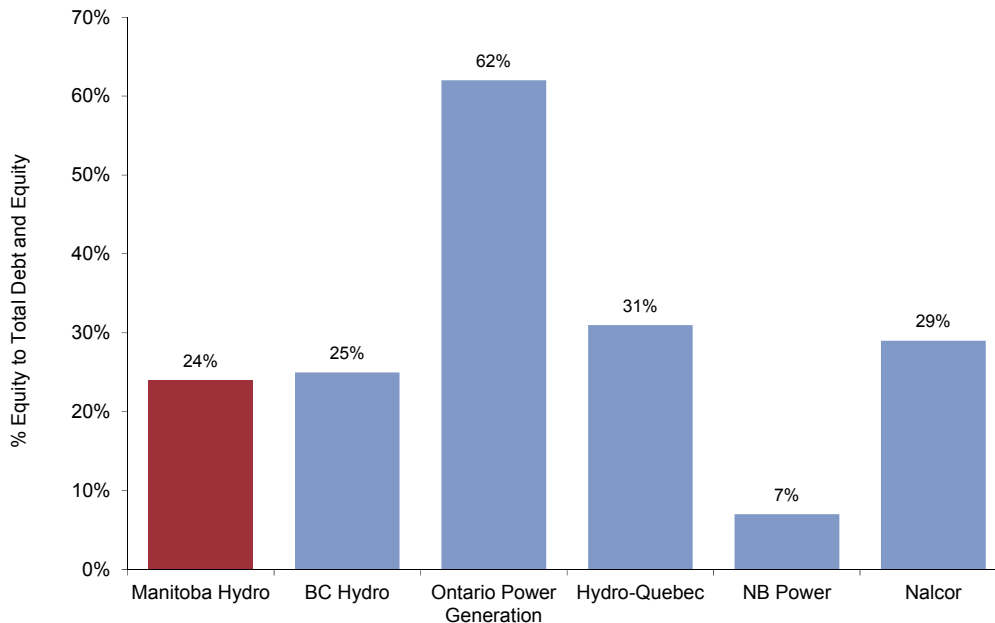
Manitoba Hydro’s equity ratio was 24% as of March 31, 2014. This ratio is based on Manitoba Hydro’s formula, which uses net debt in its calculation and includes contributions in aid of construction (“CIAOC”) as part of equity, thus providing a debt/equity ratio of 76/24.

In comparing the equity ratios of government-owned electric power utilities in Canada, adjustments were made to reflect Manitoba Hydro’s formula for calculating equity ratios. For example, BC Hydro’s reported equity ratio has been 20% over the past five years. Adjusted for Manitoba Hydro’s definition of net debt and including CIAOC in equity, however, results in an equity ratio of 25%. Even with these adjustments, there are still some differences remaining in accounting and reporting frameworks between utilities. However, the adjustments that have been made enable better direct comparison.

Retained earnings represent the large majority of equity for most of the government-owned power utilities in Canada. Of the Canadian utilities in the benchmarking group, all include Accumulated Other Comprehensive Income (“AOCI”) as part of their equity. Some utilities such as Hydro-Quebec, OPG and Nalcor have also included contributed capital as part of their equity. For its part, Manitoba Hydro has a relatively small amount of non-controlling interest included in equity.

Investor-owned power utilities in Canada tend to have equity ratios in the 35-40% range, but a more appropriate comparison for Manitoba Hydro is to government-owned utilities. Manitoba Hydro’s current equity ratio is among the lower end of government-owned power utilities and similar to BC Hydro. Only NB Power is lower, as NB Power has undergone considerable financial challenges and restructuring. Results are shown in Figure 5-7.

Figure 5-7: Comparison of Government-owned Power Utilities in Canada, Capital Structure - Equity Ratio, 2013/2014



Source: Derived from annual report and financial statements for the year ended December 31, 2013 for OPG, Hydro-Quebec and Nalcor and for the year ended March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power. Due to differences in accounting and reporting frameworks between utilities in Canada, may be subject to adjustments. For direct comparison to Manitoba Hydro, equity reflected in the chart above includes contributions in aid of construction (“CIAOC”), and net debt includes long-term debt, current portion of long-term debt and other current borrowings less sinking fund investment and cash and cash equivalents. BC Hydro reports equity to debt at 20:80, but with CIAOC, equity ratio is 25%.

BC Hydro's financial target has been maintained through its dividend policy.

"The Company [BC Hydro] is required to make an annual Payment to the Province [the Payment] on or before June 30 of each year. The Payment is equal to 85 per cent of the Company's net income for the most recently completed fiscal year unless the debt to equity ratio, as defined by the Province, after deducting the Payment, is greater than 80:20. If the Payment would result in a debt to equity ratio exceeding 80:20, then the Payment is the greatest amount that can be paid without causing the debt to equity ratio to exceed 80:20." ⁶³

In recent years, the dividend has been significantly reduced to maintain the debt/equity ratio, and will be further reduced as a result of the BC Government's new 10 year plan for BC Hydro.

"As part of the 10 year plan, the Province will restrict the amount of dividends received from BC Hydro starting in fiscal 2018 until such time as the debt to equity ratio reaches 60:40. BC Hydro does not anticipate reaching the debt to equity ratio of 60:40 during the ten year period." ⁶⁴

Hydro-Quebec's financial target is also maintained through its dividend policy.

"Under the *Hydro-Québec Act*, the dividends to be paid by Hydro-Québec are declared once a year by the Québec government, which also determines the terms and conditions of payment. For a given financial year, the dividend cannot exceed the distributable surplus, equal to 75% of the net result. This calculation is based on the consolidated financial statements. However, in respect of a given financial year, no dividend may be declared in an amount that would have the effect of reducing the capitalization rate to less than 25% at the end of the year." ⁶⁵

In 2013 and 2014, the dividend was 75% of the net result. Hydro-Quebec's equity ratio has consistently been maintained over 30% over the past decade.

The capital structure of Nalcor changed considerably with an injection of \$5 billion in debt financing, which was guaranteed by the Government of Canada, and a contribution of equity capital of \$706 million from the Province of Newfoundland and Labrador. The new long-term debt funding was related to the Phase 1 Lower Churchill Falls project. Construction began in 2013 and is expected to take approximately five years to complete, and includes the Muskrat Falls Generating Station, Labrador Transmission Assets and the Labrador-Island Transmission Link.

NB Power's equity is very low at only \$399 million in 2014, and has averaged approximately \$300 million over the past five years; consequently, its equity ratio was only 7% based on net debt.

As noted previously, direct comparisons of Canadian power utilities to U.S. and international power utilities are difficult and limited due to very different regulatory environments, market structures, different extents of government involvement in ownership, and other factors. Nevertheless, there are some interesting observations in reviewing capital structures of government-owned utilities, particularly in the United States. For example, Bonneville Power Administration, a large hydroelectric power producer, and Tennessee Valley Authority, the largest government-owned power utility in the U.S., are both owned, supported and backed by the Government of the United States, operate as non-profit entities and have similar capital structures of near 20% equity and 80% debt.

⁶³ BC Hydro. 2014 Annual Report. Financial Statements Note 17, p. 95.

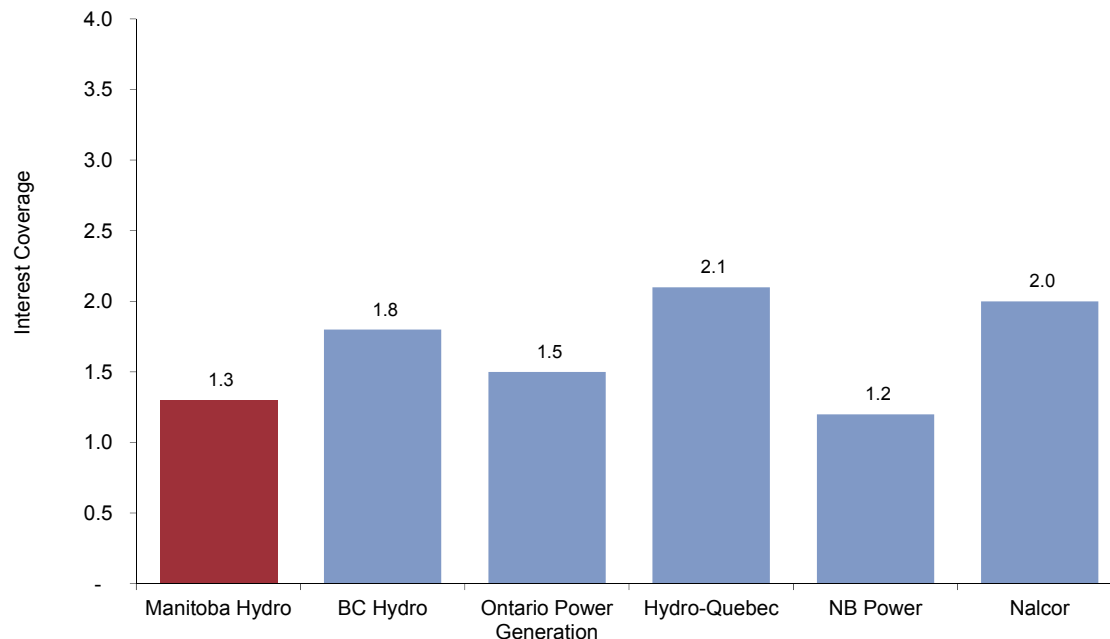
⁶⁴ BC Hydro. 2014 Annual Report. p. 35.

⁶⁵ Hydro-Quebec. 2014 Annual Report. Financial Statements Note 17, p. 90.

5.5 Interest Coverage Comparisons

As of March 31, 2014, Manitoba Hydro was slightly above its interest coverage target of greater than 1.20. Figure 5-8 provides a comparison of interest coverage ratios among government-owned power utilities in Canada.

Figure 5-8: Comparison of Government-owned Power Utilities in Canada, Interest Coverage, 2013/2014



Source: Derived from annual report and financial statements for the year ended December 31, 2013 for OPG, Hydro-Quebec and Nalcor and for the year ended March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power. Due to differences in accounting and reporting frameworks between utilities in Canada, may be subject to adjustments. Interest coverage reflects total interest paid on debt and net income divided by total interest paid on debt.

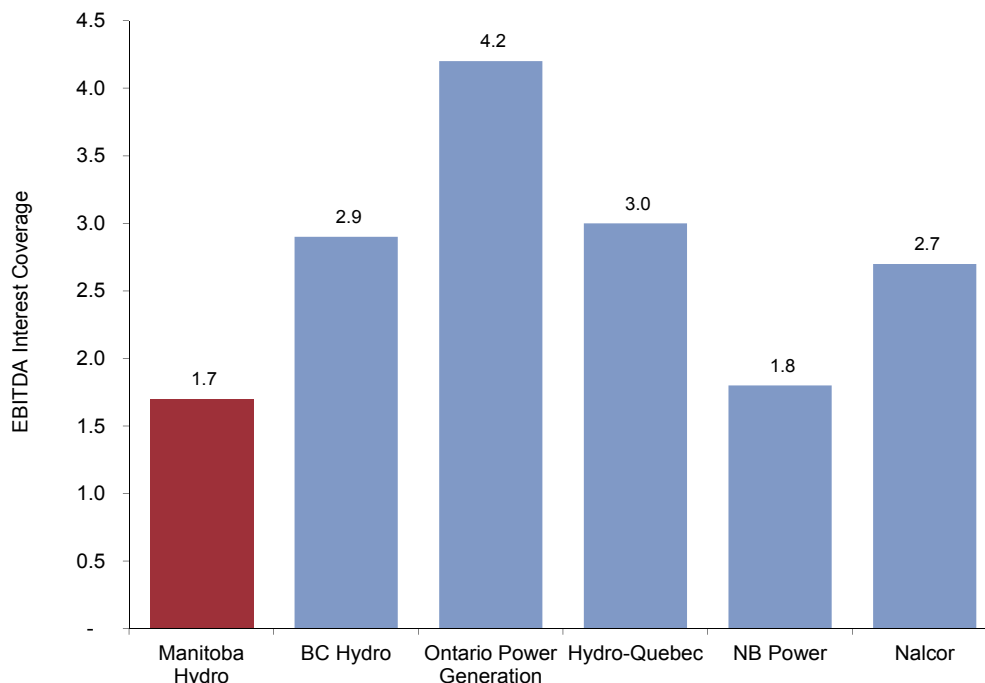
In analysing interest coverage ratios, the following observations are noted:

- Although in recent years, Manitoba Hydro has been near or above its interest coverage target, Manitoba Hydro's interest coverage is currently among the lowest of the select government-owned power utilities in Canada.
- For BC Hydro, net finance costs have grown modestly, however, interest paid on debt has averaged over 10% annual increases due to recent major capital projects. EBIT interest coverage is 1.75 times, down slightly in recent years.
- Hydro-Quebec's total interest on debt has been steady and has averaged approximately \$2.5 billion annually. Capitalized interest has averaged \$300 annually. EBIT interest coverage has generally been near 2.0 times, except for a dip in 2012 related to a sharp decline in net income due to discontinued operations.
- Nalcor's interest coverage was approximately 2.0 times in 2013, which was also its 5-year average.
- NB Power's interest coverage was 1.2 times in 2013, and has ranged from 0.1 to 2.1 times over the past five years.
- OPG's interest on debt has averaged in the \$250 million range per year. Interest coverage dropped significantly in 2013 to 1.5 times but averaged 2.6 over the past five years.

In terms of EBITDA interest coverage, as indicated in Figure 5-9, Manitoba Hydro is currently the lowest of the group of government-owned power utilities in Canada, and substantially lower than hydroelectric peers BC Hydro, Hydro-Quebec and Nalcor. If capitalized interest was added, Manitoba Hydro’s EBITDA interest coverage is nearly 1.9 times.

Over the past five years, BC Hydro’s EBITDA interest coverage has been steady at near 2.9 times. Hydro-Quebec’s EBITDA interest coverage has been near 3.0 times for the past five years except 2012. Nalcor’s EBITDA interest coverage has averaged 2.7 over the past five years. NB Power’s EBITDA interest coverage was 1.75 times in 2014, in line with the average of the past five years. OPG’s EBITDA interest coverage was relatively strong at 4.2 times in 2013.

Figure 5-9: Comparison of Government-owned Power Utilities in Canada, EBITDA Interest Coverage, 2013/2014



Source: Derived from annual report and financial statements for the year ended December 31, 2013 for OPG, Hydro-Quebec and Nalcor and for the year ended March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power. Due to differences in accounting and reporting frameworks between utilities in Canada, may be subject to adjustments. EBITDA (earnings before interest, taxes and depreciation and amortization) does not include capitalized interest. Property and capital taxes are operating expenses and are not added back to EBITDA calculations; only income taxes, if any, are part of the EBITDA calculations.

5.6 Capital Coverage or Cash Flow to Capex Comparisons

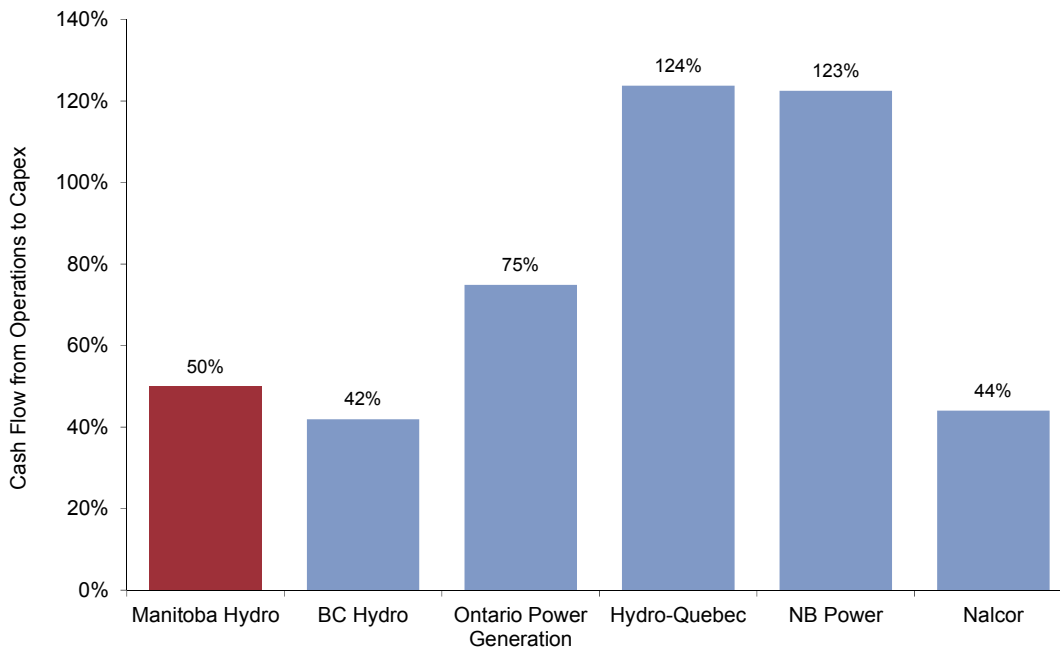
For Manitoba Hydro, the ratio of cash flow from operations to total capital expenditures was 50% in 2013/2014. As shown in Figure 5-10, this was higher than at BC Hydro and Nalcor, which are also in the process of major hydroelectric capital projects. Hydro-Quebec and NB Power had cash flows above their current capital expenditures in 2013/2014.

Note that cash flow to capex is subject to wide variation from year-to-year depending on the timing of major capital projects.

Among the government-owned utilities in Canada, capital expenditure trends in recent years include:

- Manitoba Hydro’s capital expenditures have grown to over \$1.3 billion in 2013/14, and have averaged over \$1.1 billion in the past five years, up significantly from the previous five-year period. Under IFF14, capital expenditures are forecast to average \$2.6 billion annually over the next five years.
- BC Hydro’s capital expenditures have steadily increased each of the past four years to nearly \$2 billion in 2014. Cash flow to total capex has averaged 42% over the past five years. Under the new 10 year Plan for BC Hydro, capital expenditures are expected to decrease to approximately \$1.7 billion annually.
- Hydro-Quebec’s capital expenditures have been steady, averaging \$3.8 billion over the past five years, and were approximately \$4 billion in 2013. Cash flow has significantly exceeded capex in recent years, and averaged 128% of capex from 2009 to 2013.
- Nalcor’s capital expenditures averaged \$315 million from 2009 to 2013, but are ramping up substantially over the next five years as construction proceeds on the Phase 1 Lower Churchill Falls project.
- NB Power’s capital expenditures have averaged \$270 million over the past five years, and cash flow to capex has averaged 41%. NB Power’s new 10 Year Plan projects capital expenditures to decline to approximately \$220 million annually over the next five years and ramp up in the subsequent five year period.

Figure 5-10: Comparison of Government-owned Power Utilities in Canada, Cash Flow from Operations to Capex, 2013/2014



Source: Derived from annual report and financial statements for the year ended December 31, 2013 for OPG, Hydro-Quebec and Nalcor and for the year ended March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power. Due to differences in accounting and reporting frameworks between utilities in Canada, may be subject to adjustments.

5.9 Financial Targets/Plans of Government-owned Power Utilities in Canada

Most of the government-owned power utilities in Canada include, as two of their primary financial metrics, one measure of capitalization (a debt to capital or debt/equity ratio) and one measure of interest coverage. Other metrics may be monitored in addition. Figure 5-22 indicates the financial targets/metrics highlighted in annual reports of select government-owned power utilities.

Figure 5-22: Key Financial Metrics or Targets of Government-owned Power Utilities in Canada

Key Financial Metrics or Targets of Government-Owned Power Utilities in Canada					
	Manitoba Hydro	BC Hydro	Hydro-Quebec	Nalcor	NB Power
Debt / Equity	<ul style="list-style-type: none"> Long-term target of 75:25, has been near target range from 2008 to 2014 Forecast to deteriorate over the next decade due to major expansion 	<ul style="list-style-type: none"> Long-term target recently increased under new 10 Year Plan from 80:20 to 65:35 in 10 years Target of 60:40 in the long term 	<ul style="list-style-type: none"> Minimum requirement of 75:25, practically has been steady in the range of 70:30 for several years Expected to continue in the near term 	<ul style="list-style-type: none"> Minimum target of 75:25 for regulated hydro operations of NLH Large increase in 2013 due to debt and equity for Lower Churchill Falls project 	<ul style="list-style-type: none"> Long-term target of 70:30 under new 10 Year Plan for several years
Debt / Equity (as reported in latest annual report)	74:26 (2014)	80:20 (2014)	68:32 (2014)	72:28 (2013)	95:05 (2014)
Interest Coverage	> 1.2	target not stated	target not stated	> 1.5	target not stated
EBIT interest coverage (as reported in latest annual report)	1.28 (2014) • Has been at or close to target in recent years	1.75 (2014) • Has averaged 1.8 - 1.9 in recent years	2.25 (2014) • Has averaged near 2x in recent years	2.3 (2013) • Has averaged near 2x in recent years	1.12 (2014) • Wide variance from negative to 1.6 in recent years
Other financial metrics (highlighted in Annual Reports or Plans)	<ul style="list-style-type: none"> Capital coverage > 1.2 1.35 (2014) Reflects cash flow to cover sustaining capital expenditures (excluding major generation and transmission expansion projects). Has been at or close to target in recent years. 	<ul style="list-style-type: none"> Net income targets established for next 3 years, increasing from \$549 M in 2014 to \$701 M for FY 2017. Operating cost targets established for next three years, slightly increasing from \$702 M in 2014 to \$730 M in FY 2017. Maintain rates in the first quartile. 	<ul style="list-style-type: none"> Return on equity from continuing operations 16.2% (2014), has ranged from 14.6-16.2% in recent years. Profit margin from continuing operations 24.8% (2014), has ranged from 20-25% in recent years. Self-financing, defined as cash flow from operations less dividends paid, divided by cash flows from investing activities, 51.6% (2014), down in recent years. 	<ul style="list-style-type: none"> Fixed rate debt as % of total debt, 99.3% (2013) Funds from operations to debt, 3.7% (2013), down significantly due to new debt financing for major expansion project. 	<ul style="list-style-type: none"> Operating margin, 8.8% (2014) Cash flow from operations to total debt, 7% (2014) Cash flow from operations/capital expenditures, 1.83 (2014)

Source: Derived from annual reports, Manitoba Hydro, B.C. Hydro and N.B. Power for the year-ending March 31, 2014, Hydro-Quebec for the year-ending December 31, 2014, and Nalcor for the year-ending December 31, 2013. Also from latest published plans for various utilities.

Over the past decade, Manitoba Hydro’s equity ratio climbed from 15% to be slightly over its long-term target of 25% in 2008 and 2010-2013. It is currently near its long-term target. However, as Manitoba Hydro ramps up major generation and transmission projects, its equity ratio is forecast under IFF14 to deteriorate to 11% in 2023 – 2026. It will then recover after these new assets are in-service, and is forecast to approach its long-term equity target in 2033 – 2034.

On a relative basis, Manitoba Hydro’s upcoming capital expansion program is large in comparison to other government-owned utilities in Canada. Note the following:

- Manitoba Hydro’s total assets (consolidated) at the end of Fiscal 2014 were \$15.6 billion. According to IFF14, projected capital expenditures over the period 2015-2019 are \$13.0 billion. Thus, projected expenditures over the next five years equal 83% of the corporation’s existing asset base.
- Nalcor Energy’s assets at the end of Fiscal 2013 were \$9.5 billion. As at December 31, 2013, total capital commitments to be incurred in the following five years related to the Phase 1 Lower Churchill Project, Regulated Hydro, and Churchill Falls were listed as \$2.6 billion.⁶⁷ Thus, these capital commitments represent less than 30% of Nalcor’s current assets, a much smaller ratio than noted for Manitoba Hydro above.
- NB Power does not have major capital projects planned over the next 5 years. Based on NB Power’s 10 Year Plan, capital expenditures are forecast at approximately \$1.1 billion from 2015/16 to 2019/20⁶⁸, representing only 16% of its existing total assets of \$6.9 billion.
- Hydro-Quebec does not publish a long-term projection; however, capital spending in 2014 and 2015 are projected at close to \$4 billion annually. Hydro-Quebec’s major continuing project in its Generation division is the Romaine complex, which has a total estimated cost of \$6.5 billion. Hydro-Quebec’s total assets as of December 31, 2014 were \$74.9 billion. Over all business segments, Hydro-Quebec’s annual capital expenditures have been relatively steady and averaging near \$4 billion annually, which over a five-year period represent would close to 27% of its existing asset base.
- In the 5-year period 2013-2017, capital expenditures for BC Hydro are projected at \$9.96 billion, with approximately 56% of capital expenditures representing sustaining capex and 44% for growth capex.⁶⁹
- Over the 10-year period from 2015 to 2024, BC Hydro is forecast to have capital expenditures of \$17 billion. This compares to total utility assets of \$25.7 billion at the end of Fiscal 2014.⁷⁰ Thus, capital expenditures over the next 10 years represent about 70% of existing total assets. As noted above, Manitoba Hydro will spend proportionately more (83%) just in the next 5 years. Forecast capital expenditures over the next 10-years at Manitoba Hydro are expected to equal 104% of its existing asset base.⁷¹

Figure 5-23 shows these spending ratios graphically.

⁶⁷ Nalcor Energy, 2013 Business and Financial Report, p. 37.

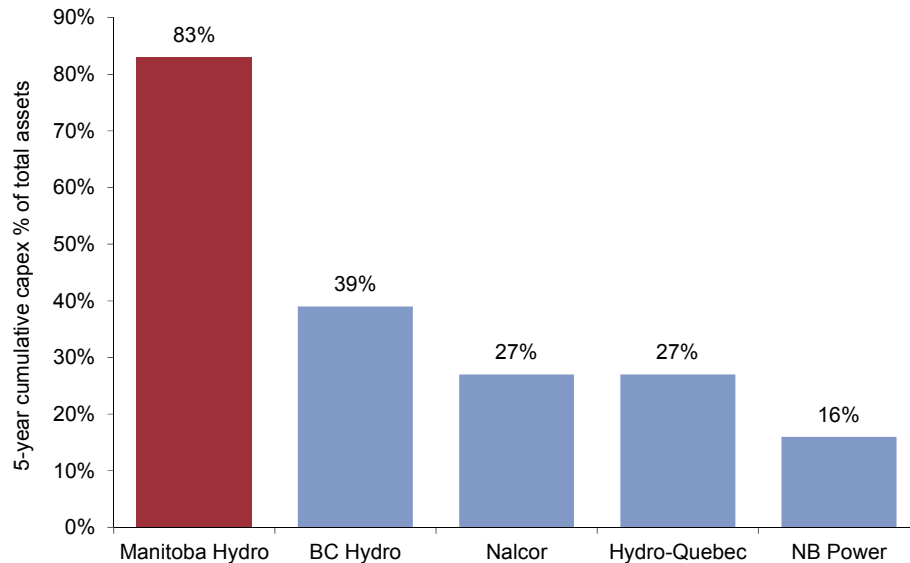
⁶⁸ N.B Power Ten Year Plan.

⁶⁹ BC Hydro Service Plan 2014/15-2016/17, p. 22.

⁷⁰ 10 Year Plan for BC Hydro, Bill Bennett, Minister of Energy and Mines, November 26, 2013, p. 31.

⁷¹ Calculations for Manitoba Hydro are based on forecast capital expenditures of \$17.76 billion over a 10-year period and total assets of \$17.0 billion. Figures are taken from IFF2014.

Figure 5-23: Projected Capital Expenditures over the Next Five-Year Period Compared to Current Asset Base



Source: Derived from from annual reports and plans.

Hydro-Quebec

Hydro-Quebec has consistently maintained its equity ratio at slightly over 30% during the past decade, and this ratio is expected to remain near 30% over the next decade.

For Hydro-Quebec, capital structure targets are determined separately for the transmission and distribution business segments. Transmission’s deemed capital structure provides for a target debt/equity ratio of 70/30, which was set in 2002. Distribution’s deemed capital structure provides a target debt/equity ratio of 65/35, and was determined in 2003. Both Transmission and Distribution are regulated by the Régie de l’énergie (“Régie”). Generation is not regulated in Quebec.

Hydro-Quebec uses its capitalization ratio to monitor its capital structure. Hydro-Quebec’s corporate equity ratio target is a minimum of not less than 25%. Under the Hydro-Quebec Act, the dividends to be paid by Hydro-Quebec are declared once a year by the Quebec government. For any given year, the dividend cannot exceed the distributable surplus, which is equal to 75% of the net result (net income before dividend). However, in a given financial year, no dividend can be declared in an amount that would have effect of reducing the capitalization rate to less than 25% at the end of the year.

NB Power

NB Power has faced a number of financial challenges and this resulted in it having very low equity ratios over the past decade. Recognizing that its capital structure must improve, NB Power introduced a new 10 Year Plan, with the support of its owner, the Province of New Brunswick. The plan provides for a significant increase in its equity ratio over the next decade, with a target of 30% in 2024.

On October 1, 2013, the *Electricity Act* substantially changed both the structure of NB Power and the regulatory framework governing NB Power. NB Power became a vertically integrated utility under the new regulatory framework.

Section 68 of the *Electricity Act* is a statutory expression of the policy of the Government of New Brunswick. The section requires that rates be set on the basis of least cost, reflect annual forecasted

costs for the supply, transmission and distribution of electricity, and provide sufficient revenue to the corporation to permit it to earn a reasonable return, in the context of the corporation's objective to earn sufficient income to achieve a capital structure of at least 20% equity by 2021 via a reduction in debt of \$1 billion.

Filings by NB Power speak to the benefits of an enhanced equity ratio as follows:

"The rationale for reaching the goal by 2021 [at least 20% equity], and reaching debt/equity target of 70 percent/30 percent by 2025, is twofold. First, NB Power recognizes that it requires an equity cushion as a risk management tool. The utility is subject to a variety of operational and financial risks, and an equity cushion will allow the utility to withstand negative contingencies without subjecting customers to sudden unpredictable rate changes. Second, ... NB Power needs to take advantage of the opportunity to reduce debt and improve its capital structure due to the relatively low capital investments required in the first six years of the 10 Year Plan." ⁷²

The Plan therefore very clearly recognizes that equity provides an important cushion against operational and business risks and that enhancing the equity base is a key goal.

More detail with respect to the restructuring process and regulatory framework in New Brunswick is provided in Chapter 4.

BC Hydro

BC Hydro has maintained an equity ratio of 20% over the past decade. However, under the B.C. Government's recent 10-year plan for the utility, the Province directed that the utility move to a much more robust capital structure. Under the Plan, BC Hydro will increase its equity ratio to 40% in the longer term. The specific details of the 10-year Plan, and the context for its development, are discussed in more detail in Chapter 4. In this section, some specific provisions relating to BC Hydro's financial targets and capital structure are highlighted.

Prior to issuance of the 10-Year Plan, a government review had recommended that BC Hydro and the Province of B.C.,

"determine collaboratively, as the economy improves, a capital structure to support the desired debt to equity ratio and dividend payout policy that balances the needs of the Province and the utility." ⁷³

The review further stated:

"Capital structures among public sector utilities currently range between 60:40 and 73:27 debt to equity and have stated targets in place to maintain levels between 65:35 and 75:25. Private sector utilities maintain debt to equity ratios closer to 60:40. Private sector entities are exposed to the consequences of adding too much leverage to their capital structure. Tax advantages of financing with additional debt are weighed against the rising costs of debt. However, public sector utilities borrow at much lower rates as they borrow as agents of their respective provinces.

Using the private sector ratio as a comparison, we would expect a public sector utility debt to equity ratio to be between 75:25 and 70:30, but capital structure is ultimately mandated by provincial regulation." ⁷⁴

⁷² 2015/16 NB Power Corporation General Rate Application, November 21, 2014, pg. 6-7.

⁷³ Review of BC Hydro, 2011, pg. 701.

⁷⁴ Review of BC Hydro, 2011, pg. 99-100.

As noted above, the 10-Year Plan provides that BC Hydro will ultimately move to a 40% equity ratio, which is a ratio that is consistent with private-sector norms. Thus, the BC government went beyond the range cited by the review for public-sector utilities.

Nalcor

Nalcor is a holding company that holds the Government of Newfoundland and Labrador's interests in a number of energy companies, including Newfoundland and Labrador Hydro ("NLH"), which is a regulated utility whose activities encompass generation, transmission and electricity sales. Nalcor also holds entities created in the Lower Churchill Project and related investments. Nalcor's major new generation investment in the Lower Churchill Project is being undertaken outside of the regulated utility NLH.

As noted previously, the Government of Newfoundland and Labrador, with support of Government of Canada guarantees, made specific efforts to improve Nalcor's capital position in advance of major investments in the Lower Churchill Project. Further equity contributions from the Province are intended as debt increases as a result of additional capital spending in the Lower Churchill Project.

For its regulated hydro operations, NLH maintains a capital structure consisting of 75% debt and 25% equity, which drives Nalcor's equity ratio to be in the range of 25 to 30%.

5.10 Summary Observations – Benchmarking

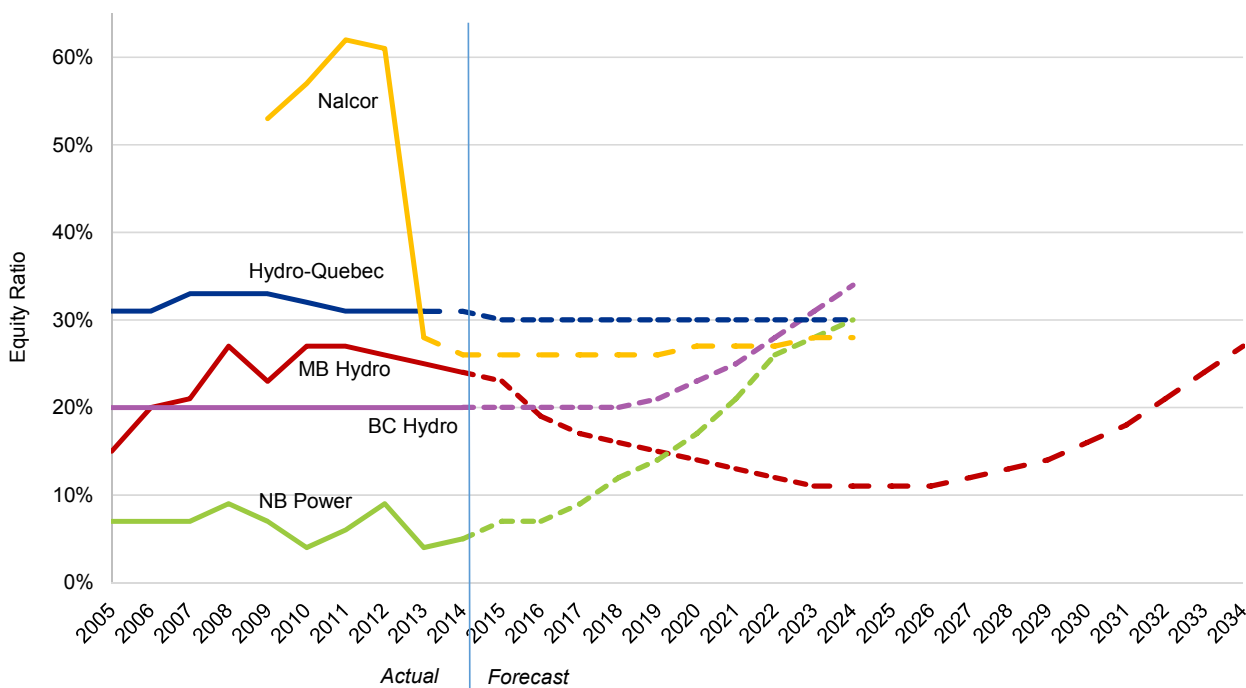
As indicated in Figure 5-24, the general trend of other vertically-integrated government-owned power utilities in Canada is to plan to increase their equity ratios over the long-term.

Based on benchmarking and various comparisons of government-owned power utilities, particularly with hydro-based peer utilities in Canada, the following are summary observations:

- Manitoba Hydro has been and is currently is at low end of power utilities in terms of key financial metrics including equity ratio, interest coverage ratio, cash flow comparison metrics, and other financial metrics.
- At a target of 25%, Manitoba Hydro's equity ratio is similar to BC Hydro using the same calculation methodology. Under its new 10-year plan, BC Hydro's target is to increase its equity ratio to 35% over the next decade and to 40% in the longer term. Manitoba Hydro's target is at the minimum equity ratio target of Hydro-Quebec and Nalcor's regulated hydro operations, although Hydro-Quebec and Nalcor maintain equity ratio targets close to 30%. Of the Canadian peer group, only NB Power is lower; however, NB Power has undergone financial challenges and its new plan is to ramp up to an equity ratio of 30% over the next decade.
- Manitoba Hydro has a relatively high EBITDA to revenue ratio. The nature of the development of hydroelectric generation is that it entails very long development cycles, with very high capital expenditures during construction and relatively low operating costs and relatively strong operating margins once in service.
- Manitoba Hydro has very competitive electricity rates in Canada and North America, providing a significant advantage for ratepayers compared to other jurisdictions.
- Manitoba Hydro has relatively larger installed capacity and electric power generation per capita than most utilities, and extra-provincial electricity sales represent 20 to 25% of total electricity sales, down somewhat in recent years, but a larger share than other utilities and a very significant part of electricity operations.
- Manitoba Hydro's upcoming capital expansion program is relatively much larger as a share of its existing asset base in comparison to other government-owned utilities in Canada. Manitoba Hydro's forecasted cumulative capex over the next five years equates to over 80% of its existing asset base, over double the same metric applied to BC Hydro and over triple that of other peer hydro-based utilities.

- Two of the three Financial Targets of Manitoba Hydro are based on financial metrics that are commonly used by government-owned power utilities as key indicators – debt or equity ratio to capital, and interest coverage ratio. Some utilities also regularly track an EBITDA interest coverage ratio. While the capital coverage ratio is somewhat unique to Manitoba Hydro, other utilities have at least one key financial metric based on cash flow from operations.
- In terms of capitalization, Manitoba Hydro’s current trajectory in the next decade differs from trends at other government-owned utilities in Canada, which generally plan to increase their equity ratio. However, none of the other government-owned utilities except Nalcor are at the start of a major capital expansion at this time, and importantly, Manitoba Hydro’s plan is to return to its long-term equity ratio target in the second decade of its long-term plan under IFF14. The dramatic increase in the equity ratio that is forecast for BC Hydro is facilitated by a sharp drop in dividends that will be paid to the Province. This will allow the utility to rapidly build its equity position.

Figure 5-24: Equity Ratios, Comparison of Select Government-owned Power Utilities in Canada, 10-year Historical Trends and Forecasts Based on Current Plans



Source: Historical data from annual reports as defined and reported by each utility. Forecasts for Manitoba Hydro are based on IFF 2014. Note plan is to recover and ramp up to 27% by 2034. Forecast for BC Hydro is based on the Province of British Columbia’s 10-year plan for BC Hydro. Note BC Hydro does not include CIAOC in its equity calculation. Forecast for NB Power is based on NB Power’s 10-year plan. Forecast for Hydro-Quebec assumes maintaining current policy. Nalcor established in 2008. Forecast from Nalcor assumes maintaining current policy and minimum required target under current major capital expansion program.

Figure 6-1: DBRS Business Risk Factors, Utilities

Regulated Electric, Natural Gas and Water Utilities - Primary Business Risk Factors				
	AA	A	BBB	BB
Business Strength	Exception	Superior	Adequate	Weak
Regulation	Highly supportive regulatory framework with the vast majority of regulatory risk factors in Appendix A considered to be "excellent".	Supportive regulatory framework with the vast majority of regulatory risk factors in Appendix A considered to be "good" or better.	Reasonable regulatory framework with the vast majority of regulatory risk factors in Appendix A considered to be "satisfactory" or better.	Poor regulatory framework with a significant number of regulatory risk factors in Appendix A considered to be "below average" and/or "poor".
Business Mix and Diversification	Primarily electric transmission and/or distribution with modest (if any) power generation.	"Wires" or gas distribution, water or waste-water, or an integrated utility with very timely and certain fuel recovery.	Integrated utility with some fuel cost recovery lag or significant power generator with moderate risk profile.	No integration, with concentration in higher-risk non-regulated operations.
Franchise Area	Strong and consistent levels of load growth. Economically vibrant service territory. Customer mix primarily residential and commercial.	Reasonably load growth generally tracking the broader economy. Economically strong service territory. Customer mix heavily weighted toward residential and commercial.	Minimal load growth. Economically stagnant service territory. Customer mix a balance of residential, commercial and	Consistent load declines. Economically weak service territory. Customer mix weighted toward cyclical industrials.
Competitive Environment	Competition only from other forms of energy, with the utility maintaining a significant competitive cost advantage.	Competition only from other forms of energy, with the utility maintaining a competitive cost advantage.	Competition only from other forms of energy; however, the utility maintains only marginal cost advantage.	Competition only from other forms of energy; however, utility is at a cost disadvantage.

Source: DBRS, Canadian Utilities, Q3 2014

6.3 Overview of Credit Rating Reports on Manitoba and Manitoba Hydro

The Province of Manitoba has maintained a solid credit rating from three credit-rating agencies as indicated on Figure 6-2.

Figure 6-2: Province of Manitoba Credit Rating

	Standard & Poor's	Moody's	DBRS
Rating	AA	Aa1	A (High)
Rating Outlook	Stable	Negative	Stable
Rating History	Last upgrade was to AA/Stable from AA-/Positive in December 2007. Previous upgrade was in November 2006 to AA-/Positive from AA-/Stable since November 2002.	Outlook downgraded from Stable to Negative in August 2014. Last upgrade was November 2006, Aa2 to Aa1. Previously upgraded from Aa3 to Aa2 in January 2003, and after 13 years of A1 upgraded to Aa3 in September 1998.	Last upgrade was from A to A (High) in 2003 where it has remained since.

Source: Derived from information in credit agency rating reports – Standard and Poor's (December 2014); Moody's (October 2014); DBRS (October 2014). Note: some credit agencies also issue a separate report on Manitoba Hydro, which reflect that Manitoba Hydro's debt is guaranteed by its owner, the Province of Manitoba.

Sovereign analysts from credit rating agencies review a number of factors in assigning ratings to governments including:

- Fiscal position and performance,
- Debt burden,
- Economy and economic fundamentals,
- Operating environment,
- Institutional framework,
- Contingent liabilities, and
- Other factors.

The Province of Manitoba's credit rating has typically been in the middle of Canadian provinces, lower than the Western provinces, and higher than the Atlantic Provinces and Quebec. Manitoba ranks 4th highest of the Provinces in credit ratings of Standard and Poor's and Moody's, just ahead of Ontario, and 5th of the provinces in DBRS just behind Ontario.

The credit rating agencies also issue separate analyses on Manitoba Hydro, although these reflect the fact that Manitoba Hydro's debt is guaranteed by the Province of Manitoba as its owner. Thus, Manitoba Hydro's credit rating is effectively a flow-through of the Province's credit rating. Most other government-owned utilities also receive the benefit of the credit rating of their provincial owner.

Specific comments from individual ratings agencies are summarized in the sections below.

6.3.1 Standard and Poor's

In 2014, Standard and Poor's⁸² affirmed Manitoba's "AA" rating. Key strengths included:

- Manitoba's very strong and diversified economy;
- Strong budgetary flexibility;
- Strong financial management;
- Low contingent liabilities;
- Support from the federal government;
- The fact that Canada's provincial-federal institution framework is very predictable and well-balanced.

Standard and Poor's noted that liquidity is adequate and neutral on its rating. Standard and Poor's did comment that the Province's high but stabilizing debt burden somewhat offset credit strengths:

"We consider Manitoba's debt burden to be high. Tax-supported debt, which includes direct debt and guarantees and is net of sinking funds, rose moderately in fiscal 2014 to C\$21.1 billion. Tax-supported debt rose modestly in fiscal 2014 to 153% of consolidated operating revenues from 149% a year earlier. The province's interest expense remained stable compared to the previous year and represented about 6% adjusted operating revenue."⁸³

⁸² Standard and Poor's. Supplemental Analysis: Province of Manitoba, December 10, 2014.

⁸³ Standard and Poor's. Supplemental Analysis: Province of Manitoba, December 10, 2014.

6.3.2 Moody's

In August 2014, Moody's lowered its outlook on its rating for the Province of Manitoba from Aa1 stable to Aa1 negative.⁸⁴

In its October 2014 rating report, Moody's⁸⁵ noted that Manitoba's ratings benefit from:

- The diversity and stability of its economy;
- The Province's high degree of financial flexibility by access to a broad and stable tax base;
- Manageable refinancing needs and exceptional access to capital markets;
- High debt affordability;
- Adequate, but declining level of liquidity.

Moody's commented that the rating is constrained by the Province's high debt burden. They noted that the negative rating outlook reflects assessment of the execution risk of Manitoba's plan to achieve a balanced budget by 2016/17 and the risk of a continued increase in debt beyond 2016/17.

Moody's report noted the inherent risks related to increasing debt at Manitoba Hydro.

A separate analysis by Moody's on Manitoba Hydro noted the following with respect to Manitoba Hydro's stable regulatory and economic environment.

"Manitoba Hydro operates in a stable regulatory framework with steady yearly rate increases. It forecasts annual rate increases of 3.95% until FY2033 to contribute to replacing aging generation, transmission and distribution facilities. The rates are set on a cost-of-service basis. The MPUB independently oversees the rate setting process and has a supportive environment for cost recovery. Residents in Manitoba continue to pay rates that are among the lowest in North America. Revenues from exports to the US and other Canadian provinces accounts for over 20% of electric revenue, alleviating pressure of rate hikes and contributing to the current low rates in the Province."⁸⁶

On financial metrics challenged by high capex requirements in the near term, Moody's commented:

"The weakening financial profile restricts financial flexibility and adds risk in case of unexpected events such as low water levels, costs overruns and construction delays given the nature of a hydroelectric plant's long construction cycle prior to the start of operations and cash flow. However, we view Manitoba Hydro as being capable of prudently managing debt and mitigating such risks by seeking rate increases and curtailing capital spending to continue as a self-supporting corporation."⁸⁷

The Province's guarantee and liquidity was also noted by Moody's.

"Manitoba Hydro's commercial paper is unconditionally guaranteed as to the principal and interest by the Province of Manitoba. Under the Manitoba Hydro Act, Manitoba Hydro can issue up to \$500 million of commercial paper. While the Province does not maintain committed bank credit facilities in support of its short-term borrowing programs, Moody's believes that the probability that the Aa1-rated Province would be unable to obtain funding on a timely basis either from the capital markets or from its bankers is highly remote."⁸⁸

⁸⁴ Moody's Investors Service, Rating Action: Moody's Changes Manitoba's Outlook to Negative, affirms Aa1 ratings, Aug. 18, 2014.

⁸⁵ Moody's Investors Service, Credit Analysis, Province of Manitoba, October 17, 2014, p.1.

⁸⁶ Moody's Investors Service, Credit Opinion: Manitoba Hydro Electric Board, p.2.

⁸⁷ Moody's Investors Service, Credit Opinion: Manitoba Hydro Electric Board, p.2.

⁸⁸ Moody's Investors Service, Credit Opinion: Manitoba Hydro Electric Board, p.2.

6.3.3 DBRS

In October 2014, DBRS confirmed the Province of Manitoba's "A(high)" rating with a trend of stable.⁸⁹ In its rating considerations, DBRS⁹⁰ outlined the following strengths and challenges:

Strengths

- Diversified and resilient economy,
- Manageable debt burden and sound debt management practices,
- Abundant low-cost hydroelectricity.

Challenges

- Slow fiscal progress dependent on successful renewal of public sector collective agreements,
- High reliance on federal transfers,
- Below-average income and GDP per capita.

In a separate report on Manitoba Hydro, DBRS confirms the rating of Manitoba Hydro are a flow-through of the rating of the Province of Manitoba, as the Province unconditionally guarantees almost all of Manitoba Hydro's outstanding third-party debt.⁹¹

DBRS notes the strengths of Manitoba Hydro including:

- Debt is a direct obligation of the Province,
- Low-cost hydro-based generation, and
- Access to favourable export markets.

Challenges noted by DBRS include:

- hydrology risks,
- high leverage, and
- high level of planned capex.

The 2014 DBRS report noted:

"Manitoba Hydro's leverage remains one of the highest among government-owned integrated utilities in Canada, limiting financial flexibility going forward. The utility's leverage is also expected to increase modestly for the medium term because of the significant amount of planned capex."⁹²

⁸⁹ DBRS Rating Report, Province of Manitoba, October 17, 2014.

⁹⁰ DBRS Rating Report, Province of Manitoba, October 17, 2014, p. 1.

⁹¹ DBRS Rating Report, The Manitoba Hydro-Electric Board, October 23, 2014, p.1.

⁹² DBRS Rating Report, The Manitoba Hydro-Electric Board, October 23, 2014, p.2.

6.4 Credit Rating Agency Comparisons of Government-owned Power Utilities

6.4.1 Canadian utilities

Each of the credit rating agencies conducts analyses of the key financial metrics of companies within an industry. Figure 6-3 compares select government-owned power utilities based on a ranking criteria used by DBRS in the utility industry as a whole (which primarily includes private, investor-owned utilities). Note that these three financial metrics are only one part of the analysis undertaken in determining the overall credit rating of a power utility. Other considerations include the presence or not of a government guarantee, the regulatory environment, the nature of markets, rate competitiveness, the nature of regional economies, the utilities' business mix, and other factors.

As government-owned utilities, credit ratings are a flow-through of the credit rating of the respective Province where the publicly-owned utility resides. While Manitoba Hydro scores below average on the financial metrics summarized in Figure 6-3, Manitoba Hydro is relatively strong on several other factors. These include its very competitive rates, regulatory environment, and operating margins.

Credit rating agencies note that because hydroelectric generation assets have very long lives, low outage rates and low operating costs (excluding capital), hydro-based power generation utilities are generally better positioned to maintain higher levels of debt. Higher levels of debt may be associated with the high capital costs of such facilities.

Figure 6-3: DBRS Overall Credit Rating and Ranking on Industry Financial Metrics – Government-owned Canadian Power Utilities

Company Name	12 months to	Rating	EBIT Gross Interest Coverage	Adjusted Debt in Capital Structure	Cash Flow-to-Adjusted Total Debt
B.C. Hydro	9/30/2014	AA (high)			
Saskatchewan Power Corporation	9/30/2014	AA			
Manitoba Hydro	3/31/2014	A (high)			
Hydro-Quebec	9/30/2014	A (high)			
Newfoundland and Labrador Hydro	9/30/2014	A			
Ontario Power Generation Inc.	9/30/2014	A (low)			

Ranking Criteria

		EBIT Gross Interest Coverage	Adjusted Debt in Capital Structure	Cash Flow-to-Adjusted Total Debt
	Strong	> 2.8	< 55%	> 17.5%
	Average	> 1.5 to < 2.8	> 55% to < 75%	< 17.5% to > 10%
	Below Average	< 1.5	> 75%	< 10%

Source: DBRS, Canadian Utilities, Q3 2014

"The ratings in the matrix below should not be understood as the final rating for an entity with matching metrics. This would only be the case to the extent that the business risk of the company and a wide range of other financial metrics were also supportive. The final rating is a blend of both the business risk and financial risk considerations in their entirety.

DBRS notes that given the unique features of hydroelectric generation assets (very long asset lives, low forced outage rates, low operating costs (excluding capital)), generators with a geographically diversified portfolio of contracted hydroelectric assets are generally better positioned to maintain higher levels of debt than their peers. (page 77)."

Figure 6-4 outlines adjusted financial metrics from DBRS' Canadian Utilities report for Q3 2014. Certain indicators such as interest coverage and debt to capital differ from data reported in annual reports and financial statements as a result of adjustments made and explained in the credit agency reports.

Figure 6-4 also shows average metrics for 31 Canadian utilities, which are mostly investor-owned and include relatively few hydro-based utilities. Debt/equity ratios average close to 60:40, which is generally in line with the ratios found among private sector, investor-owned utilities. The average debt/equity ratio of the four hydro-based, government-owned utilities that are listed in Figure 6-4 is near 70:30; this represents a more appropriate peer comparison for Manitoba Hydro.

Figure 6-4: DBRS Credit Rating and Metrics, Q3 2014

DBRS - Credit Rating and Credit Metrics - Select Government-owned Canadian Power Utilities (Q3 2014)							
	Rating	Cash Flow-to-Adjusted Total Debt	EBIT Gross Interest Coverage	EBITDA Gross Interest Coverage	Adjusted Debt in Capital Structure	Return on Adjusted Equity	Return on Capital
B.C. Hydro	AA (high)	7.9%	1.55	2.99	81.6%	14.7%	6.0%
Manitoba Hydro ¹	A (high)	6.4%	1.01	1.68	79.4%	6.7%	5.5%
Hydro-Quebec	A (high)	12.9%	2.25	3.24	66.8%	16.0%	8.5%
Newfoundland and Labrador Hydro	A	8.9%	1.31	2.10	51.6%	2.4%	5.2%
Average, 4 Government-owned Hydro Utilities		9.0%	1.5	2.5	70%	10.0%	6.3%
Average, 31 Canadian Utilities		12.3%	1.9	3.2	61%	8.2%	3.2%

¹ Based on year ended March 31, 2014.

Source: DBRS, Canadian Utilities, Q3 2014. DBRS adjusted.

Like Manitoba Hydro, other provincially-owned power utilities in Canada benefit from the flow-through credit rating of their respective provincial jurisdiction.

BC Hydro

BC Hydro benefits from the flow-through rating of the Province of British Columbia, which receives the highest credit rating from Standard and Poor's (AAA) and Moody's (Aaa) and second highest from DBRS (AA high). This exceptional credit rating assures access to debt financing at very favourable rates in capital markets.

In its latest report on BC Hydro, DBRS⁹³ noted:

Strengths

- All debt is held/guaranteed by the Province;
- Sizable and low-cost hydroelectric generation; and
- Reasonable regulatory environment.

Challenges

- High leverage ("As with most government-owned and supported utilities, BC Hydro's high leverage ratio is not unusual, given the provincial support it receives.")
- Large planned capital spending; and
- Hydrology risk.

⁹³ DBRS, British Columbia Hydro & Power Authority, August 13, 2014.

6.5 Government-owned Power Utilities and Relation to Provincial Economies

6.5.1 Public power utilities in relation to provincial economies

As Government Business Entities and self-supporting entities, the assets and debt of Manitoba Hydro and other provincially-owned power utilities in Canada are not consolidated within the balance sheets of their respective provincial governments in Summary Financial Statements. Figure 6-6 illustrates the size of utility net debt in relation to provincial government net debt. It also shows the relative size of the combined net debt in relation to provincial population and GDP. Credit rating reports on governments in Canada focus their key debt metrics, such as net debt to GDP, on tax-supported debt, and do not include the self-supporting debt of Crown utilities. However, they do take utility debt into account and continue to monitor levels of debt. Rating agencies have generally commented that the combined debt burden is manageable for provinces.

The utility net debt of Manitoba Hydro is approximately 38% of combined provincial net debt and utility net debt, slightly lower than the figure for Nalcor (39%), and higher than values for NB Power and BC Hydro (which are near 30%). As a share of GDP, combined provincial net debt and utility net debt is highest in Quebec (at 62%), followed by New Brunswick (at 51%), and then Manitoba (at 45%).

Figure 6-7 indicates that Manitoba has a relatively high level of utility assets and net debt on a per capita basis, as Manitoba Hydro plays a significant role in its provincial economy.

Figure 6-8 shows the level of Manitoba Hydro's self-supporting debt in conjunction with the Province of Manitoba's total borrowings, guarantees and obligations (net of sinking funds). Debt advances to Manitoba Hydro are forecast in 2014/15 to be approximately 38% of total Provincial borrowings, guarantees and obligations, a share that has been relatively constant over the past five years. However, this share is expected to increase over the next five years, depending upon the level of increase in the Province of Manitoba's tax-supported debt. Based on Manitoba Hydro's projected debt under IFF14, and under an assumption that Provincial tax-supported debt continues to increase at a similar rate to the past five year period, self-supporting debt as a share of total Provincial borrowings, guarantees and obligations could increase to percentage range in the low 40s by 2019/20.

Figure 6-6: Overview of Utility Asset and Net Debt Information and Relationship to Provincial Economy

Overview of Utility Asset and Net Debt Information and Relationship to Provincial Economy									
(\$CDN billions)	Provincially-Owned Utility	Utility Assets 2013/14	Utility Net Debt at March 31, 2014	Provincial Net Debt at March 31, 2014	Provincial Net Debt and Utility Net Debt	Utility Net Debt % of Combined Provincial & Utility Net Debt	Provincial Population 2013	Provincial GDP 2013	Provincial Net Debt and Utility Debt % of GDP
Manitoba	Manitoba Hydro	15.6	10.6	17.3	28.0	38%	1,265,400	61.3	46%
B.C.	BC Hydro	25.7	15.5	38.8	54.2	29%	4,582,600	229.7	24%
Quebec	Hydro-Quebec	73.1	42.2	181.3	223.5	19%	8,154,000	362.8	62%
Newfoundland	Nalcor Energy	9.5	5.8	9.1	14.9	39%	528,200	35.8	42%
New Brunswick	NB Power	6.9	5.0	11.6	16.7	30%	755,600	31.9	52%

Source:

1. Manitoba Hydro Annual Report for the year ended March 31, 2014
2. B.C. Hydro Annual Report for the year ended March 31, 2014
3. Hydro-Quebec Annual Report for the year ended December 31, 2013
4. Nalcor Annual Report for the year ended December 31, 2013
5. New Brunswick Power Annual Report for the year ended March 31, 2014
6. Province of Manitoba Public Accounts, 2013/14
7. Province of B.C. Public Accounts, 2013/14
8. Province of Quebec Public Accounts, 2013/14
9. Province of Newfoundland and Labrador, 2013/14
10. Province of New Brunswick Public Accounts, 2013/14
11. Statistics Canada

Figure 6-7: Overview of Utility Asset and Net Debt Information and Relationship to Provincial Economy Per Capita

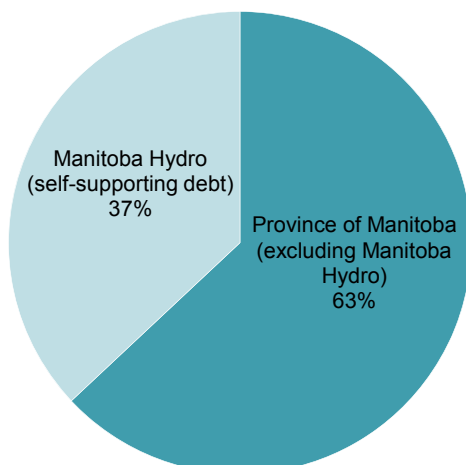
Overview of Utility Asset and Net Debt Information and Relationship to Provincial Economy Per Capita							
(\$CDN)	Provincially-Owned Utility	Utility Net Debt Per Capita	Utility Net Debt - % of GDP	Utility Assets Per Capita	Utility Assets % of GDP	Net Debt/ Assets	Prov. & Utility Net Debt Per Capita
Manitoba	Manitoba Hydro	8,389	17.3%	12,359	25.5%	67.9%	22,095
B.C.	BC Hydro	3,374	6.7%	5,611	11.2%	60.1%	11,836
Quebec	Hydro-Quebec	5,177	11.6%	8,966	20.1%	57.7%	27,406
Newfoundland	Nalcor Energy	11,000	16.2%	18,056	26.6%	60.9%	28,200
New Brunswick	NB Power	6,641	15.7%	9,083	21.5%	73.1%	22,047

Source:

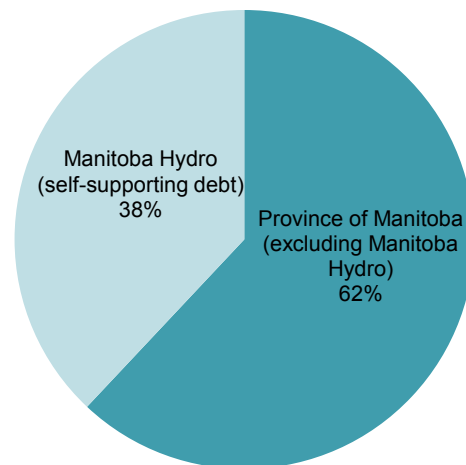
1. Manitoba Hydro Annual Report for the year ended March 31, 2014
2. B.C. Hydro Annual Report for the year ended March 31, 2014
3. Hydro-Quebec Annual Report for the year ended December 31, 2013
4. Nalcor Annual Report for the year ended December 31, 2013
5. New Brunswick Power Annual Report for the year ended March 31, 2014
6. Province of Manitoba Public Accounts, 2013/14
7. Province of B.C. Public Accounts, 2013/14
8. Province of Quebec Public Accounts, 2013/14
9. Province of Newfoundland and Labrador, 2013/14
10. Province of New Brunswick Public Accounts, 2013/14
11. Statistics Canada

Figure 6-8: Province of Manitoba Borrowings, Guarantees and Obligations, 2009/10 and 2014/15 Forecast

2009/10 Provincial Borrowings, Guarantees and Obligations = \$21.1 Billion



2014/15 Forecast: Provincial Borrowings, Guarantees and Obligations = \$33.3 Billion



Source: 2014/15 forecast from Province of Manitoba 2015 Budget Summary Financial Statistics. 2009/10 from Province of Manitoba 2014 Budget Summary Financial Statistics. (Provincial borrowings, guarantees and obligations are net of sinking funds.)

6.5.2 Government contributions from public-owned power utilities in Canada

Figure 6-9 provides a breakdown of contributions paid to governments from Manitoba Hydro and four other government-owned power utilities in the peer group. Of these five government-owned power utilities, only BC Hydro and Hydro-Quebec currently pay a direct annual dividend to their provincial owner. In both cases, dividends are based on a formula and are capped to ensure that a minimum equity ratio is maintained.

Most government-owned utilities pay a debt guarantee fee based on a percentage of outstanding debt to their respective provincial owner.

- Manitoba Hydro pays a 1.0% fee on outstanding applicable debt, which is the highest percentage fee in the group. The Province of Manitoba's debt guarantee fee was increased from 0.5% to 0.65% effective April 1, 2000 and to 0.95% effective April 1, 2001.¹¹² The fee was subsequently increased to 1.0% during fiscal 2006/07.
- NB Power pays a 0.65% fee on outstanding debt.
- Hydro-Quebec pays guarantee fees to the Quebec government related to debt securities. In 2014, these fees were \$205 million in 2014 which represents slightly under 0.5% on outstanding debt.¹¹³
- In 2008, the Government of Newfoundland and Labrador temporarily waived the guarantee fee paid by Nalcor until 2011. Upon reinstatement in 2011, the fee was reduced from 1.0% of outstanding debt to a fee of 0.5% on outstanding debt with a remaining term of over 10 years and 0.25% on outstanding debt with a remaining term of under 10 years. The new fee rates were designed to better reflect the value of the debt guarantee, and are based on a comparison of yields on bonds issued by the Province to bonds with similar maturities issued by a group of investment-grade utilities comparable to Hydro.¹¹⁴ NLH's recent rate application notes the cumulative impact of these fee initiatives to 2015 is \$62.3 million.¹¹⁵

In fiscal 2014, Manitoba Hydro paid \$99 million in debt guarantee fees to the Province of Manitoba, an amount that is expected to increase significantly over the next decade as borrowings ramp up for major generation and transmission projects. Under IFF14, Manitoba Hydro's long-term debt is projected to double from a projected \$11.7 billion in 2015 to over \$23 billion in 2024, and to be maintained near \$24 billion during the period 2025-2034. Thus, over the next decade, Manitoba Hydro's long-term debt is forecast to average nearly \$20 billion. As a result, the debt guarantee fee would approach \$200 million annually on average.

Manitoba Hydro, BC Hydro and Hydro-Quebec pay annual water rental charges to their respective provinces. Manitoba Hydro's water rental charge is \$3.34 per MW, which is a similar rate to Hydro-Quebec, and significantly lower than BC Hydro, which pays \$6.896 per MW plus capacity charges. Under the *Water Power Act*, the Province of Manitoba approximately doubled water rental rates to its current level of \$3.34 per MW effective April 1, 2001. Manitoba Hydro paid \$125 million to the Province of Manitoba in water rental charges in 2013/14.

¹¹² PUB Board Order 7/03, p. 26.

¹¹³ Hydro-Quebec 2014 Annual Report. Financial statements Note 6.

¹¹⁴ Newfoundland and Labrador Hydro – 2013 General Rate Application, p. 3.31.

¹¹⁵ Newfoundland and Labrador Hydro – 2013 General Rate Application, p. 3.32.

All utilities pay local property and related taxes in their respective jurisdictions. In addition to these taxes, Manitoba Hydro pays capital taxes to the Province of Manitoba, and Hydro-Quebec pays a Provincial Public Utility Tax to the Government of Quebec.

Based on information disclosed in annual financial statements, Manitoba Hydro's payments to government represent approximately 15% of total revenues. This is a similar share to BC Hydro in 2013/14 (although BC Hydro's dividend payments to the Province of B.C. have been lower in recent years), a much higher proportion than government-owned utilities in Atlantic Canada, but significantly lower than Hydro-Quebec. Hydro-Quebec contributes approximately 26% of its total revenues to government, with nearly two-thirds of its government contributions in the form of dividends to its owner.

Figure 6-9: Contributions Paid to Governments from Public-Owned Canadian Power Utilities
(FY2013 or FY2013/14 in annual \$ millions)

	Manitoba Hydro	BC Hydro	Hydro-Quebec	NB Power	Nalcor
Dividend (1)	n/a	\$167	\$2,207	n/a	n/a
Debt guarantee fee	\$99		\$200	\$32	\$3.7
Water rental charges	\$125	\$361	\$674		\$5.6
Property & other taxes	\$117	\$203	\$326	\$36	not available
Other charges (payable from projects)					\$19.6
Total	\$341	\$731	\$3,407	\$68	\$29
Total % revenues	15%	14%	26%	4%	4%
Per Capita (rounded dollars)	\$270	\$160	\$418	\$90	\$55

Note: derived from annual reports and financial statements, for the year-ending March 31, 2014 for Manitoba Hydro, BC Hydro, and NB Power and for the year-ending December 31, 2013 for Hydro-Quebec and Nalcor.

For Hydro-Quebec, dividend paid the Quebec government is 75% of net income; no dividend if it effectively reduced the cap rate/equity ratio to less than 25%. For BC Hydro, dividend is 85% of net income, subject to an 80:20 debt to equity cap. Dividend for the year ending March 31, 2014 is substantially less than 85% due to the cap. Note that BC Hydro's dividend payments to the Province of BC have been higher in previous years.

6.7 Summary Observations – Capital Markets

In light of the above research findings, the following are summary observations:

- “Self-supporting is not the same as “stand-alone”. Self-supporting means that Manitoba Hydro’s debt is self-supported, not taxpayer-supported, and therefore Manitoba Hydro’s debt is not consolidated into the Province’s tax-supported debt position in its Summary Financial Statements. It does not mean that the financial risk profile of the utility meets industry metrics for investor-owned utilities.
- Absent the guarantee of Manitoba Hydro’s debt by the Province, the utility’s financial risk profile would be materially different, as would its required customer rate profile. Manitoba Hydro and other provincially-owned power utilities benefit from the flow-through credit rating of their respective provincial jurisdiction.
- Government-owned utilities in the United States are assessed as separate entities while government-owned utilities in Canada receive the flow-through rating of their respective jurisdiction. As noted in examples of credit agency reports on government-owned utilities in the U.S., government backing can account for 2-3 notches in credit ratings. Government guarantees are a major factor in enabling government-owned utilities to have lower equity ratios in their capital structure and to have lower financial metrics than the industry average. Credit rating agencies also recognize that the nature of hydro-based generation and transmission, with capital-intensive builds and higher operating margins, allows for higher leverage in capital structure than other power utilities.
- Relaxation of Manitoba Hydro’s financial targets could transfer additional financial risk to the Province of Manitoba.

8 Considerations in Setting of Financial Targets

This Chapter summarizes our overall study findings and provide recommendations to Manitoba Hydro's Board and Management in respect of its long-term financial targets.

8.1 Context for our Recommendations

Our research work was based on three streams of analysis: benchmarking (Chapters 4 and 5), capital markets analysis (Chapter 6), and scenario analysis (Chapter 7). The three primary streams of analysis were designed to provide a comprehensive and balanced perspective on the development of financial targets for Manitoba Hydro. The scope of our work does not extend to reviewing broader policy questions associated with Manitoba Hydro's overall structure, governance, business strategy and plans. Financial targets must take into account not only the broader economic and market context within which Manitoba Hydro operates but also its specific challenges and needs. There is no single method or formula that can readily identify the most appropriate target or targets. The selection of financial targets must be based on the judgment of the Manitoba Hydro-Electric Board and Management of Manitoba Hydro, taking into account a broad range of evidence and multiple objectives. Similarly, we have had to apply judgment in making the recommendations herein.

The key factors that influence our recommendations on financial targets are as follows:

- Relative to other Crown utilities with a significant base of hydro-electric generation, Manitoba Hydro faces a number of heightened risks:
 - Manitoba Hydro has a large capital investment program relative to its current installed asset base and its projected revenues going forward. As noted in Chapter 3, this heightens risks related to capital investment. As shown in Chapter 5, Manitoba Hydro's forecast cumulative capex over the next five years equates to over 80% of its existing asset base, over double the value of the same metric at BC Hydro and over triple that of other peer hydro-based utilities.
 - As noted in Chapter 3, Manitoba Hydro faces relatively greater hydrology risks than other major utilities, with the potential for droughts of multi-year duration and with flow variability that is a higher proportion of its expected or average output.
 - As shown in Chapter 5, Manitoba Hydro relies on export markets for a significant proportion of its revenue. Much of this revenue is associated with opportunity energy, which is energy that is available only in years with water flows above their minimum. Because opportunity energy is not "dependable", it cannot be sold under firm long-term contract and hence is more exposed to short-term price volatility in adjacent export markets.
 - As shown in Chapter 5, utility debt and utility assets in Manitoba are relatively high on a per capita basis when compared to other jurisdictions. Manitoba Hydro thus has a relatively limited customer base over which to spread potential future cost overruns or business set-backs.

These risks suggest that Manitoba Hydro should have financial targets that provide a significant amount of equity cushion.

- Two of the three Financial Targets of Manitoba Hydro are based on financial metrics commonly used by government-owned power utilities – debt or equity ratio to capital, and an interest coverage ratio.
- As shown in the benchmarking analysis in Chapter 5, Manitoba Hydro has been and currently is at the low end of power utilities in terms of key financial metrics, including with respect to equity ratio, interest coverage ratio, and others. At its target level of 25%, Manitoba Hydro's equity ratio is similar

to that of BC Hydro when calculations are done on the same basis. The 25% value is equal to the minimum level envisaged by Hydro-Quebec's corporate targets and equal to the target value for NLH, the regulated entity within Nalcor. On an overall corporate basis, however, both Hydro-Quebec and Nalcor maintain equity ratios that are close to 30%.

- As shown in Chapter 4 and Chapter 5, other Crown utilities are taking active steps to improve their financial risk profile. BC Hydro and NB Power, for example, currently have plans to increase their equity base over the long-term to 40% and 30% respectively. These plans reflect concerns regarding the risks of having lower equity balances.
- Current projections by Manitoba Hydro under its IFF14 show a weakening of its financial position, as measured through the debt/equity ratio. Combined with the strengthening of the financial position of other utilities as noted in the point above, current trends will place Manitoba Hydro in a relatively weaker financial position compared to other Crown utilities in Canada over the next decade.
- A weakening of Manitoba Hydro's relative financial position, as noted above, may put pressure on Manitoba Hydro to improve its own equity base, given that rating agencies and lenders will compare Crown utilities.
- Knowledgeable observers generally agree that Manitoba Hydro should avoid any risk of losing its self-supporting status as determined by the credit rating agencies. Loss of self-supporting status would have very detrimental effects on the Province and the utility. It could lead to credit downgrades and significantly higher interest costs for the both the utility and the Province. At the same time, however, and as discussed in Chapter 6, the exact point at which Manitoba Hydro's self-supporting status would be put at risk is unclear. The need to maintain self-supporting status suggests that appropriate long-term financial targets, and clear plans to achieve these targets, are essential to ensuring the confidence of capital markets over time. Uncertainty with respect to when self-supporting status would be at risk suggests that financial targets should err on the side of caution – in other words, they should provide for more financial cushion than might otherwise be the case.
- As shown in Chapter 7, additional rate increases in the early years of the forecast horizon can result in a significant improvement in Manitoba Hydro's financial metrics in later years. This improvement reflects the benefit of reducing the impact of interest compounding on the additional debt that is required when rate increases are lower.
- Manitoba Hydro has limited ability to restrain a drop in financial ratios during adverse conditions, such as a drought. This highlights the risk of having an equity ratio that approaches 10%. For this reason, we believe that equity ratios of near 15% or higher are the minimum that should be accepted even for short periods.
- Unlike the case of Hydro-Quebec and, in the near term, of BC Hydro, the shareholder of Manitoba Hydro does not expect to receive dividend income. This provides a significant benefit for ratepayers since rates can therefore be set at a lower level than they otherwise would be. However, the absence of dividend payments removes one lever that the utility could use in adjusting its financial position. Since Manitoba Hydro's dividend payments are already zero and cannot be reduced further, they are not available as a potential source of additional cash when circumstances suggest that additional equity would be desirable. In contrast, as summarized in Chapters 4 and 5, the dividend payment formulae for BC Hydro and Hydro-Quebec enable a reduction in dividend payments to the shareholder to ensure maintenance of the utility's debt/equity ratios. As with most other Crown utilities, it is not anticipated that the shareholder of Manitoba Hydro would make direct equity injections.
- Perhaps relatively more than those of other utilities, Manitoba Hydro's capital investment program is characterized by periodic "bumps" or "hills" of large magnitude. These spending patterns magnify the challenges associated with the fact that Manitoba Hydro has a limited number of levers with which to adjust its equity position.
- As shown in Chapter 5, Manitoba Hydro's current electricity rates for its domestic consumers are among the lowest in North America. This is a very important strength in evaluating Manitoba Hydro's

financial position. More so than many other utilities, Manitoba Hydro has an ability to raise rates in the event of financial distress without unduly jeopardizing its service territory's competitive position.

- As noted in Chapter 6 through examples of credit agency reports for government-owned utilities in the U.S., government backing can account for 2-3 notches in credit ratings. Government guarantees are a major factor in enabling government-owned utilities to have lower equity ratios in their capital structure and to have lower financial metrics than averages observed for investor-owned utilities.
- Credit rating agencies also recognize that the nature of hydro-based generation and transmission utilities, with capital-intensive builds and higher operating margins, may allow them higher leverage in their capital structure than power utilities that rely more extensively on conventional generation powered by fossil fuels.
- As expected given the point above, our benchmarking analysis in Chapter 5 shows that Manitoba Hydro has relatively higher operating margins than most utilities and a relatively high EBITDA to revenue ratio. This reflects the dominance of hydro-electric generation within the utility's generating fleet. The challenge is high capital requirements during periods of generating and transmission expansion and renewal.

In light of the considerations identified above, our recommendations are outlined below.

8.2 Key Recommendations

Our overall finding is that the current indicators used by Manitoba Hydro to measure its financial position are appropriate. Thus, it is appropriate to base financial targets on the following:

- An indicator of Manitoba Hydro's debt and equity position, such as the debt/equity ratio.
- An interest coverage ratio.
- A measure of the corporation's ability to cover its sustaining expenditures, such as a capital coverage ratio.

Specific additional findings and recommendations with respect to these indicators are outlined below.

8.2.1 Debt/Equity Ratio

- Manitoba Hydro's current debt/equity target of 75/25 is a reasonable long-term target for financial planning purposes. This finding is based on:
 - Our review of other Canadian and select international government-owned power utilities and, in particular, developments at other Canadian hydroelectric utilities,
 - Credit agency reports and capital markets perspectives, and
 - Scenario analyses.
- Notwithstanding our finding above, we note that an increase in Manitoba Hydro's equity ratio to 30%, implying a debt/equity ratio of 70/30, would provide additional financial strength to address the utility's unique financial challenges and risks.
- For greater certainty, our overall recommendation is that Manitoba Hydro's debt/equity ratio target in the long-term should fall within the range of 75/25 to 70/30.
- Whatever debt/equity target is selected by the Board of Manitoba Hydro, it is very likely that Manitoba Hydro would need to depart from any target during periods of large capital investment or during short-term periods of financial stress, such as may be associated with a drought. Deviations from target are a consequence of the fact that Manitoba Hydro must rely on retained earnings as the sole source of its equity. The utility's ability to adjust its earnings stream in the short-term is necessarily limited by the objective of providing rate stability to consumers. In light of these considerations, some additional recommendations are as follows:

- In advance of a major build-program, such as that associated with the building of large new generation assets, Manitoba Hydro should increase its equity position above the 25% target. This would provide the equity base to support the additional borrowings that will accompany such a program. The need for an increase in equity reflects the fact that earnings during the period of any large build will not be sufficient to keep debt/equity levels stable during the expansion. The inability to keep ratios stable was demonstrated through our analysis of Manitoba Hydro’s current plans in Chapter 3 and our scenario analyses in Chapter 7. The extent of additional equity that is appropriate in advance of any major build program will need to be evaluated on a case-by-case basis.
- Manitoba Hydro has recently embarked on a major capital expansion program with a starting debt/equity level of about 76/24. This equity level is below what would be implied by the prior recommendation above. Given its current position, Manitoba Hydro will necessarily fall well below the equity ratio target of 25% during the upcoming build period. Current financial projections provided as per IFF14 call for Manitoba Hydro’s equity ratio to fall to 11% by 2025 on a consolidated basis (10% for electric).
- We have significant concerns that an 11% equity level, even for just a short period, provides a less than desirable equity base to accommodate potential adverse developments. Our concerns are based on our scenario analysis in Chapter 7 as well as the precedents provided by other Crown utilities, summarized in Chapter 5. We suggest that Manitoba Hydro’s plans be adjusted to provide that equity ratios of near 15% be maintained under forecast conditions.
- In the longer term, it would be desirable if decreases in the equity ratio as a result of major capital expansion were limited to 5 to 10 percentage points from the target level of 25% to 30% in advance of planned major capital expansions.
- It is reasonable for Manitoba Hydro to reduce its equity position during unanticipated periods of financial stress, as may result from drought. A corollary to this, however, is that increases in the equity ratio may be observed when results are more favourable than expected, such as during high water-flow years. If increases in the equity ratio are not observed during high water-flow years, this may imply that rates are too low to ensure financial health when water flows are at average levels.
- Increases in the equity ratio will not necessarily increase required electricity rate levels once higher equity ratios have been achieved. This reflects the following:
 - Manitoba Hydro can set rates at a level that provides a return on equity that is lower than would be sought by an investor-owned utility. This is consistent with the current policy framework, summarized in Chapters 3 and 4, in which provincial ownership is used to provide low rates rather than to provide dividend income to the provincial shareholder.
 - A high equity base, even if it is associated with low rates of return on equity, will provide financial flexibility as a result of the fact that the corporation will have additional borrowing capacity. Manitoba Hydro can then draw on this borrowing capacity when it embarks on an expansion program or as a result of other adverse events.
 - Having a larger equity base will reduce the amount of debt and associated debt service costs. If low equity rates of return are sought in parallel, the decrease in leverage does not imply an increase in the achieved cost of capital. This departs from the outcome that would be observed in respect of normal financing decisions by an investor-owned utility.

8.2.2 Interest Coverage Ratio

- A minimum interest coverage ratio remains an appropriate element of financial targets. As was observed with the equity ratio, the current minimum interest rate coverage target will not be met during much of the next decade under IFF14 assumptions, as the corporation’s equity ratio declines in

parallel with Manitoba Hydro's capital expansion program. Failure to meet the interest coverage ratio over such a long period is problematic from financial markets' perspective. Our recommendation for increases in the equity level relative to forecast will have a similarly beneficial impact on interest coverage ratios.

- By its nature, an interest coverage ratio will be more volatile than the debt/equity ratio. The former is calculated using results in one period while the latter reflects the cumulative impact of decisions over time. Accordingly:
 - The debt/equity ratio should remain the primary measure of Manitoba Hydro's financial position, although the interest coverage ratio is an important indicator of trends and provides an early warning signal of potential future distress.
 - The interest coverage ratio observed in any period will be impacted by water flows, which may be above or below forecast. Thus, it may be useful to monitor, in addition, a "normalized" interest coverage ratio that estimates the ratio under expected or normal hydrological conditions. However, such a normalized indicator by necessity requires the use of additional assumptions and hence is less transparent.
- While using an interest coverage ratio based on EBIT is a reasonable approach, we recommend instead that Manitoba Hydro use an interest coverage ratio based on EBITDA. This recommendation is based on the following considerations:
 - EBITDA is a financial measure that is widely accepted and used in capital markets and by credit rating agencies for financial statement analysis, credit assessments, and valuation. It is straightforward to calculate and to benchmark using financial statements for peer companies.
 - An EBITDA-based metric includes the cash flows associated with the accounting of depreciation and amortization expense in the numerator of the interest coverage calculation. As these cash flows can be used to make interest payments, this indicator uses an approach for calculating coverage that is more cash-flow based than that using EBIT.
 - EBITDA, however, is not an exact measure of cash flow since it does not incorporate capital expenditure requirements or working capital adjustments. Nevertheless, it is closer to a cash-flow metric than EBIT.
 - EBITDA interest coverage ratios should be at a higher level than EBIT-based interest coverage ratios.
 - Based on assessing forecasts under IFF14 and recent historical data, MH's EBITDA interest coverage ratio is approximately 50% higher than the EBIT interest coverage ratio on an average annual basis.
- In consideration of the above points, as a financial target, we recommend a minimum EBITDA interest coverage ratio of 1.8 or greater.
- Regardless of whether Manitoba Hydro chooses to use an EBIT- or EBITDA-based measure of interest coverage as a Financial Target, Manitoba Hydro should continue to monitor both measures. The indicator remaining as a second measure would not be treated as one of the three primary targets in the financial planning process but will provide additional information to stakeholders and management.
- Should Manitoba Hydro prefer to stay with its existing debt/equity ratio and interest coverage metric based on EBIT, the current minimum interest coverage target value of 1.2 or greater is reasonable.

8.2.3 Capital Coverage Ratio

- The minimum capital coverage ratio is also an important financial target. The current minimum target of 1.2 or greater is reasonable.
- The capital coverage ratio is calculated as Cash Flow from Operations divided by Base (or sustaining) Capital Expenditures. Base Capital Expenditures exclude major new generation and transmission projects. The logic of this ratio is that the corporation should be able to fund its sustaining capital from current operations, without accessing external sources of funding.
- An inherent limitation of the capital coverage ratio is that it does not reflect the financial challenges associated with major expansion programs. Hence it may be misunderstood or misinterpreted by stakeholders. This suggests that clarity with respect to its calculation may be appropriate. We recommend that the calculation of the capital coverage ratio and the specific values of its numerator and denominator be clearly identified in Manitoba Hydro's annual reports and/or financial statements.

8.3 Additional Recommendations

Along with constant monitoring, reporting and forecasting of its three Financial Targets, Manitoba Hydro should continue to regularly monitor, assess and report on other financial metrics as outlined below.

Standard income statement metrics include but are not limited to:

- Revenue growth, domestic and extraprovincial revenues
- Operating costs, with attention to containing controllable operating costs
- EBITDA
- Net income.

In addition to the three Financial Targets, other financial metrics to monitor include but are not limited to:

- EBIT interest coverage ratio
- Cash flow from operations to net debt
- Net debt to assets
- EBITDA to revenues
- EBITDA to assets
- Capital expenditures to fixed assets
- Average electricity prices across different customer groups, continuing with the explicit objective of maintaining its position among the lowest electricity rates in Canada and North America.



Manitoba Hydro

Financial Targets Review

Supplementary Update

August 2017

KPMG LLP

Notice on Supplementary Update

KPMG LLP (“KPMG”) has drafted this supplementary update (“Update”) to the Financial Targets Review Report issued May 2015 (the “May 2015 Report”). This supplementary update and the May 2015 Report were prepared pursuant to our engagement to assist Manitoba Hydro-Electric Board (“Manitoba Hydro” or “MH”) in its review of financial targets (“Financial Targets Review”) in accordance with the terms of a services agreement dated December 5, 2014.

This Update has been prepared for Manitoba Hydro. Its contents may not be shared with or disclosed to anyone by the recipient without the express written consent of Manitoba Hydro and KPMG, unless Manitoba Hydro files the report or substantive components of the report for its regulatory purposes. KPMG does not accept any liability or responsibility to any third party who may use or place reliance on this Report.

Purpose of the Update

The purpose of this Update is to:

- Provide an update of the background information in the Financial Targets Review,
- Update data and information as at March 2017 for benchmarking and comparisons of government-owned power utilities in Canada; and
- Update the scenario analysis to include IFF16 filed by Manitoba Hydro in May 2017.

Basis of Information

The data and information included in this Update and the May 2015 Report were obtained primarily from secondary sources such as annual reports, financial statements and regulatory filings of MH and other power utilities, Decisions and Orders of the Public Utilities Board of Manitoba (“PUB”) and of other regulatory agencies, credit agency reports, bank reports, and other sources of Canadian and international research and statistics. Financial forecasts were derived from MH’s Integrated Financial Forecast and similar documents from other select power utilities. Scenario analyses were performed on KPMG’s behalf by MH using its own in-house models.

This Update and the May 2015 Report relies on data and information from these secondary sources and KPMG makes no representations with respect to their accuracy or completeness.

The procedures performed do not constitute an audit, examination or review in accordance with standards established by the Chartered Professional Accountants of Canada, and we have not otherwise verified the information we obtained or presented in this Update or Report. KPMG expresses no opinion or any other form of assurance on the information presented in the Update and the May 2015 Report, and makes no representations concerning its accuracy or completeness.

1.3 Summary of the May 2015 Report Recommendations

It should be noted that the updates contained herein have not changed the core recommendations of the May 2015 Report. For greater certainty, we still concur with the recommendations of the May 2015 Report.

The context for the recommendations in the May 2015 Report included the following:

- Relative to other Crown utilities with a significant base of hydro-electric generation, Manitoba Hydro faces a number of heightened risks:
 - Manitoba Hydro has a large capital investment program relative to its current installed asset base and its projected revenues going forward.
 - Manitoba Hydro faces relatively greater hydrology risks than other major utilities.
 - Manitoba Hydro relies on export markets for a significant proportion of its revenue.
 - Utility debt and utility assets in Manitoba are relatively high on a per capita basis compared to other jurisdictions. Manitoba Hydro thus has a relatively limited customer base over which to spread potential future cost overruns or business set-backs.
- As shown through benchmarking, Manitoba Hydro's target equity ratio is at the low end of those maintained or forecast by other government-owned power utilities.
- Manitoba Hydro has limited ability to restrain a drop in financial ratios during adverse conditions, such as a drought. This highlights the risk of having an equity ratio that approaches 10%. For this reason, we believe that equity ratios of 15% or higher are the minimum that should be accepted even for short periods.
- Manitoba Hydro is dependent on an accumulation of retained earnings to build up its equity base. The Manitoba government does not expect to receive dividend income from the utility but nor does it make equity injections during periods of major capital expansion. As a consequence, Manitoba Hydro has few levers with which to adjust its financial position.
- Manitoba Hydro's capital investment program is characterized by periodic "bumps" or "hills" of large magnitude. These fluctuations magnify the challenges associated with Manitoba Hydro's limited levers for financial control.

As further context to this update, the recommendations of the May 2015 Report are repeated below:

Recommendation 1: debt/equity ratio target of 75/25 to 70/30

- Manitoba Hydro's current debt/equity target of 75/25 is a reasonable long-term target. Notwithstanding this finding, we note that a target of 70/30 would provide additional financial strength to address the utility's unique financial challenges and risks. Accordingly, our overall recommendation is that the debt/equity ratio should fall within the range of 75/25 to 70/30.
- Manitoba Hydro will need to depart from its equity target during major build programs: this reflects the utility's limited financing tools and reliance on retained earnings as its dominant source of equity. Accordingly, the equity position should rise above 25% in advance of major build programs to mitigate the deviations from target that are observed.
- We have significant concerns that an 11% equity level, as forecast under IFF14, provides a less than desirable equity base to accommodate potential adverse developments. We suggest that Manitoba Hydro's plans be adjusted to maintain an equity ratio no lower than 15% under forecast conditions during the peak periods of its major capital build program when equity ratios are at their lowest levels.
- In the long-term, with respect to deviations from any target, it would be desirable to limit decreases in the equity ratio to 5-10 percentage points.

- In the long-term, higher equity ratios need not translate into higher rates, because Manitoba Hydro has the option to seek lower rates of return on equity than investor-owned utilities.

Recommendation 2: minimum EBITDA interest coverage ratio target of 1.8 or greater

- As noted in the May 2015 Report, the debt/equity ratio should remain the primary measure of Manitoba Hydro's financial position. An interest coverage ratio is an important element of financial targets and indicator of trends. EBITDA is a widely accepted financial measure and is closer to a cash flow metric than EBIT, albeit with limitations since it does not incorporate capital expenditure requirements or working capital adjustments.
- Our recommendation is an EBITDA interest coverage ratio, at a minimum target level of 1.8 or greater.

Recommendation 3: maintain a minimum capital coverage ratio target of 1.2 or greater

- The capital coverage ratio is also an important financial target and a unique measure to Manitoba Hydro.
- The current minimum target of 1.2 or greater is reasonable in that the corporation should be able to fund its sustaining base capital from current operations without accessing external sources of financing. However, an inherent limitation of this ratio is that it does not reflect the financial challenges associated with major expansion programs. Hence it may be misunderstood or misinterpreted by stakeholders.

Recommendation 4: other metrics to continue to monitor

- Manitoba Hydro should maintain three Financial Targets.
- Manitoba Hydro should also continue to regularly monitor other financial metrics. These include but are not limited to: revenue growth, controllable operating costs, EBITDA, net income, cash flow from operations to net debt, net debt to assets, EBITDA to revenue, capital expenditures to fixed assets, average electricity prices across different customer groups.

In the context of this review, we note that the financial position of Manitoba Hydro has deteriorated in recent years, which increases risk to the corporation and to the Province of Manitoba. Benchmarking comparisons to peer government-owned power utilities show Manitoba Hydro in a relatively worse financial position than comparisons in the May 2015 Report. The Province of Manitoba has experienced credit downgrades from two credit rating agencies since the May 2015 Report. Thus, a return to minimum equity ratio targets, which is fundamental to the financial health of the corporation and the need for a sufficient equity cushion, has increased. With Manitoba Hydro's reliance on retained earnings for equity, the need for growth in sustainable positive cash flow and net income to increase equity has increased. Further, actions at other utilities confirm the importance of a robust equity ratio to support capital expansion and to provide protection against downside risks.

2 Update of Manitoba Hydro’s Financial Outlook

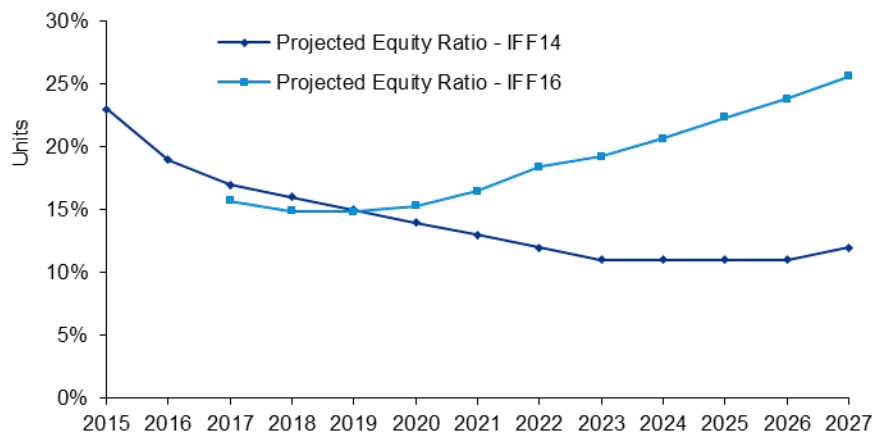
This chapter summarizes Manitoba Hydro’s financial outlook under current plans as embodied in IFF16. This chapter updates some of the projections that were contained in Chapter 3 of the May 2015 Report.

2.1 Financial Metrics Forecast Over the Next 10 Years under IFF16

In this section, we compare key metrics for Manitoba Hydro under IFF16 versus IFF14. Manitoba Hydro’s revised financial plan, IFF16, proposes annual rate increases in electricity rates of 7.90% for five years, 2017/18 to 2021/22, followed by inflationary increases of approximately 2.00% thereafter.

Figure 2-1 shows the projected equity ratio under the two forecasts. The projected equity ratio under IFF16 starts out from a lower position than under IFF14, but improves much more rapidly after 2020.

Figure 2-1: Projected Equity Ratio – IFF16 versus IFF14



In the short-term (through 2018), the equity ratio continues to fall under IFF16, remaining lower than under IFF14, even with projected 7.90% rate increases. This highlights the challenges related to financing large capital build programs. Given limited cash flows available from operations, Manitoba Hydro must rely significantly on debt to finance its capital expansion.

By definition, equity is a “stock” measure, and adjustments in the equity ratio over time require significant earnings flows to build up the retained earnings base and cash flows to reduce debt. If rate increases are not implemented, deficiencies in the earnings and in the cash flows available from operations could impair improvements in the utility’s financial position.

Figure 2-2 below compares projected interest coverage ratios under the two forecasts (IFF16 and IFF14). Interest coverage ratios are consistently better under IFF16 after 2018 under the more recent projection, reflecting higher operating earnings.

Figure 2-2: Projected Interest Coverage Ratio – IFF16 versus IFF14

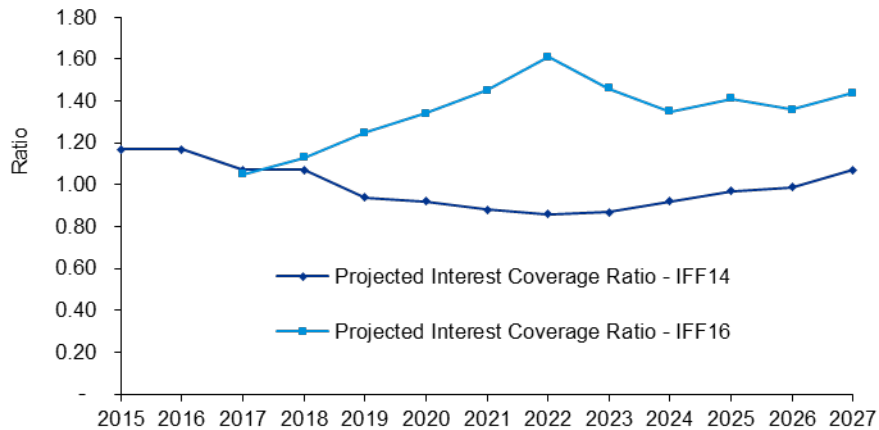


Figure 2-3 below compares projected EBITDA interest coverage ratios under the two forecasts (IFF16 and IFF14). EBITDA interest coverage starts from a slightly lower position in 2017 under IFF16, but then is consistently better than IFF14 for the remainder of the period.

Figure 2-3: Projected EBITDA Interest Coverage Ratio – IFF16 versus IFF14

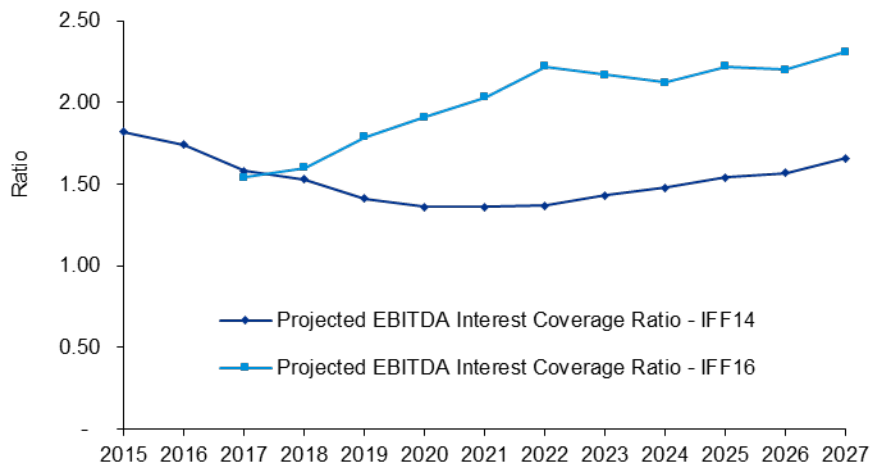
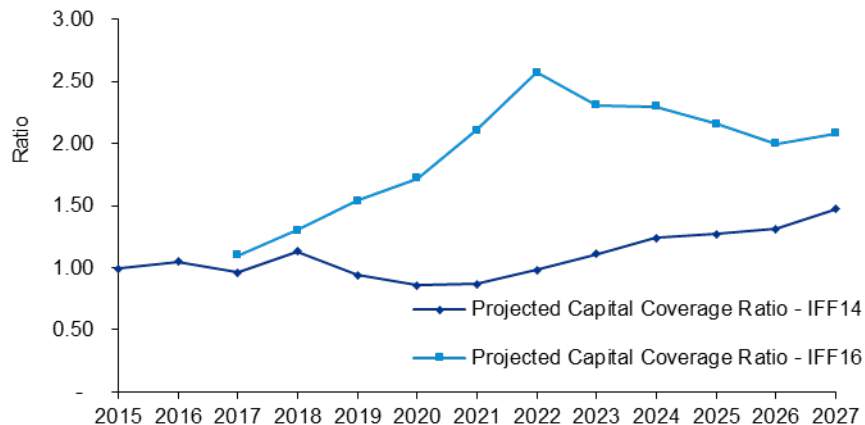


Figure 2-4 below compares projected capital coverage ratios under the two forecasts (IFF16 and IFF14). Capital coverage ratio is consistently better under IFF16. This reflects Manitoba Hydro’s improved operating earnings.

Figure 2-4: Projected Capital Coverage Ratio – IFF16 versus IFF14



In evaluating projected trends in the capital coverage ratio, the limitations of this ratio need to be taken into account. As noted in the May 2015 Report, the capital coverage ratio does not take into account the financial impacts associated with major capital programs. Hence, it needs to be interpreted with caution. By definition, the ratio takes into account only base capital expenditures. It excludes projects categorized as Major New Generation and Transmission. It thus excludes:

- Capital expenditures related to large capacity expansions (such as Keeyask).
- Major reliability projects such as Bipole III.
- Some expenditures related purely to asset sustainment, such as the Pointe du Bois Spillway replacement, which are classified as Major New Generation and Transmission projects simply because of their size.

Projects such as Bipole III and major sustainment expenditures are particularly challenging from a financial perspective for Manitoba Hydro because they do not lead to material revenue increases that could help support their carrying costs once they are introduced into service. Bipole III has been built to reduce the risk of transmission outages and sustainment projects are built to ensure the continuation of existing revenue streams.

Furthermore, the capital coverage ratio excludes ongoing cash expenditures that Manitoba Hydro has to make to continue to operate as it currently does. Examples include deferred expenditures such as DSM and mitigation spending.

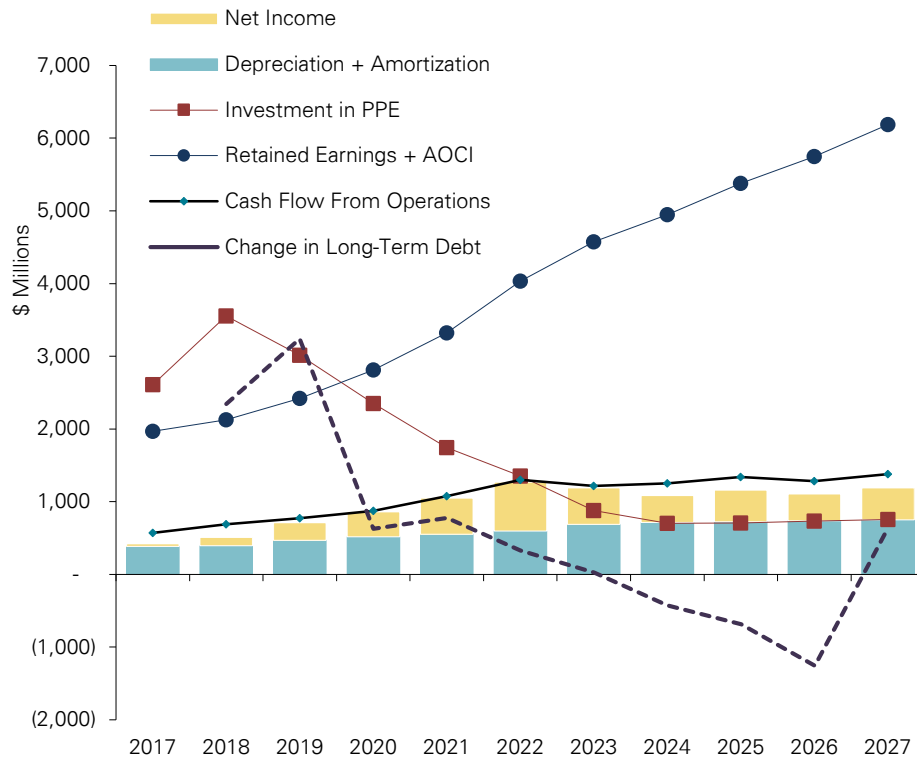
Also, the capital coverage ratio is based on cash flow from operations. This cash flow measure does not reflect the cash flow impact of interest payments that are capitalized for accounting purposes. Major capital projects result in a significant amount of such interest.

We note that Manitoba Hydro has developed an additional metric that examines adjusted cash flow to adjusted capital expenditures. This metric is intended to reflect overall cash flow impacts and related challenges in a more complete way during periods of major capital investment.

2.1.1 Integrated Assessment

Figure 2-5 shows the forecast evolution of Manitoba Hydro’s financial position over the next 10 years based on projections in IFF16. This updates the data presented in Figure 3-10 of the May 2015 Report. All figures are shown in nominal dollars and are for Electric Operations alone, in contrast to Figures 2-1 through 2-4 above, which are for the overall corporation.

Figure 2-5: Forecast Evolution of Manitoba Hydro’s Financial Position – IFF16



Source: IFF16 Projected Financial Statements for Electric Operations

A review of Figure 2-5 indicates the following:

- Projected capital expenditures in property plant and equipment (“PPE”) are at very high levels in the near term, with a peak of \$3.6 billion in Fiscal 2018. Thereafter they fall steadily to \$700 million by Fiscal 2024 and then remain generally flat through to the end of the projection period. High capital expenditures in the near term reflect work associated with the construction of Keeyask and Bipole III. The capital expenditure profile is similar to that observed in IFF14, although peak spending in 2018 is higher (at \$3.6 billion versus \$3.2 billion). Overall spending is also higher due to increases in control budgets on the major projects.
- Depreciation and amortization expense is approximately \$400 million in 2017, but increases gradually to \$751 million by 2027. We note that depreciation expense has historically been significantly lower than actual annual investments in sustaining or business operations capital.
- Under IFF16 for electric operations, net income grows steadily over the period to 2022, from just \$34 million in 2017 to \$673 million in 2022. This provides support in reducing reliance on new debt to fund capital expenditures.

- Cash Flow from Operations tracks, but is slightly above, the sum of net income and of expenses for depreciation and amortization over the period.
- Given the limited cash flow available from net income and from depreciation and amortization, capital expenditures in the near term must largely be funded by debt. Thus, the annual change in debt during the years 2018 and 2019 is closely related to capital expenditures. The increase in debt highlights the major cash flow shortfall that Manitoba Hydro experiences during major capital projects. It also reflects that the costs of maintaining the existing Manitoba Hydro system have been \$150 to \$200 million more per year than what is being recognized through depreciation expense.
- Beyond 2022, net income falls again before recovering to \$440 million in 2027. Over the same time period, projected capital expenditures are roughly equal to the cash flow available from depreciation and amortization expense. Because net income is retained rather than distributed as dividends, there is increasing growth in retained earnings in this period. Strong cash flow avoids the need to add new debt and, in many individual years, significant reductions in long-term debt balances occur.

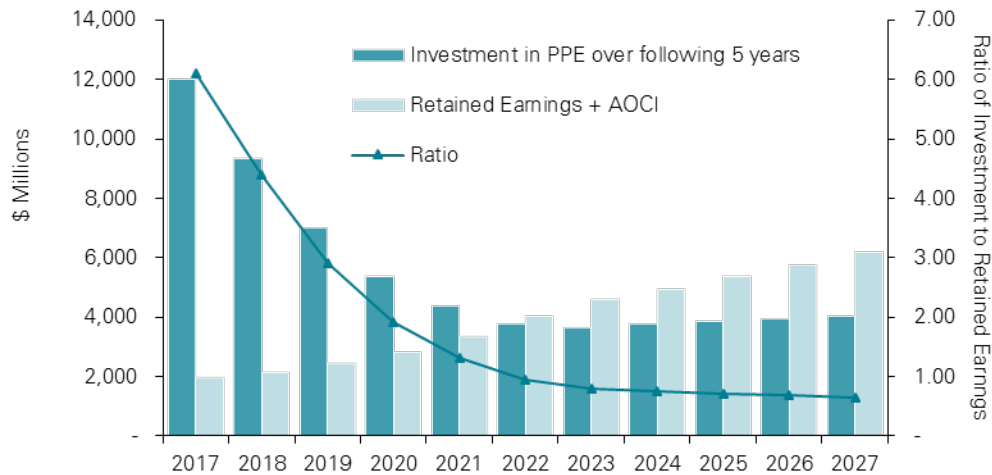
The following observations and conclusions are in order:

- Retained earnings are currently the only source of new equity for Manitoba Hydro, given that the Province has not made a practice of investing new equity into its operations.
- Because annual earnings are relatively modest in comparison to projected capital expenditures in the near term, the equity ratio declines slightly by 2019. As per IFF16, rate increases are assumed to be implemented, however, to avoid any significant reduction in the equity ratio below 15%.
- The increases in rates in the near term allow rate increases to fall to 2.0% annually beyond 2022. With moderate rate increases during this future period, the equity ratio recovers and reaches the minimum target of 25% by 2027.

Figure 2-6 provides an additional approach to examining Manitoba Hydro's financial position. This graph shows retained earnings (including AOCI) in each year as well as projected investments in PPE over the following 5 years.¹ The line shows the ratio between the two values. Higher ratios are indicative of higher capital cost risks, relative to the corporation's existing equity position, than lower ratios. Measured through this metric, capital cost risks are the highest in the first year of the outlook, in Fiscal 2016. The ratio falls rapidly over the period through 2022, as investments in Keeyask and Bipole III are completed. The ratio then continues to fall, although on a much more moderate trajectory.

¹ AOCI stands for Accumulated Other Comprehensive Income. It is a line item of the corporation's equity position.

Figure 2-6: Ratio of Projected Capital Investment to Retained Earnings



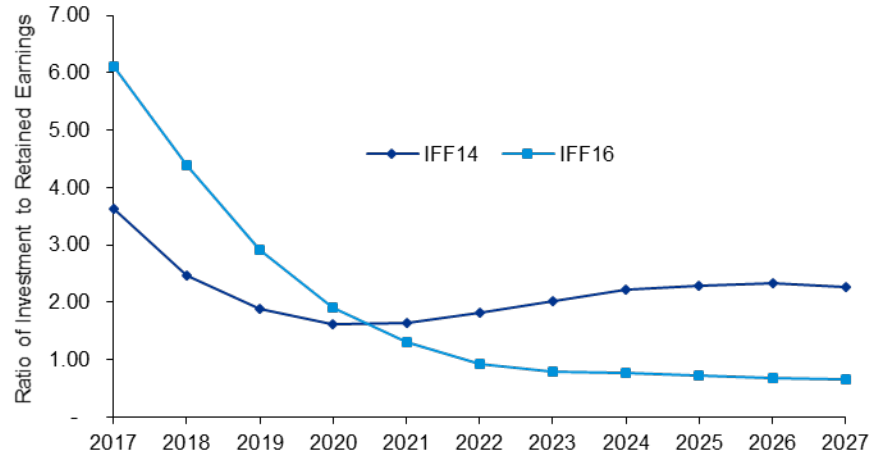
Source: IFF16 Projected Financial Statements for Electric Operations

Our observations with respect to Figure 2-6 are as follows:

- Relative to its equity base, Manitoba Hydro’s risk with respect to capital costs is much higher in the next two or three years than it will be over the remaining projection horizon. There are large cash outflows in the near term without corresponding cash inflows until Keeyask is in-service.
- The decline in Manitoba Hydro’s relative capital cost risk going forward is contingent on there being no new large capital projects after Keeyask. The introduction of Conawapa into the planned development sequence would result in a significant increase in capital cost risks in the future.
- As noted earlier in this Chapter, the projected equity position of the corporation is contingent on successive annual rate increases of 7.90% to 2022. Rate increases below this level would have a detrimental impact on relative capital cost risks.

Figure 2-7 below compares the ratio of near-term investment to retained earnings, as defined above for Figure 2-6, under IFF16 versus IFF14. The corporation’s investment ratio improves more quickly, and more consistently, under IFF16 than under IFF14. This reflects the elimination of the extended period of negative net income that was observed under IFF14. However, the ratio starts from a higher starting point. Under IFF16, the ratio of near-term investment to retained earnings starts out at 6.1, relative to the value of only 3.6 projected for 2017 under IFF14. This indicates that relative investment risk is higher in 2017 than was forecast two years ago. This reflects, in part, delays in the construction of Keeyask, which has pushed some spending forward into the next few years. It is also a consequence of the combined \$2.7 billion increase in capital budgets for Keeyask and Bipole III since IFF14.

Figure 2-7: Ratio of Projected Capital Investment to Retained Earnings



Source: IFF16 Projected Financial Statements for Electric Operations

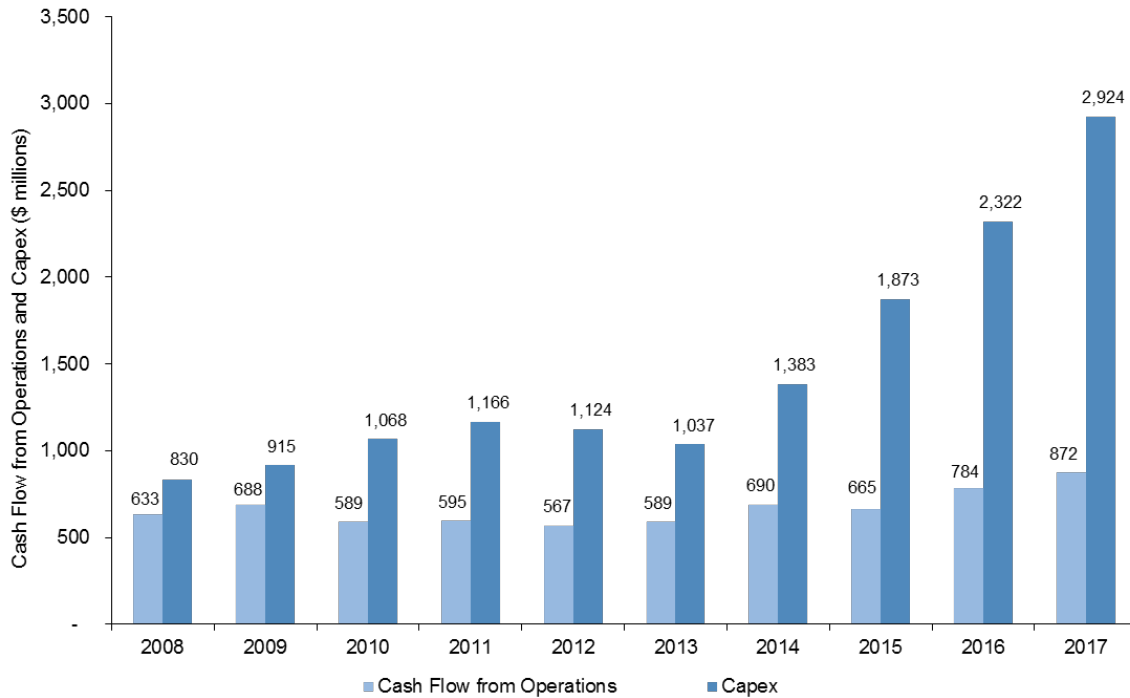
Figure 2-8 shows trends in cash flow from operations and capital expenditures over the past 10 years. Manitoba Hydro’s cash flow from operations has grown to \$872 million in 2016/17 and has averaged approximately \$665 million from 2008 to 2017. A cautionary note with respect to recent growth is the understanding that the total cash flow from operations for the past two fiscal years are significantly higher due to increased payable balances driven by major capital projects. Manitoba Hydro noted in its annual reports for the years ending March 31, 2016 and 2017 that the increase in cash provided from operations largely reflects significantly higher payable balances primarily related to the construction of the Keeyask generation and transmission facilities and of the Bipole III project.²

Total capital expenditures have ramped up rapidly since 2008. This has resulted in an increasing gap between the two metrics, which is reflected in an increase in Manitoba Hydro’s borrowing needs.

As shown in Figure 2-9, under IFF16, with 7.90% rate increases for the first five years, the gap between cash flow from operations and capex during the next five years is substantial.

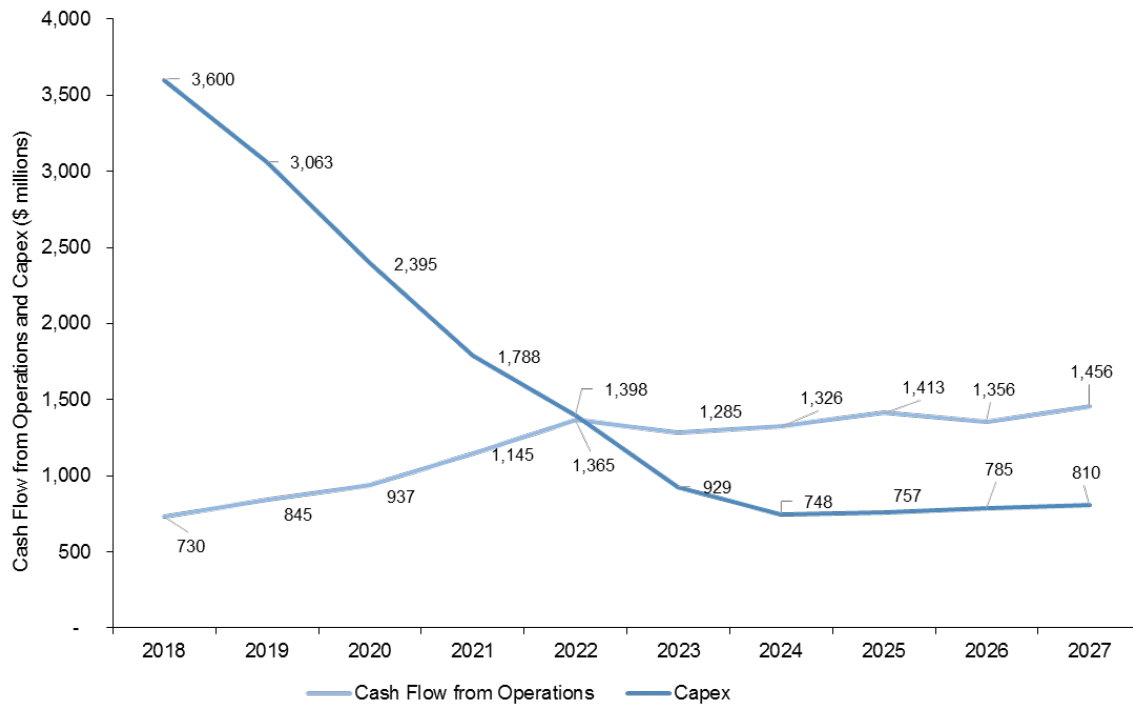
² See pages 25 and 31 of the 2016 and 2017 reports respectively.

Figure 2-8: Manitoba Hydro, Cash Flow from Operations and Capex, 2007/08 to 2016/17



Source: Derived from annual report and financial statements for the years ended March 31.

Figure 2-9: Manitoba Hydro, Cash Flow from Operations and Capex under IFF16, 2017/18 to 2026/27 Projections



Source: Derived from IFF16 projected consolidated financial statements.

4 Comparison to Other Government-owned Power Utilities in Canada

This chapter summarizes the findings from benchmarking and review of the developments, targets and plans of government-owned power utilities in other jurisdictions. Financial data and information for government-owned power utilities are updated to the latest audited fiscal year, ending either December 31st, 2016 or March 31st, 2017. This reflects three additional years of financial data from the May 2015 Report in most cases.

4.1 Structure of the Chapter

This chapter is organized into the following sections:

- Section 4.2 provides an overview of government-owned power utilities in Canada, which have been selected as the peer benchmarking group, along with key operational metrics and comparisons on a per capita and per customer basis.
- Section 4.3 compares current debt/equity ratios and capital structures.
- Section 4.4 compares interest coverage ratios among the Canadian peer group.
- Section 4.5 looks at cash flow to capital expenditure comparisons among the Canadian peer group.
- Section 4.6 compares a number of other financial metrics among the Canadian peer group.
- Section 4.7 provides a comparison of recent electricity prices and analysis of trends in electricity prices in Canada over the next ten years based on various assumptions.
- Section 4.8 discusses financial targets and plans of other government-owned utilities in Canada.
- Section 4.9 outlines summary points of the benchmarking comparisons.

4.2 Overview of Government-owned Power Utilities in Canada

4.2.1 Overview of key operational metrics

Figure 4-1: Overview of Operating Information on Government-owned Power Utilities

Overview of Operating Information					
	Installed Capacity (MW)	Peak Demand (MW)	Total Electric System Deliveries (TWh)	% Hydro generation	Number of Electricity Customers
Manitoba Hydro	5,679	4,801	33.2	97%	573,438
BC Hydro	12,053	10,194	57.7	98%	1,988,167
Hydro Quebec	36,908	36,005	202.0	99%	4,244,541
Nalcor Energy	7,210	8,864	39.9	96%	> 38,000
Ontario Power Generation	16,177	n/a	78.2	40%	n/a
NB Power	3,513	3,000	16.7	25%	401,166

Source:

1. Manitoba Hydro Annual Report for the year ended March 31, 2017.
2. BC Hydro Annual Service Plan Report for the year ended March 31, 2017.
3. Hydro-Quebec Annual Report for the year ended December 31, 2016.
4. Nalcor Energy Annual Report for the year ended December 31, 2016. Note Churchill Falls represents installed capacity of 5,428 MW and its electricity is primarily exported to Hydro-Quebec. Number of customers is direct customers only, there are substantially more indirect customers through third party sales.
5. Ontario Power Generation Inc. Annual Report for the year ended December 31, 2016. All electricity generated is sold through Ontario's Independent Electricity System Operator.
6. NB Power Annual Report for the year ended March 31, 2017.

Government-owned power utilities with a significant reliance on hydroelectric generation are the most appropriate peer utilities in Canada for benchmarking the financial and operational position of Manitoba Hydro. These utilities are: BC Hydro, Hydro-Quebec, and Nalcor Energy ("Nalcor").

In the analysis, NB Power and Ontario Power Generation ("OPG") are also included, as both of these utilities have significant hydro assets and are Crown owned. NB Power is owned by the Province of New Brunswick and is the largest electric utility in Atlantic Canada. OPG is owned by the Province of Ontario, and operates a portfolio of hydroelectric, nuclear and other generating assets.

This group of six power utilities including Manitoba Hydro will represent the Canadian peer group for benchmarking and analysis in this Chapter.

To put into context the size of these power utilities in relation to their jurisdiction, the following is noted from comparisons in Figure 4-2:

- On a per capita basis, Manitoba Hydro has more installed generation capacity than BC Hydro, similar installed capacity as Hydro-Quebec and NB Power, and much higher capacity than OPG (although note that OPG is not the sole supplier in Ontario). It is lower only in comparison to Nalcor. (Figures for Nalcor, however, are distorted by the sale of power from Churchill Falls to Hydro-Quebec under long-term contract, which boosts its figures for capacity and sales per capita.)
- Manitoba Hydro’s total power generation per capita is generally in line with per capita levels for Hydro-Quebec and NB Power, higher than BC Hydro, much higher than OPG, and much lower than Nalcor.
- Extra-provincial electricity sales represent 24% of total electricity sales, which is a very significant level and a higher share than for other power utilities. BC Hydro categorizes its extra-provincial activity as “trade” revenues and these represent approximately 11% of electricity revenues, a much smaller share than in the May 2015 Report (when the figure was 20%). Hydro-Quebec, the largest electricity exporter in Canada, also has a lower share with exports representing approximately 12% of its total sales.

Figure 4-2: Operational Metrics Per Capita and Value of Export Sales

Select Operational Metrics Per Capita					
	Provincial Population (2016)	Installed Capacity kW per capita	Electric System Deliveries thousands kWh per capita	Extraprovincial Electricity Sales (\$ millions)	Extraprovincial / Trade Sales %electric sales
Manitoba Hydro	1,318,100	4.3	25.2	460	24%
BC Hydro	4,751,600	2.5	12.1	674	11%
Hydro-Quebec	8,326,100	4.4	24.3	1,626	12%
Nalcor	530,100	13.6	75.4	47	8%
Ontario Power Generation	13,983,000	1.2	5.6	n/a	n/a
NB Power	756,800	4.6	22.1	251	15%

Source:

1. Manitoba Hydro Annual Report for the year ended March 31, 2017.
2. BC Hydro Annual Service Plan Report for the year ended March 31, 2017. Extraprovincial exports reflects "trade" revenues.
3. Hydro-Quebec Annual Report for the year ended December 31, 2016.
4. Nalcor Annual Report for the year ended December 31, 2016. Extraprovincial sales from Churchill Falls and NLH's Energy Marketing.
5. Ontario Power Generation Inc. Annual Report for the year ended December 31, 2016.
6. NB Power Annual Report for the year ended March 31, 2017. Extraprovincial exports reflects "interconnection" revenues.
7. Populations from Statistics Canada as of July 1, 2016.

Figure 4-3 indicates the size of Manitoba Hydro, BC Hydro, Hydro-Quebec and NB Power in relation to the size of their domestic customer base. (Nalcor and OPG are not included in this figure as their customer bases are not comparable – Nalcor’s customer base includes Hydro-Quebec and one major wholesale customer, Newfoundland Power Inc., and OPG is one of many suppliers to the broader Ontario market.) For the utilities that are included in Figure 4-3, note the following:

- As in the May 2015 Report, Manitoba Hydro has more installed capacity and electricity system deliveries per domestic customer than the other three electric utilities.
- Manitoba Hydro’s domestic electricity revenues per customer is higher than BC Hydro, close to Hydro-Quebec and lower than NB Power.
- Manitoba Hydro has significantly more extra-provincial export revenues in relation to its domestic customer base than BC Hydro, Hydro-Quebec and NB Power.

Figure 4-3: Operational and Financial Information on a Per Customer Basis

Select Operational and Financial Information on a Per Customer Basis					
	Electricity Customers	Installed Capacity kW per Customer	Electric System Deliveries thousands kWh per Customer	Electricity Revenues per Customer	Extraprovincial Electricity Sales per Customer
Manitoba Hydro	573,438	9.9	58.0	\$3,360	\$802
BC Hydro	1,988,167	6.1	29.0	\$2,954	\$339
Hydro-Quebec	4,244,541	8.7	47.6	\$3,110	\$383
NB Power	401,166	8.8	41.7	\$4,038	\$626

Source:

1. Manitoba Hydro Annual Report for the year ended March 31, 2017.
2. BC Hydro Annual Report for the year ended March 31, 2017.
3. Hydro-Quebec Annual Report for the year ended December 31, 2016.
4. NB Power Annual Report for the year ended March 31, 2017.

Figure 4-4 provides an overview of key financial metrics for the Canadian peer group for 2016/2017. (Appendix A provides, in addition, financial data for Manitoba Hydro and the other government-owned power utilities over the past seven fiscal years.)

Hydro-Quebec is considerably larger than the other utilities of the peer group, with annual revenues of over \$13 billion, approximately 5.7 times that of Manitoba Hydro, and total assets of over \$75 billion, approximately 3.4 times those of Manitoba Hydro. (The ratio of assets is down from the May 2015 Report, when it stood at 4.7, reflecting Manitoba Hydro relatively greater investments over the intervening period.) BC Hydro is the next largest. Manitoba Hydro is in the middle of the group, with revenues that are significantly larger than for NB Power and Nalcor. It should be noted, however, that Nalcor’s revenues will grow with the completion of the Lower Churchill Project and Muskrat Falls.

Relative to utilities with fossil-fuel generation, the utilities based primarily on hydropower generally have significantly better operating margins and relatively higher EBITDA, EBIT and net income as a share of revenues. Hydro-Quebec’s high levels of EBITDA, net income and cash flow relative to other utilities reflect its larger size and is partially due to the benefits of very low-cost electricity received under its long-term power contract with Churchill Falls in Newfoundland and Labrador.

Figure 4-4: Overview of Financial Information, Government-owned Power Utilities in Canada

Overview of Financial Information - Select Canadian Electric Power Utilities (CDN\$ millions)					
(\$CDN millions)	Annual		Depreciation &		Net Income
	Revenues	EBITDA	EBIT	Amortization	
Manitoba Hydro	2,327	1,106	704	402	59
BC Hydro	5,874	2,521	1,289	1,232	684
Hydro Quebec	13,339	7,990	5,393	2,597	2,861
Nalcor Energy	824	343	208	135	136
Ontario Power Generation	5,653	1,998	741	1,257	453
NB Power	1,696	540	307	233	27

Overview of Financial Information - Select Canadian Electric Power Utilities (CDN\$ millions)						
(\$CDN millions)	Total		Interest on Debt	Retained Earnings & Other Equity	Cash Flow from	
	Assets	Net Debt			Operations	Capex
Manitoba Hydro	22,338	15,792	711	2,360	872	2,924
BC Hydro	31,888	19,975	767	4,909	1,327	2,513
Hydro Quebec	75,167	44,673	2,510	19,704	5,504	3,363
Nalcor Energy	14,062	6,440	273	4,263	222	2,741
Ontario Power Generation	44,372	5,336	298	10,508	1,705	1,704
NB Power	6,968	4,900	207	320	253	278

Source:

1. Manitoba Hydro Annual Report for the year ended March 31, 2017.
2. BC Hydro Annual Report for the year ended March 31, 2017.
3. Hydro-Quebec Annual Report for the year ended December 31, 2016.
4. Nalcor Annual Report for the year ended December 31, 2016.
5. Ontario Power Generation Inc. Annual Report for the year ended December 31, 2016.
6. NB Power Annual Report for the year ended March 31, 2017.

Note: Retained earnings and other equity includes share capital or contributed capital, accumulated other comprehensive income and non-controlling interest. Net debt includes long-term debt, short-term borrowings and current portion of long-term debt less sinking funding investments and cash and cash equivalents.

4.3 Capital Structure – Equity Ratio Comparisons

Manitoba Hydro’s equity ratio was 16% as at March 31, 2017. This ratio is based on Manitoba Hydro’s formula, which uses net debt in its calculation and includes contributions in aid of construction (“CIAOC”) as part of equity, thus providing a debt/equity ratio of 84/16.

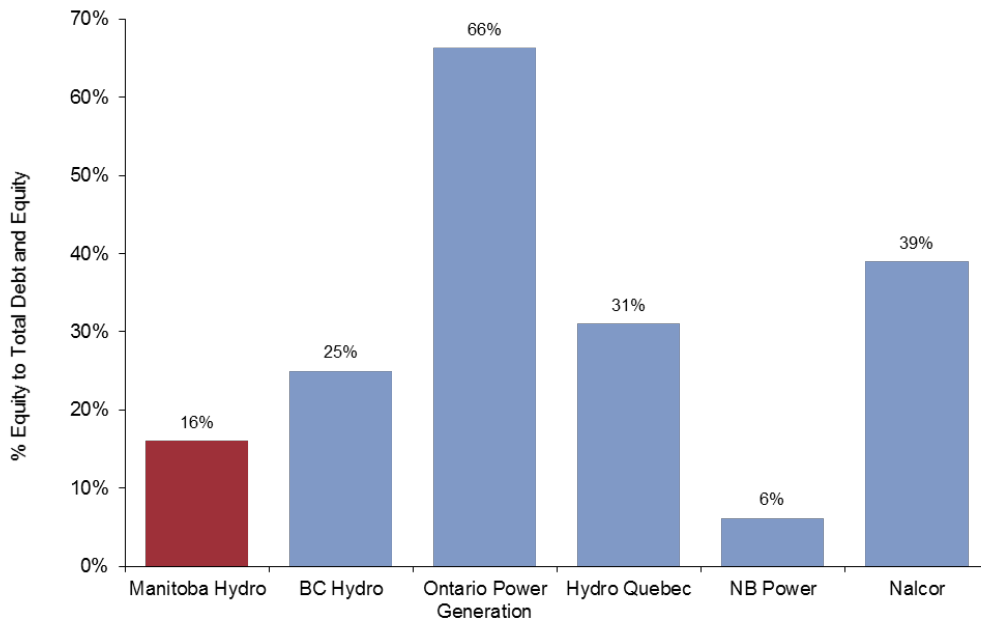
In comparing the equity ratios of government-owned electric power utilities in Canada, adjustments were made to reflect Manitoba Hydro’s formula for calculating equity ratios. For example, BC Hydro’s reported equity ratio has been 20% over the past five years. Making adjustments for Manitoba Hydro’s definition of net debt and including CIAOC in equity, however, results in an equity ratio of 25%. Even with these adjustments, there are still some differences remaining in accounting and reporting frameworks among utilities. However, the adjustments that have been made enable better direct comparison.

Retained earnings represent the large majority of equity for most of the government-owned power utilities in Canada. Of the Canadian utilities in the benchmarking group, all include Accumulated Other

Comprehensive Income (“AOCI”) as part of their equity. Like Manitoba Hydro, some utilities such as Hydro-Quebec, OPG and Nalcor have also included contributed capital as part of their equity. Manitoba Hydro also has a relatively small amount of non-controlling interest included in equity.

Investor-owned power utilities in Canada tend to have equity ratios of about 40%, but a more appropriate comparison for Manitoba Hydro is to government-owned utilities, particularly those with significant hydro-electric power. Manitoba Hydro’s current equity ratio is at the lower end of those observed among government-owned power utilities. Only NB Power is lower, as NB Power has undergone considerable financial challenges and restructuring. Results are shown in Figure 4-5.

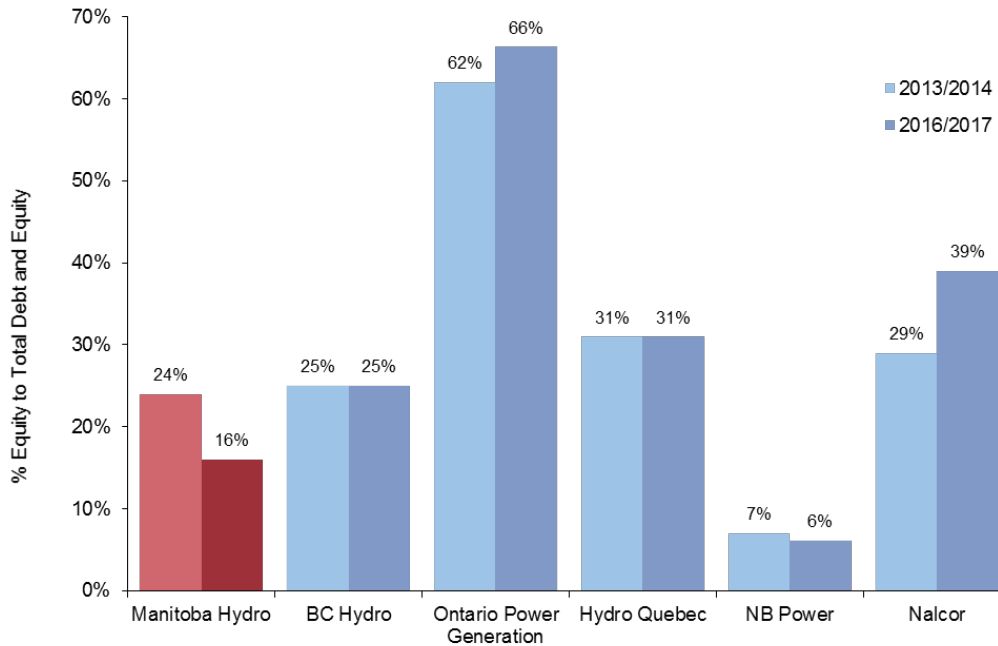
Figure 4-5: Comparison of Government-owned Power Utilities in Canada, Capital Structure – Equity Ratio, 2016/2017



Source: Derived from annual reports and financial statements for the year ended March 31, 2017 for Manitoba Hydro, BC Hydro and NB Power, and for the year ended December 31, 2016 for OPG, Hydro Quebec and Nalcor.. Subject to adjustments due to some differences in accounting and reporting. For direct comparison to Manitoba Hydro, equity includes contributions in aid of construction (“CIAOC”), and net debt includes long-term debt, current portion of long-term debt and other current borrowings less sinking fund investment and cash and cash equivalents. Note BC Hydro reports equity to debt at 20:80, but with CIAOC, equity ratio is 25%.

Figure 4-6 compares current ratios (in 2016/17) with those presented in the May 2015 Report, representing 2013/14 data. Manitoba Hydro’s equity ratio has declined markedly, from 24% in 2013/14 to 16% in 2016/17. NB Power’s equity ratio also significantly declined during this period, while those of BC Hydro and Hydro Quebec were relatively unchanged. Nalcor’s equity ratio increased from 29% to 39%; this was due to its shareholder’s contribution of \$734.6 million in 2015 and another \$656.1 million in 2016 in relation to Nalcor’s capital expenditures.

Figure 4-6: Comparison of Government-owned Power Utilities in Canada, Capital Structure – Equity Ratio, 2013/2014 and 2016/2017

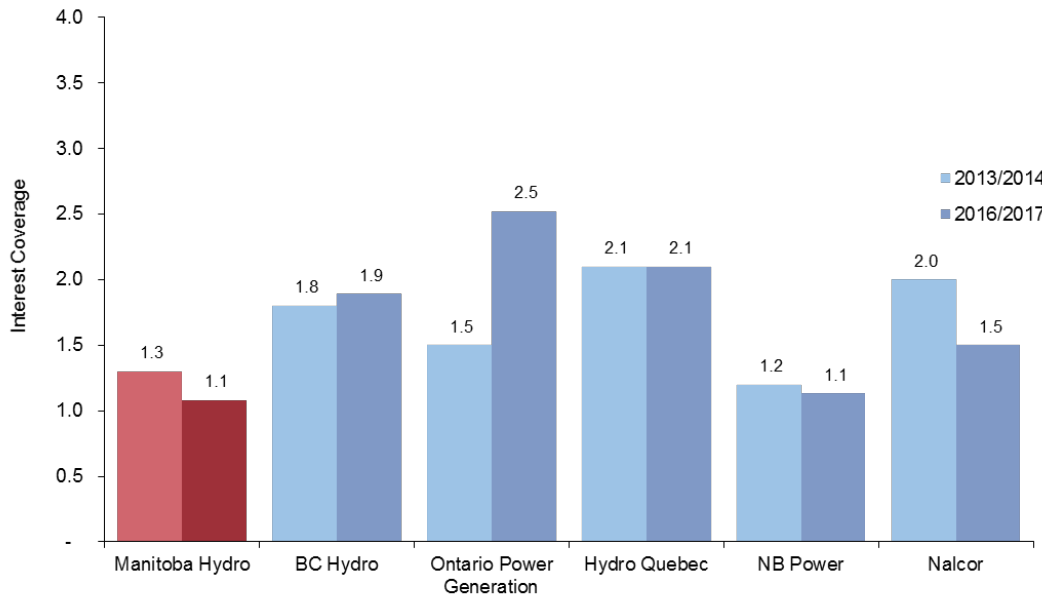


Source: Derived from annual reports and financial statements for the year ended March 31, 2017 and March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power, and for the year ended December 31, 2016 and December 31, 2013 for OPG, Hydro Quebec and Nalcor. Subject to adjustments due to some differences in accounting and reporting. For direct comparison to Manitoba Hydro, equity includes contributions in aid of construction ("CIAOC"), and net debt includes long-term debt, current portion of long-term debt and other current borrowings less sinking fund investment and cash and cash equivalents. Note BC Hydro reports equity to debt at 20:80, but with CIAOC, equity ratio is 25%.

4.4 Interest Coverage Comparisons

For the year ending March 31, 2017, Manitoba Hydro was below its historical interest coverage target of greater than 1.20. Figure 4-7 provides a comparison of interest coverage ratios among government-owned power utilities in Canada as of the latest fiscal year as well as from the previous report (2013/2014). Nalcor experienced a substantial decline in its interest rate coverage ratio from 2.0 in 2013 to 1.5 in 2016. The ratio at OPG significantly improved. The other government-owned power utilities had ratios that were relatively unchanged in 2016/2017 compared to three fiscal years earlier.

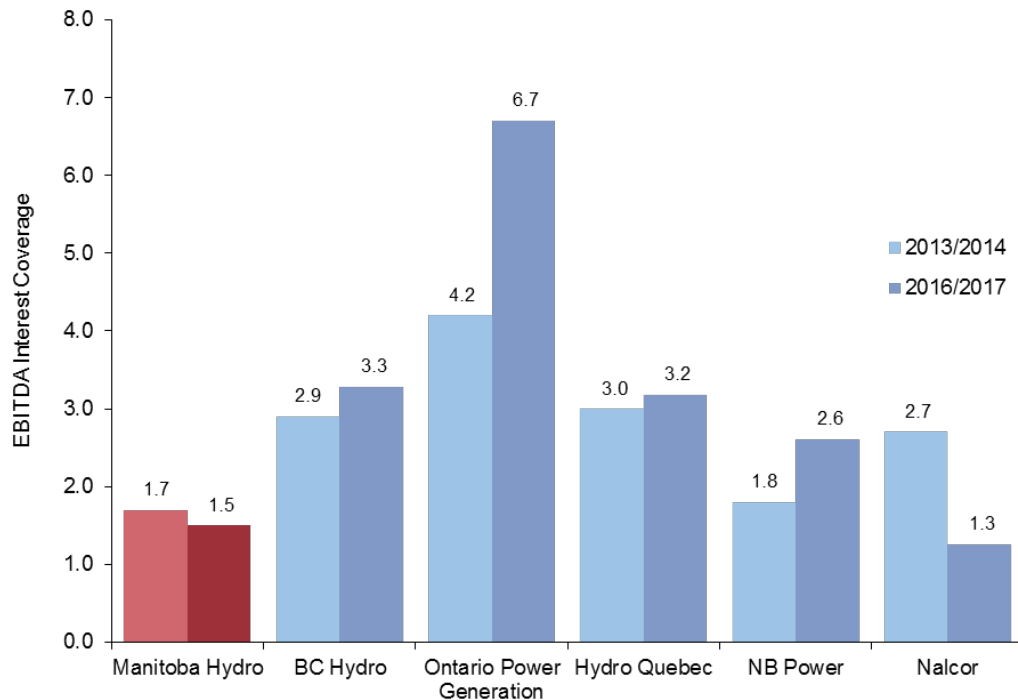
Figure 4-7: Comparison of Government-owned Power Utilities in Canada, Interest Coverage, 2013/2014 and 2016/2017



Source: Derived from annual reports and financial statements for the year ended March 31, 2017 and March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power, and for the year ended December 31, 2016 and December 31, 2013 for OPG, Hydro Quebec and Nalcor. Subject to adjustments due to some differences in accounting and reporting. Interest coverage reflects total interest paid on debt and net income divided by total interest paid on debt.

Figure 4-8 provides a comparison of EBITDA interest coverage ratios among government-owned power utilities in Canada. Manitoba Hydro’s EBITDA interest coverage was down (to 1.54) from the previous report. Most of the other government-owned power utilities experienced improvements in the EBITDA interest coverage ratios in 2016/2017 compared to the three years earlier in the previous report. The notable exception was Nalcor, which experienced a substantial deterioration in its EBITDA interest rate coverage from 2.7 in 2013 down to 1.3 in 2016.

Figure 4-8: Comparison of Government-owned Power Utilities in Canada, EBITDA Interest Coverage, 2013/2014 and 2016/2017



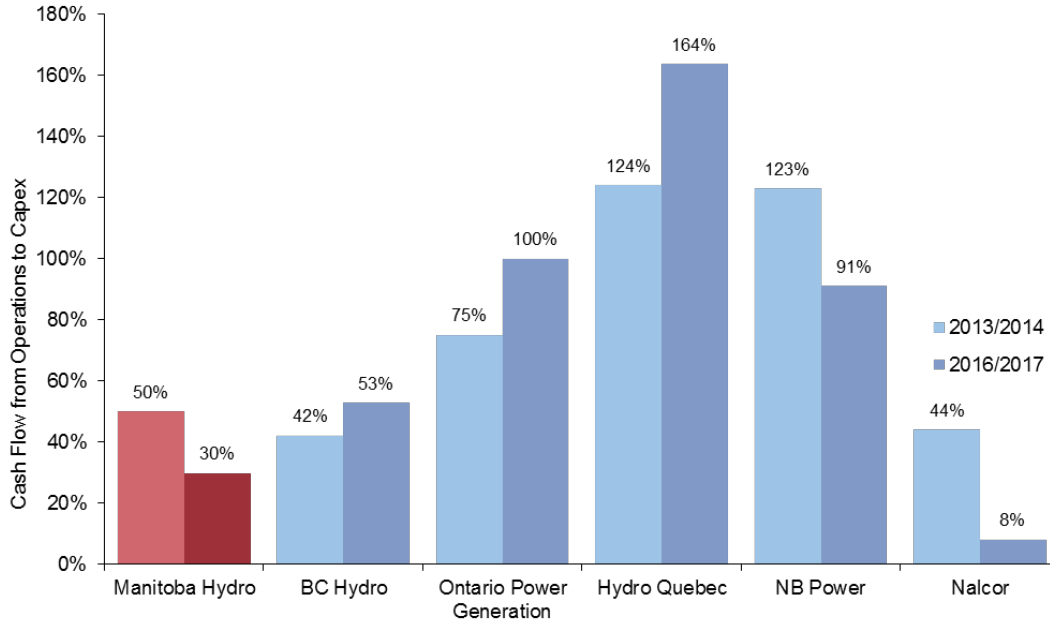
Source: Derived from annual reports and financial statements for the year ended March 31, 2017 and March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power, and for the year ended December 31, 2016 and December 31, 2013 for OPG, Hydro Quebec and Nalcor. Subject to adjustments due to some differences in accounting and reporting. EBITDA (earnings before interest, taxes and depreciation and amortization) does not include capitalized interest. Property and capital taxes are operating expenses and are not added back to EBITDA calculations; only income taxes, if any, are part of the EBITDA calculations.

4.5 Capital Coverage or Cash Flow to Capex Comparisons

For Manitoba Hydro, the ratio of cash flow from operations to total capital expenditures dropped from 50% in 2013/14 to 30% in 2016/17. As shown in Figure 4-9, the 30% ratio was higher than at Nalcor, which is also in the process of completing major hydroelectric capital projects; Nalcor’s cash flow position as measured through the capital coverage ratio substantially deteriorated between 2013 and 2016. In contrast to the other utilities, OPG and Hydro-Quebec had cash flows above their current capital expenditures in the latest available fiscal year.

Note that the ratio of cash flow to capex is subject to wide variation from year-to-year depending on the timing of major capital projects.

Figure 4-9: Comparison of Government-owned Power Utilities in Canada, Cash Flow from Operations to Capex, 2013/2014 and 2016/2017



Source: Derived from annual reports and financial statements for the year ended March 31, 2017 and March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power, and for the year ended December 31, 2016 and December 31, 2013 for OPG, Hydro Quebec and Nalcor. Subject to adjustments due to some differences in accounting and reporting.

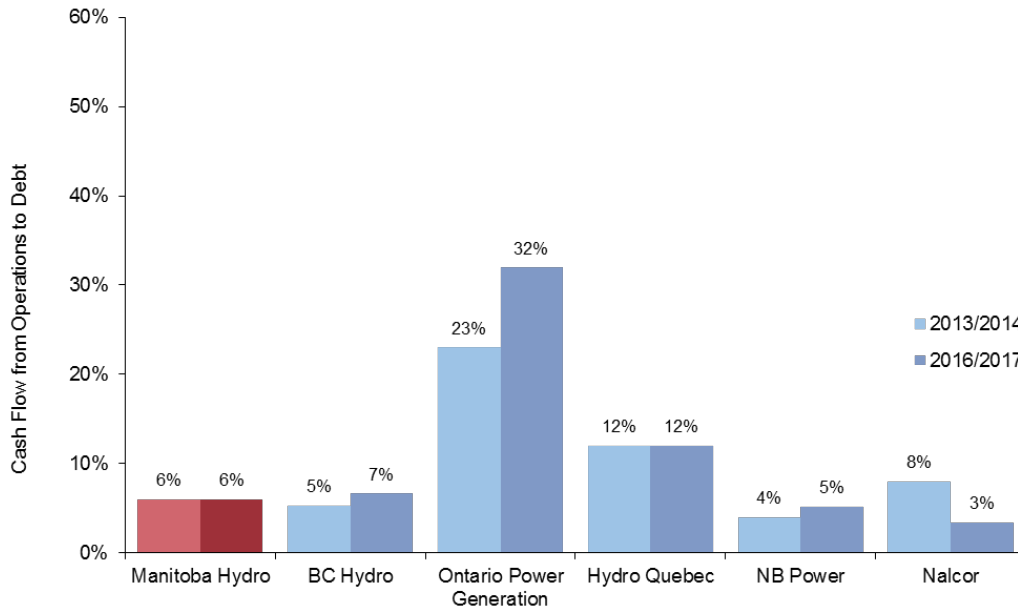
4.6 Other Financial Metrics Comparisons

The ratio of cash flow from operations to debt is one of the key measures monitored by credit rating agencies. Note that the figures for cash flow from operations shown in this section are as reported in audited cash flow statements; they have not been adjusted for capitalized interest, which may be reported differently among utilities.

As noted earlier, Manitoba Hydro’s increase in cash flow from operations grew significantly in 2016/17, reflecting significant growth in the balance of accounts payables primarily related to the construction of major capital projects. The understanding is that payables related to major capital projects will eventually reverse, which likely means that cash flow from operations for the reference year is overstated. Similarly, there may be other particular situations at other utilities that impact cash flow from operations in the reference year.

Figure 4-10 compares cash flow from operations to net debt. The ratio for Manitoba Hydro was approximately 6% as of March 31, 2017, higher than at Nalcor and NB Power, but considerably lower than Hydro-Quebec and OPG.

Figure 4-10: Comparison of Government-owned Power Utilities in Canada, Cash Flow from Operations to Net Debt, 2013/2014 and 2016/2017



Source: Derived from annual reports and financial statements for the year ended March 31, 2017 and March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power, and for the year ended December 31, 2016 and December 31, 2013 for OPG, Hydro Quebec and Nalcor. Subject to adjustments due to some differences in accounting and reporting.

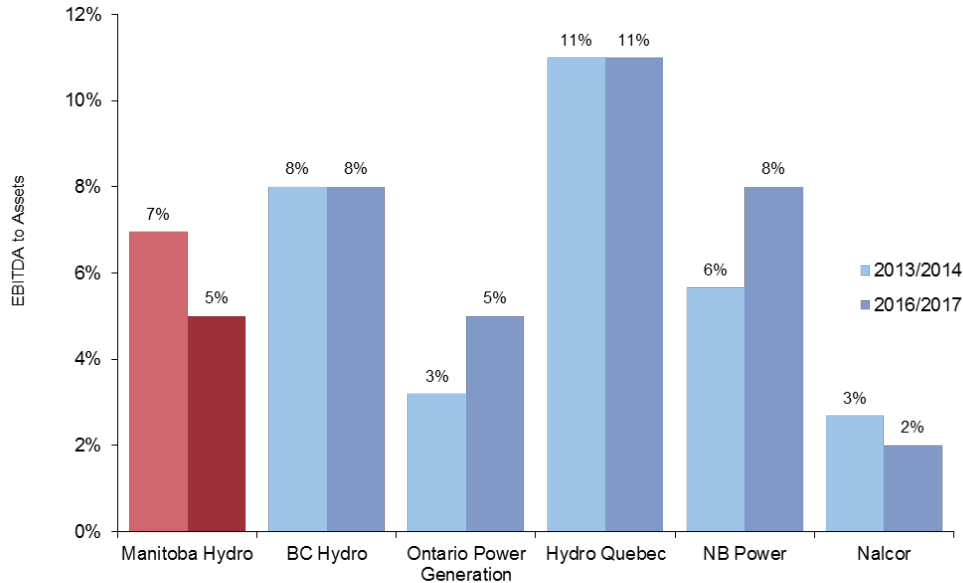
Figure 4-11 compares the ratio of EBITDA to total assets with significant growth in assets during a period of major construction. With significant growth in assets during this period of major construction, Manitoba’s ratio of EBITDA to assets decreased from 7% in 2013/14 to 5% in 2016/17, with Nalcor lowest at 2% and Hydro Quebec highest at 11%.

Manitoba Hydro has consistently generated relatively strong EBITDA and net operating margins, reflecting its position as a power utility that is dominantly based on hydropower. Figure 4-12 compares EBITDA to total revenue. In 2016/17, Manitoba Hydro’s EBITDA was approximately 47% of total revenues, among the highest ratios found among large power utilities in Canada. Of the group of government-owned power utilities, only Hydro Quebec had a higher level, at 60% EBITDA to total revenue.

Figure 4-13 compares net debt as a share of total assets. Manitoba Hydro is the highest in net debt to assets (at 71%) with NB Power second at 70%. Since the May 2015 Report, Manitoba Hydro and BC Hydro have had similar increases in this ratio. Nalcor experienced a significant decline in net debt to assets in the past three years related to significant shareholder contributions in 2015 and 2016.

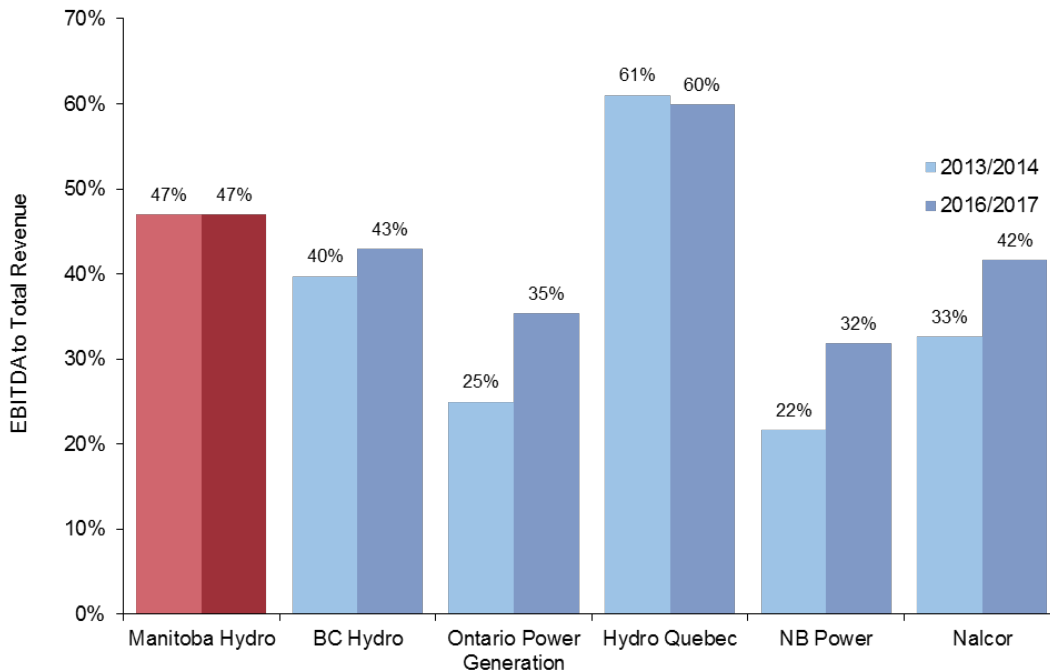
Figure 4-14 compares net debt to EBITDA which varies considerably, from 2.7 for OPG to 18.8 for Nalcor. Manitoba Hydro’s ratio increased from 9.8 in 2013/14 to 14.3 in 2016/17.

Figure 4-11: Comparison of Government-owned Power Utilities in Canada, EBITDA to Assets, 2013/2014 and 2016/2017



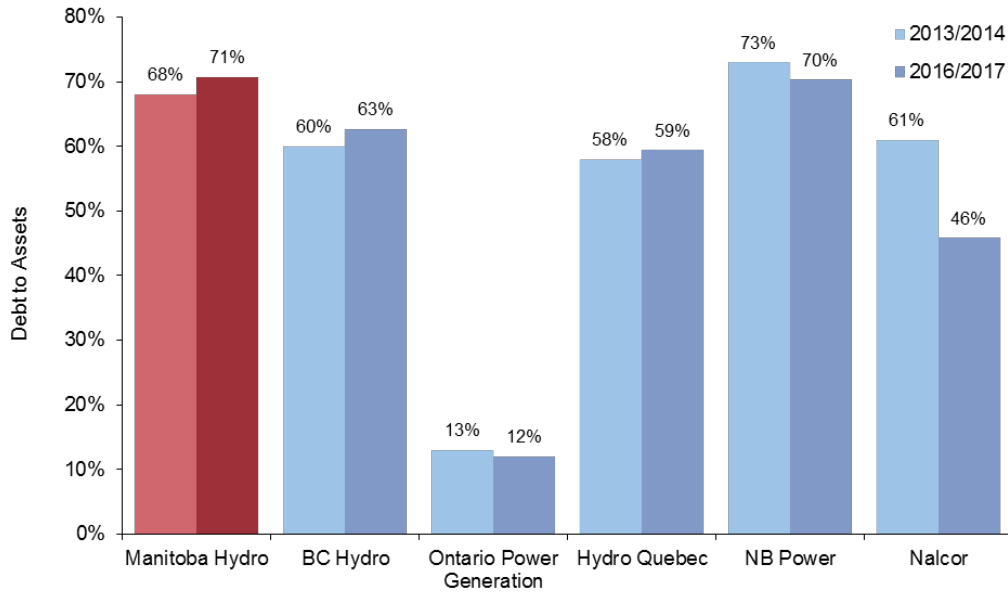
Source: Derived from annual reports and financial statements for the year ended March 31, 2017 and March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power, and for the year ended December 31, 2016 and December 31, 2013 for OPG, Hydro Quebec and Nalcor. Subject to adjustments due to some differences in accounting and reporting.

Figure 4-12: Comparison of Government-owned Power Utilities in Canada, EBITDA to Total Revenue, 2013/2014 and 2016/2017



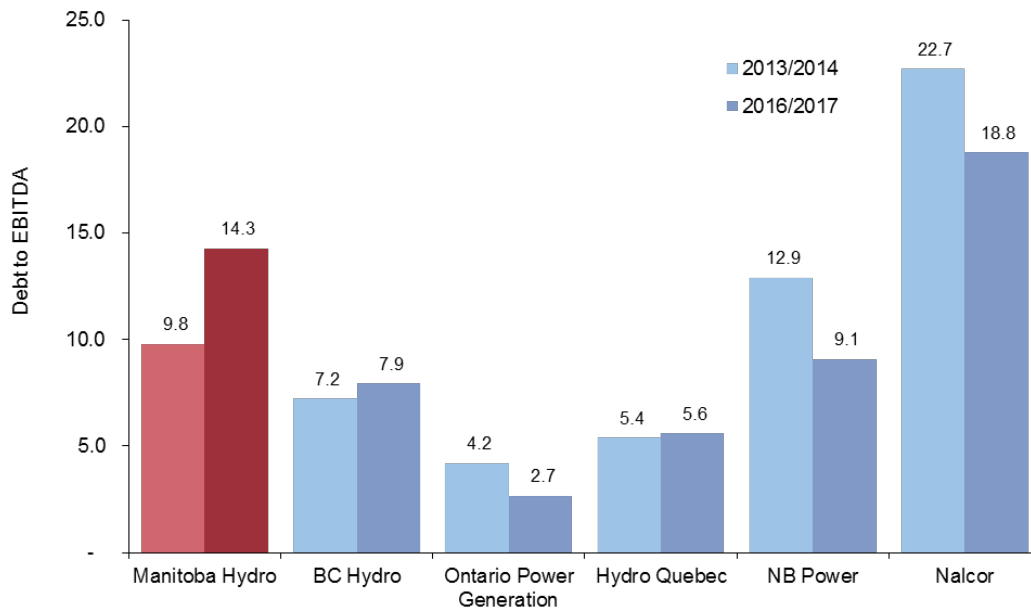
Source: Derived from annual reports and financial statements for the year ended March 31, 2017 and March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power, and for the year ended December 31, 2016 and December 31, 2013 for OPG, Hydro Quebec and Nalcor. Subject to adjustments due to some differences in accounting and reporting.

Figure 4-13: Comparison of Government-owned Power Utilities in Canada, Net Debt to Assets, 2013/2014 and 2016/2017



Source: Derived from annual reports and financial statements for the year ended March 31, 2017 and March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power, and for the year ended December 31, 2016 and December 31, 2013 for OPG, Hydro Quebec and Nalcor. Subject to adjustments due to some differences in accounting and reporting.

Figure 4-14: Comparison of Government-owned Power Utilities in Canada, Net Debt to EBITDA, 2013/2014 and 2016/2017



Source: Derived from annual reports and financial statements for the year ended March 31, 2017 and March 31, 2014 for Manitoba Hydro, BC Hydro and NB Power, and for the year ended December 31, 2016 and December 31, 2013 for OPG, Hydro Quebec and Nalcor. Subject to adjustments due to some differences in accounting and reporting.

4.8 Financial Targets/Plans of Government-owned Power Utilities in Canada

Most of the government-owned power utilities in Canada include, as two of their primary financial metrics, one measure of capitalization (a debt to capital or debt/equity ratio) and one measure of interest coverage. Other metrics may be monitored in addition. Figure 4-21 indicates the financial targets/metrics highlighted in annual reports of select government-owned power utilities.

Figure 4-21: Key Financial Metrics or Targets of Government-owned Power Utilities in Canada

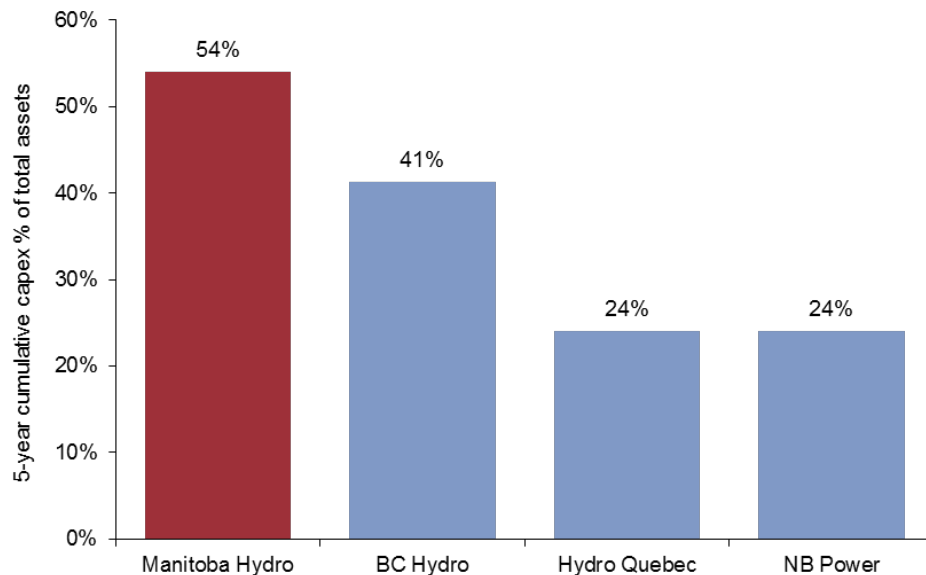
Key Financial Metrics or Targets of Government-Owned Power Utilities in Canada					
	Manitoba Hydro	BC Hydro	Hydro-Quebec	Nalcor	NB Power
Debt / Equity	<ul style="list-style-type: none"> Long-term target of 75:25, had been near target range from 2008 to 2014 Forecast to deteriorate over the next decade due to major expansion 	<ul style="list-style-type: none"> Long-term target recently increased under new 10 Year Plan from 80:20 to 65:35 in 10 years Target of 60:40 in the long-term 	<ul style="list-style-type: none"> Minimum requirement of 75:25, practically has been steady in the range of 70:30 for several years Expected to continue in the near term 	<ul style="list-style-type: none"> Minimum target of 70:30 for Nalcor and regulated hydro operations of NLH Large increase in 2013 due to debt and equity for Lower Churchill Falls project 	<ul style="list-style-type: none"> Long-term target of 70:30 under new 10 Year Plan
Debt / Equity (as reported in latest annual report)	84:16 (2016/17)	80:20 (2016/17)	69:31 (2016)	61:39 (2016)	96:04 (2016/17)
Interest Coverage	> 1.8 EBITDA	target not stated	target not stated	> 1.5 EBIT	target not stated
EBITDA interest coverage (as reported in latest annual report)	1.54 (2016/17)	3.3 (2016/17)	3.2 (2016)	1.3 (2016)	2.6 (2016/17)
Other financial metrics (highlighted in Annual Reports or Plans)	<ul style="list-style-type: none"> Capital coverage of >1.2. 1.48 (2016/17) Reflects cash flow to cover sustaining capital expenditures (excluding major generation and transmission expansion projects). Measure is challenged by the high amount of capitalized interest during high construction periods, and exclusion of certain capital, deferred and mitigation measures. 	<ul style="list-style-type: none"> Maintain rates in the first quartile. Project Budget to Actual Cost within +5% to -5% of budget for five-year rolling data of generation, substation and transmission data. 	<ul style="list-style-type: none"> Return on equity from continuing operations 13.1% (2016), has ranged from 13-16% in recent years. Profit margin from continuing operations 21.4% (2016), has ranged from 20-25% in recent years. Self-financing, defined as cash flow from operations less dividends paid, divided by cash flows from investing activities, 58.8% (2016). 	<ul style="list-style-type: none"> Fixed rate debt as % of total debt, 91% (2016). Return on capital employed (7.9% in 2016). 	<ul style="list-style-type: none"> Sets annual targets for net earnings, operating, management and administration costs, and net debt.

Source: Derived from annual reports, Manitoba Hydro, BC Hydro and N.B. Power for the year-ending March 31, 2017, Hydro-Quebec and Nalcor for the year-ending December 31, 2016. Also from latest published plans for various utilities.

Over the past decade, Manitoba Hydro’s equity ratio climbed from 15% to be slightly over its long-term target of 25% in 2008 and 2010-2013. As Manitoba Hydro ramps up major generation and transmission projects, its equity ratio has significantly deteriorated and is forecast to deteriorate further. It will then recover after these new assets are in-service, and approach its long-term equity target. As of March 31, 2017, the equity ratio declined to 16%.

On a relative basis to assets, Manitoba Hydro’s capital expansion program is larger than other government-owned power utilities in Canada. Projected capital expenditures over the next five year period are approximately 54% of the current asset base. Although this share is significantly lower than 83%, the number stated in the May 2015 Report (as significant capex is well underway now), it is still considerably higher than other government-owned utilities as shown in Figure 4-22.

Figure 4-22: Projected Capital Expenditures over the Next Five-Year Period Compared to Current Asset Base



Source: Derived from from annual reports and plans.

Hydro-Quebec

Hydro-Quebec has consistently maintained its equity ratio at slightly over 30% during the past decade, and this ratio is expected to remain near 30% over the next decade.

NB Power

NB Power has faced a number of financial challenges and this resulted in it having very low equity ratios over the past decade. Recognizing that its capital structure must improve, NB Power introduced a new 10 Year Plan, with the support of its owner, the Province of New Brunswick. The initial plan provided for a significant increase in its equity ratio over the next decade, with a target of 20% by 2021. NB Power’s updated 10 Year Plan issued in 2017, indicates that various operating pressures and increased capital expenditure requirements results in a delay in meeting the internal capital structure target of 20% equity until 2024. However, recent results have continued to deteriorate, with the corporation having an equity ratio of only 6% in 2016/17.

BC Hydro

BC Hydro has maintained an equity ratio of 20% over the past decade. However, under the B.C. Government's recent 10-year plan for the utility, the Province directed that the utility move to a more robust capital structure. Under the Plan, BC Hydro targets to increase its equity ratio to 40% in the longer term (beyond the 10-year plan). The specific details of the 10-year plan, and the context for its development, are discussed in more detail in Chapter 4 of the May 2015 Report.

Nalcor

Nalcor is a holding company that holds the Government of Newfoundland and Labrador's interests in a number of energy companies, including Newfoundland and Labrador Hydro ("NLH"), which is a regulated utility whose activities encompass generation, transmission and electricity sales. Nalcor also holds entities created in the Lower Churchill Project and related investments. Nalcor's major new generation investment in the Lower Churchill Project is being undertaken outside of the regulated utility NLH. Its financial position has deteriorated in recent years, although its equity ratio was improved to 39% as a result of equity contributions in 2015 and again in 2016 from the Government of Newfoundland and Labrador.

4.9 Summary Observations – Benchmarking

Based on benchmarking and various comparisons of government-owned power utilities, particularly with hydro-based peer utilities in Canada, the following are summary observations:

- Manitoba Hydro has been and currently is at the low end of the peer group of government-owned power utilities in terms of key financial metrics including equity ratio, interest coverage ratio, cash flow comparison metrics, and other financial metrics. In benchmarking against government-owned power utilities in Canada, the gap in Manitoba Hydro’s performance versus most other utilities has widened since the May 2015 Report.
- At a level of 25%, Manitoba Hydro’s equity ratio target is below the current equity ratio observed at Hydro-Quebec and at Nalcor’s regulated hydro operations. BC Hydro is currently near a 25% equity ratio, but plans to increase to 35% over the next decade, facilitated by a sharp drop in dividends paid to the Province of B.C. and by higher rate increases. Of the Canadian peer group, only NB Power has a lower equity ratio; however, NB Power has undergone financial challenges and its new plan is to ramp up to a minimum equity ratio of 20% over the next decade. Where government-owned power utilities have specified a plan to restore or achieve a target equity level, the planned time frame of ten years is consistent with that planned by Manitoba Hydro in IFF16.
- Manitoba Hydro has a relatively high EBITDA to revenue ratio. The nature of the development of hydroelectric generation is that it entails very long development cycles, with very high capital expenditures during construction and relatively low operating costs and relatively strong operating margins once in service.
- Manitoba Hydro has very competitive electricity rates in Canada and North America, providing a significant advantage for ratepayers compared to other jurisdictions.
- Manitoba Hydro has relatively larger installed capacity and electric power generation per capita than most utilities, and extra-provincial electricity sales represent approximately 24% of total electricity sales, down somewhat in recent years, but a larger share than at other utilities and a very significant part of electricity operations.
- Manitoba Hydro’s current capital expansion program is relatively much larger as a share of its existing asset base in comparison to other government-owned utilities in Canada (Figure 4-23).
- We note that the financial health of Manitoba Hydro has markedly deteriorated relative to forecast in the fiscal years that have passed since the May 2015 Report. For example, actual net income was significantly lower than forecast and retained earnings less AOCI dropped to \$2.2 billion. These are concerning indicators for a utility in the midst of a large capital program. To be significantly off projection in the early years of a large capital program, further heightens risks and accelerates the need to return to better financial health.

Figure 4-23: Forecast under IFF14 versus Actual Results

IFF14 Projected versus Results (\$ millions)						
	IFF14 Projected 2015/16	Actual 2015/16	% change	IFF14 Projected 2016/17	Actual 2016/17	% change
Revenues	2,337	2,258	-3%	2,387	2,327	-3%
Net income	126	39	-69%	67	59	-12%
Long-term debt	13,825	14,527	5%	16,698	16,438	-2%
Retained earnings less AOCI	2,502	2,052	-18%	2,559	2,190	-14%
Equity Ratio	19%	17%		17%	16%	

Source:

1. Manitoba Hydro Integrated Financial Forecast (IFF14).
2. Manitoba Hydro Annual Report for the year ended March 31, 2016 and for the year ended March 31, 2017.

5 Financial Targets in a Capital Markets Context

This chapter updates some of the credit rating perspectives as well as data on government-owned utilities in relation to their respective provincial economies and debt, from the May 2015 Report (in Chapter 6).

5.1 Overview of Credit Rating Reports on Manitoba and Manitoba Hydro

The Province of Manitoba has maintained a solid credit rating from three credit-rating agencies as indicated in the May 2015 Report (see Figure 5-1). However, since the May 2015 Report, Manitoba’s credit rating from Moody’s was downgraded in July 2015, and Standard and Poor’s downgraded Manitoba’s rating twice, in July 2016 and again in July 2017. The Moody’s downgrade in July 2015 was Manitoba’s first credit rating downgrade in nearly three decades.

Figure 5-1: Province of Manitoba Credit Rating

	Standard & Poor's	Moody's	DBRS
Rating	A+	Aa1	A (High)
Rating Outlook	Stable	Stable	Stable
Rating History	<p>In July 2017, downgraded from AA-/Negative to A+/Stable.</p> <p>In July 2016, downgraded to AA-/Negative from AA/Stable</p> <p>Last upgrade was to AA/Stable from AA-/Positive in December 2007.</p> <p>Previous upgrade was in November 2006 to AA-/Positive from AA-/Stable since November 2002.</p>	<p>In July 2015, downgraded to Aa2 from Aa1.</p> <p>Outlook downgraded from Stable to Negative in August 2014.</p> <p>Last upgrade was November 2006, Aa2 to Aa1. Previously upgraded from Aa3 to Aa2 in January 2003, and after 13 years of A1 upgraded to Aa3 in September 1998.</p>	<p>Last upgrade was from A to A (High) in 2003 where it has remained since.</p>

Source: Derived from information in credit agency rating reports – Standard and Poor’s; Moody’s; DBRS. Note: some credit agencies also issue a separate report on Manitoba Hydro, which reflect that Manitoba Hydro’s debt is guaranteed by its owner, the Province of Manitoba.

Sovereign analysts from credit rating agencies review a number of factors in assigning ratings to governments including:

- Fiscal position and performance,
- Debt burden,
- Economy and economic fundamentals,
- Operating environment,
- Institutional framework,
- Contingent liabilities, and

- Other factors.

The Province of Manitoba's credit rating has typically been in the middle of those of Canadian provinces, lower than the Western provinces, and higher than the Atlantic Provinces and Quebec.

The credit rating agencies also issue separate analyses on Manitoba Hydro, although these reflect the fact that Manitoba Hydro's debt is guaranteed by the Province of Manitoba as its owner. Thus, Manitoba Hydro's credit rating is effectively a flow-through of the Province's credit rating. Most other government-owned utilities also receive the benefit of the credit rating of their provincial owner.

Comments from recent reports of individual credit ratings agencies are summarized in the sections below.

5.1.1 Standard and Poor's

In July 2017, Standard and Poor's lowered Manitoba's rating from "AA-" to "A+". Comments from the Standard and Poor's ratings report included:

"Although Manitoba is taking clear steps to improve its fiscal sustainability in the long term, it faces large projected budget deficits and further growth in its already-high debt burden over the next two years. We are therefore lowering our long-term issuer credit and senior unsecured debt ratings on the Province of Manitoba to 'A+' from 'AA-'.

Our assessment of the province's debt burden fully incorporates the debt on-lent to MHEB, which accounts for more than 40% of total tax-supported debt and for which the province expects to borrow heavily to finance capital projects over the next several years. We do not view MHEB as self-supporting due to its very high and rising leverage."²⁴

One year earlier, in July 2016, Standard and Poor's²⁵ downgraded Manitoba's rating from "AA" to "AA-". Standard and Poor's commented:

"The ratings on the Province of Manitoba reflect S&P Global Ratings' assessment of the significant rise in Manitoba's debt burden. This stems from the Province's ongoing fiscal shortfalls and significant debt on-lent to MHEB, which we no longer consider self-supporting mainly due to its high and rising leverage."²⁶

"Our assessment of the province's debt burden fully incorporates the debt on-lent to MHEB (nearly 40% of total tax-supported debt), whereas previously we had considered MHEB's status as a self-supporting entity to be a mitigating factor. We also expect Manitoba's interest expense will remain close to 6% of operating revenues over the next two years."²⁷

The Standard and Poor's analysis outlined a number of key strengths for Manitoba including:

- Manitoba's very strong and diversified economy;
- Strong budgetary flexibility;
- Strong financial management;

²⁴ Standard and Poor's. Research Update: Province of Manitoba, July 21, 2017.

²⁵ Standard and Poor's. Supplemental Analysis: Province of Manitoba, July 29, 2016.

²⁶ Standard and Poor's. Supplemental Analysis: Province of Manitoba, July 29, 2016.

²⁷ Standard and Poor's. Supplemental Analysis: Province of Manitoba, July 29, 2016.

- Low contingent liabilities;
- Adequate liquidity;
- Canada's provincial-federal institution framework is very predictable and well-balanced.

5.1.2 Moody's

In August 2014, Moody's lowered its outlook on its rating for the Province of Manitoba from Aa1 stable to Aa1 negative. In July 2015, Moody's downgraded Manitoba's rating from Aa1 negative to Aa2 with a stable outlook.

"The downgrade to Aa2 reflects the deterioration in Manitoba's financial metrics leading to an increased debt burden and our expectation that the province will face significant challenges in achieving fiscal balance by 2018-19." ²⁸

In its August 2016 rating report, Moody's²⁹ noted that Manitoba's ratings benefit from:

- Strong economic growth with a diversified economy;
- High debt affordability;
- Mature and supportive institutional framework and solid governance practices.

Moody's commented that the rating is challenged by the Province's elevated debt burden, substantial forecasted deficits over an extended time horizon, declining levels of liquidity, and contingent liability risk of Manitoba Hydro.

Moody's report noted the inherent risks related to increasing debt at Manitoba Hydro.

"The province issues debt on behalf of its wholly-owned electric utility company Manitoba Hydro. Given its steady revenue stream that generates sufficient cash flow to support operations including interest payments, we view Manitoba Hydro as a self-supporting entity and therefore exclude the related debt from our debt metrics of the province.

"We note, however, that Manitoba Hydro's total reported debt net of sinking of funds has risen considerably, doubling from CAD6.9 billion at March 31, 2008 to an estimated CAD14.2 billion as of March 31, 2016. We expect that its debt will continue to rise over the medium-term as the utility moves forward with construction projects, including the Keeyask hydroelectric station and the Bipole III transmission line, in anticipation of demand increases over the next few years and in order to boost electricity exports. The anticipated increase in debt continues to pressure the province's rating since it raises the contingent liability of the province.

"Manitoba Hydro has flexibility to increase utility rates to ensure that its own revenues will continue to support its operations and debt payments. Political willingness to approve rate increases when Manitoba Hydro's credit metrics will reach their low point will be critical to recover expected capital expenditures and restore credit metrics." ³⁰

²⁸ Moody's Investors Service, Rating Action, July 10, 2015.

²⁹ Moody's Investors Service, Credit Opinion, Province of Manitoba, August 3, 2016, p.3.

³⁰ Moody's Investors Service, Credit Opinion, Province of Manitoba, August 3, 2016, p.4.

In its February 2017 update, Moody's confirmed its rating and Manitoba Hydro's self-supporting status, but noted the growing contingent liability risk of Manitoba Hydro:

"Given its revenue stream that generates sufficient cash flow to support operations including interest payments, we view Manitoba Hydro as a self-supporting entity and therefore exclude the related debt from our debt metrics of the province.

We note however that Manitoba Hydro's total reported debt net of sinking funds has risen considerably, doubling over the last eight years to CAD14.4 billion as of March 31, 2016, as the province moves ahead with several large capital projects. These include the Keeyask hydroelectric station and the Bipole III transmission line, which are being built to enhance reliability, meet anticipated demand increases over the next few years and boost electricity exports. We expect that the utility's debt may increase substantially by up to 70% over the medium-term from current levels just to complete these two projects, which are being hampered by significant delays and cost overruns. The anticipated increase in debt has put growing pressure on the province's rating since it raises the contingent liability of the province (anticipated to exceed 40% of the province's total debt by 2017-18) and has increased the risk that Manitoba Hydro could require a capital injection or other support from the province."³¹

5.1.3 DBRS

In July 2017, DBRS confirmed the Province of Manitoba's "A (high)" rating with a trend of stable.³² In its rating considerations, DBRS³³ outlined the following strengths and challenges:

Strengths

- Diversified and resilient economy,
- Favourable demographics,
- Prudent debt management practices,
- Abundant low-cost hydroelectricity.

Challenges

- Substantial deficits,
- Relatively high taxes,
- Moderate reliance on federal transfers,
- Below-average incomes and GDP per capita.

In July 2017, DBRS confirmed the rating of Manitoba Hydro obligations are a flow-through of the rating of the Province of Manitoba, as the Province unconditionally guarantees almost all of Manitoba Hydro's outstanding third-party debt.

"DBRS fully expects the utility to recover its costs from the electricity rate base. As such, DBRS will continue to exclude the hydro-related debt from the calculation of tax-supported debt."³⁴

³¹ Moody's Investors Service, Credit Opinion, Province of Manitoba, February 24, 2017, p.4.

³² DBRS Rating Report, Province of Manitoba, July 12, 2017.

³³ DBRS Rating Report, Province of Manitoba, July 12, 2017.

³⁴ DBRS Rating Report, Province of Manitoba, July 12, 2017, p.6.

DBRS notes the strengths of Manitoba Hydro including:

- Debt is a direct obligation of the Province,
- Low-cost hydro-based generation, and
- Access to favourable export markets.

Challenges of Manitoba Hydro noted by DBRS include:

- Hydrology risks,
- High leverage, and
- High level of planned capex.

The November 2016 DBRS report on Manitoba Hydro noted:

“A new board appointed at Manitoba Hydro in 2016 intends to limit the deterioration in the Utility’s balance sheet. As a result, the Utility has begun reviewing initiatives to help alleviate pressure on its key financial ratios, such as improving operating efficiencies, requesting annual rate increases higher than the previously planned 3.95%, as well as potential equity injection from the Province. DBRS sees these initiatives, if actualized, as positive to Manitoba Hydro’s financial profile, as they will provide some financial flexibility for the Utility, especially in the event of adverse drought conditions or further cost overruns on the projects.

DBRS continues to view Manitoba Hydro as self-supporting, as its earnings and cash flows continue to be sufficient to cover its operating expenses and to service its outstanding debt. However, DBRS could consider reclassifying a portion of the Utility’s debt to be tax-supported should the financial health of the Utility deteriorate to the point where its expenses cannot be recovered through rates. If this were to occur, it could potentially put downward pressure on the Province’s credit rating. Similarly, a large equity injection by the Province that materially increases tax-supported debt could also put downward pressure on the Province’s credit profile. At this time, however, DBRS expects the Province’s ratings to remain stable.”³⁵

5.2 Government-owned Power Utilities and Relation to Provincial Economies

5.2.1 Public power utilities in relation to provincial economies

As Government Business Entities and self-supporting entities, the assets and debt of Manitoba Hydro and other provincially-owned power utilities in Canada are not consolidated within the balance sheets of their respective provincial governments in Summary Financial Statements. Figure 6-6 illustrates the size of utility net debt in relation to provincial government net debt. It also shows the relative size of the combined net debt in relation to provincial population and GDP. Credit rating reports on governments in Canada focus their key debt metrics, such as net debt to GDP, on tax-supported debt, and do not include the self-supporting debt of Crown utilities. However, they do take utility debt into account and continue to monitor levels of debt. Rating agencies have generally commented that the combined debt burden is manageable for provinces.

In 2013/14, the utility net debt of Manitoba Hydro was approximately 38% of combined provincial net debt and utility net debt, slightly lower than the figure for Nalcor (39%), and higher than values for NB Power and BC Hydro (which are near 30%). As a share of GDP, combined provincial net debt and utility net debt is highest in Quebec (at 62%), followed by New Brunswick (at 51%), and then Manitoba (at 46%).

³⁵ DBRS Rating Report, The Manitoba Hydro-Electric Board, November 25, 2016, p.1-2.

Updated data to 2015/16 in Figure 5-2 incorporate general increases across the provinces in the past two years in combined provincial net debt and utility net debt. Data for 2015 and 2015/16 was utilized for direct comparison to audited financial statements of provinces as 2016/17 Public Accounts was not available as of August 2017 for Manitoba and most provinces.

In 2015/16, the utility net debt of Manitoba Hydro increased slightly to approximately 39% of combined provincial net debt and utility net debt, the highest share of the five provinces. As a share of GDP, combined provincial net debt and utility net debt is highest in Newfoundland at 63% (a sharp increase from 42% in 2013/14 as the province’s GDP declined significantly), followed by Quebec at 60%, New Brunswick at 56% and Manitoba at 53% (up from 46% in 2013/14).

While audited financial statements were not available at this time for most provinces, we note that Manitoba Hydro net debt rose significantly to \$15.8 billion in 2016/17, an increase of \$2.2 billion from 2015/16 (see Figure 5-2). Provincial net debt for Manitoba is forecast at \$23.1 billion for 2016/17 (from 2017 Manitoba Budget), an increase of \$1.7 billion from 2015/16. Thus for 2016/17, combined provincial and utility net debt for Manitoba is estimated at \$38.9 billion, which would be approximately 58% of provincial GDP.

Figure 5-2: Overview of Utility Asset and Net Debt Information and Relationship to Provincial Economy, 2015/2016

Overview of Utility Asset and Debt Information and Relationship to Provincial Economy									
(\$ CDN billions)	Provincially-Owned Utility	Utility Assets 2015/16	Utility Net Debt at Year End	Provincial Net Debt at Year End	Prov. Net Debt & Utility Net Debt	Utility Net Debt % of Combined Provincial & Utility Net Debt	Provincial Population 2015	Provincial GDP 2015	Provincial Net Debt and Utility Debt % of GDP
Manitoba	Manitoba Hydro	19.8	13.6	21.4	35.0	39%	1,296,000	65.9	53%
B.C.	B.C. Hydro	30.0	18.2	39.6	57.8	31%	4,693,000	250.0	23%
Quebec	Hydro Quebec	75.2	43.3	185.0	228.3	19%	8,259,500	381.0	60%
Newfoundland	Nalcor Energy	12.3	6.2	12.7	18.9	33%	528,700	30.1	63%
New Brunswick	New Brunswick Power	6.9	4.9	13.7	18.6	26%	754,300	33.1	56%

Source:

1. Manitoba Hydro Annual Report for the year ended March 31, 2016
2. B.C. Hydro Annual Report for the year ended March 31, 2016
3. Hydro-Quebec Annual Report for the year ended December 31, 2015
4. Nalcor Annual Report for the year ended December 31, 2015
5. New Brunswick Power Annual Report for the year ended March 31, 2016
6. Province of Manitoba Public Accounts, 2015/16
7. Province of B.C. Public Accounts, 2015/16
8. Province of Quebec Public Accounts, 2015/16
9. Province of Newfoundland and Labrador, 2015/16
10. Province of New Brunswick Public Accounts, 2015/16
11. Statistics Canada

Figure 5-3 indicates that Manitoba has a relatively high level of utility assets and net debt on a per capita basis, as Manitoba Hydro plays a significant role in its provincial economy.

Manitoba Hydro’s net debt per capita is nearly \$12,000, slightly below Nalcor, and substantially above other government-owned power utilities in Canada. Manitoba Hydro’s net debt per capita increased by approximately 43% in only three years, from 2013/14 to 2016/17. This rate of growth in net debt and net debt per capita significantly exceeded that of the other government-owned power utilities.

Nalcor has the highest level of assets per capita of the government-owned power utilities in Canada, followed by Manitoba Hydro.

Manitoba Hydro’s assets per capita increased from \$12,359 per capita in 2013/14 to \$16,947 per capita in 2016/17, an increase of approximately 37% over the past three years and a growth rate significantly higher than other government-owned power utilities except for Nalcor.

Figure 5-3: Overview of Utility Asset and Net Debt Information Per Capita, 2016/2017

Overview of Utility Asset and Debt Information Per Capita				
(\$CDN)	Provincially-Owned Utility	Utility Net Debt Per Capita	Utility Assets Per Capita	Net Debt/Assets
Manitoba	Manitoba Hydro	11,981	16,947	70.7%
B.C.	B.C. Hydro	4,204	6,711	62.6%
Quebec	Hydro Quebec	5,365	9,028	59.4%
Newfoundland	Nalcor Energy	12,149	26,527	45.8%
New Brunswick	NB Power	6,475	9,207	70.3%

Source:

1. Manitoba Hydro Annual Report for the year ended March 31, 2017.
2. B.C. Hydro Annual Report for the year ended March 31, 2017.
3. Hydro-Quebec Annual Report for the year ended December 31, 2016.
4. Nalcor Annual Report for the year ended December 31, 2016.
5. New Brunswick Power Annual Report for the year ended March 31, 2017.
6. Statistics Canada

Figure 5-4 shows the level of Manitoba Hydro’s self-supporting debt in conjunction with the Province of Manitoba’s total borrowings, guarantees and obligations (net of sinking funds). From 2009/10 to 2013/14, this share had been relatively constant at approximately 37%.

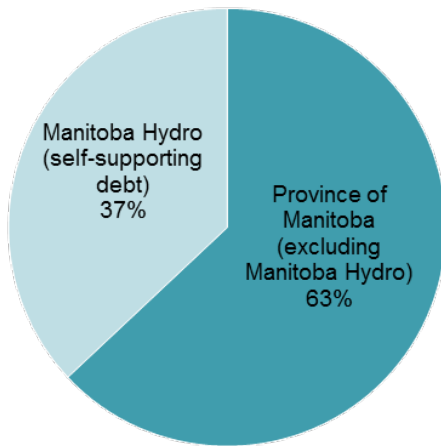
Debt advances to Manitoba Hydro are forecast in 2016/17 to be approximately 39% of total Provincial borrowings, guarantees and obligations, a marked increase in two years from 37% as Manitoba Hydro borrowings have increased from \$12.5 billion in 2014/15 to a forecast level of \$16.4 billion in 2016/17.

This share is expected to continue to increase in the medium term, depending upon the level of increase in the Province of Manitoba’s tax-supported debt. Based on projections of Province of Manitoba borrowings outlined in the Manitoba Budget 2017, Manitoba Hydro’s share is projected to significantly increase to 42.5% in 2017/18.³⁶ Based on Manitoba Hydro’s projected debt under IFF16, self-supporting debt as a share of total Provincial borrowings, guarantees and obligations could increase to percentage range in the mid-40s by 2019/20, depending on the rate of increase of provincial tax-supported debt.

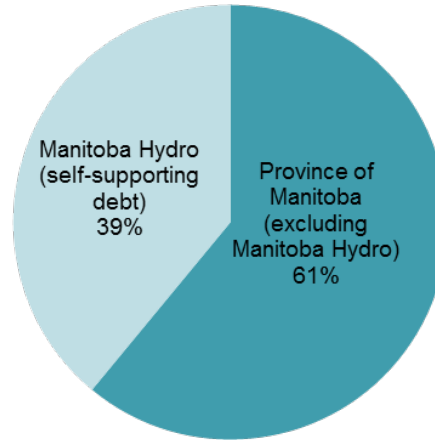
³⁶ Manitoba Budget 2017. Supplementary Financial Information, pg. B2.

Figure 5-4: Province of Manitoba Borrowings, Guarantees and Obligations, 2009/10 and 2016/17 Forecast

2009/10 Provincial Borrowings, Guarantees and Obligations = \$21.1 Billion



2016/17 Forecast: Provincial Borrowings, Guarantees and Obligations = \$42.0 Billion



Source: 2009/10 from Province of Manitoba 2014 Budget Summary Financial Statistics. 2016/17 forecast from Province of Manitoba 2017 Budget Summary Financial Statistics. (Provincial borrowings, guarantees and obligations are net of sinking funds.)

5.2.2 Government contributions from public-owned power utilities in Canada

Figure 5-5 provides a breakdown of contributions paid to governments from Manitoba Hydro and four other government-owned power utilities in the peer group. Of these five government-owned power utilities, only BC Hydro and Hydro-Quebec currently pay a direct annual dividend to their provincial owner. In both cases, dividends are based on a formula and are capped to ensure that a minimum equity ratio is maintained.

Most government-owned utilities pay a debt guarantee fee based on a percentage of outstanding debt to their respective provincial owner.

- Manitoba Hydro pays a 1.0% fee on outstanding applicable debt, which is the highest percentage fee in the group. The Province of Manitoba's debt guarantee fee was increased from 0.5% to 0.65% effective April 1, 2000 and to 0.95% effective April 1, 2001.³⁷ The fee was subsequently increased to 1.0% during fiscal 2006/07.
- NB Power pays a 0.65% fee on outstanding debt.
- Hydro-Quebec pays guarantee fees to the Quebec government related to debt securities. In 2014, these fees were \$205 million in 2014 which represents slightly under 0.5% on outstanding debt.³⁸
- In 2008, the Government of Newfoundland and Labrador temporarily waived the guarantee fee paid by Nalcor until 2011. Upon reinstatement in 2011, the fee was reduced from 1.0% of outstanding debt to a fee of 0.5% on outstanding debt with a remaining term of over 10 years and 0.25% on outstanding debt with a remaining term of under 10 years. The new fee rates were designed to better reflect the value of the debt guarantee, and are based on a comparison of yields on bonds issued by the Province to bonds with similar maturities issued by a group of investment-grade

³⁷ PUB Board Order 7/03, p. 26.

³⁸ Hydro-Quebec 2014 Annual Report. Financial statements Note 6.

utilities comparable to Hydro.³⁹ NLH's recent rate application notes the cumulative impact of these fee initiatives to 2015 is \$62.3 million.⁴⁰

In fiscal 2016/17, Manitoba Hydro paid \$136 million in debt guarantee fees to the Province of Manitoba, an amount that is expected to increase significantly over the next five years as borrowings ramp up to complete major generation and transmission projects.

Manitoba Hydro, BC Hydro and Hydro-Quebec pay annual water rental charges to their respective provinces. Manitoba Hydro's water rental charge is \$3.34 per MW, which is a similar rate to Hydro-Quebec, and significantly lower than BC Hydro, which pays \$6.896 per MW plus capacity charges. Under the *Water Power Act*, the Province of Manitoba approximately doubled water rental rates to its current level of \$3.34 per MW effective April 1, 2001. Manitoba Hydro paid \$131 million to the Province of Manitoba in water rental charges in 2016/17.

All utilities pay local property and related taxes in their respective jurisdictions. In addition to these taxes, Manitoba Hydro pays capital taxes to the Province of Manitoba (\$84 million in 2016/17), and Hydro-Quebec pays a Provincial Public Utility Tax to the Government of Quebec.

Figure 5-5: Contributions Paid to Governments from Public-Owned Canadian Power Utilities (FY2016 or FY2016/17 in annual \$ millions)

	Manitoba Hydro	BC Hydro	Hydro-Quebec	NB Power	Nalcor
Dividend (1)	n/a	\$259	\$2,146	n/a	n/a
Debt guarantee fee	\$136		\$218	\$32	\$4.5
Water rental charges	\$131	\$349	\$673		\$4.9
Property, capital & other taxes	\$135	\$234	\$372	\$43	not available
Total	\$402	\$842	\$3,409	\$75	\$9.4
Total % revenues	17%	14%	26%	4%	1%
Per Capita (rounded dollars)	\$305	\$177	\$409	\$99	\$18

Note: derived from annual reports and financial statements, for the year-ending March 31, 2017 for Manitoba Hydro, BC Hydro and NB Power and for the year-ending December 31, 2016 for Hydro-Quebec and Nalcor.

(1) No dividends are paid by Manitoba Hydro, NB Power and Nalcor. For Hydro-Quebec, dividend paid the Quebec government is 75% of net income; no dividend if it effectively reduced the cap rate/equity ratio to less than 25%. For BC Hydro, dividend is 85% of net income, subject to an 80:20 debt to equity cap. Dividend for the year ending March 31, 2016 and for the year ending March 31, 2017 is less than 85% due to the cap. Special Directives from the Province of BC define a minimum annual payment which was \$259 million for the 2016/17 fiscal year. Note that BC Hydro's dividend payments to the Province of BC have been higher in previous years.

³⁹ Newfoundland and Labrador Hydro – 2013 General Rate Application, p. 3.31.

⁴⁰ Newfoundland and Labrador Hydro – 2013 General Rate Application, p. 3.32.

Based on information disclosed in annual financial statements, as noted in Figure 5-5, Manitoba Hydro's payments to government represent approximately 17% of total revenues. This is a similar share to BC Hydro (although BC Hydro's dividend payments to the Province of B.C. have been lower in recent years), a much higher proportion than government-owned utilities in Atlantic Canada, but significantly lower than Hydro-Quebec. Hydro-Quebec contributes approximately 26% of its total revenues to government, with nearly two-thirds of its government contributions in the form of dividends to its owner.

5.3 Summary Observations

Key conclusions from the analysis in this chapter are the following:

- Since the May 2015 Report, two credit rating agencies have issued a total of three credit downgrades for the Province of Manitoba. One credit rating agency no longer views Manitoba Hydro debt as self-supporting due to high and rising leverage. Two other credit rating agencies continue to view Manitoba Hydro as self-supporting.
- The combined debt of the Province of Manitoba and Manitoba Hydro has significantly increased in the past two fiscal years, and Manitoba Hydro's share of Provincial borrowings, guarantees and obligations now exceeds 40%.

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4.4 MHEB'S 2016 REVIEW SINCE THE KPMG FINANCIAL TARGET REVIEW

Since the last (GRA) and the 2016/17 Supplemental Filing, a new Board of Directors (MHEB) has been appointed along with a new President & CEO and a new Chief Finance & Strategy Officer. Together, the MHEB and senior management team have charted a new course for Manitoba Hydro inclusive of a strategic imperative to restore financial sustainability. While overall minimum financial targets have not changed, Manitoba Hydro is of the view that previous financial plans were inadequate in that the time frame under which the Corporation reached financial health was unacceptable, leaving the Corporation at too high of a risk for too long. A path back to 25% equity of longer than ten years is, in the view of Manitoba Hydro, too risky.

4.5 UNCERTAINTY ANALYSIS METHODOLOGY & RESULTS

As part of the integrated planning process, Manitoba Hydro quantifies the financial impacts of changes to key planning assumptions in the Integrated Financial Forecast (IFF) report through sensitivity analysis. A sensitivity or scenario analysis is intended to provide insight into directional changes and relative level of risk.

The cumulative impacts to the MH16 electric operations retained earnings and the minimum equity ratio observed over the 10-year forecast period are shown in **Figure 4.4** for each of the key changes in assumption.

1 **Figure 4.4 – Key Variable Sensitivity Impacts to MH16 Retained Earnings**

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	Lowest Equity Ratio in 10 yr Risk Scenario
	Low Domestic Load Growth	(6)	(16)	(31)	(48)	(69)	(94)	(121)	(149)	
High Domestic Load Growth	17	46	107	175	250	331	418	508	600	15% (2019)
+ 1% Interest	(23)	(64)	(121)	(207)	(338)	(480)	(621)	(766)	(930)	14% (2019)
- 1% Interest	22	62	117	200	327	457	586	717	854	15% (2018)
C\$/US\$ Down 0.10 (C\$ Strengthening)	13	16	20	16	(16)	(68)	(123)	(169)	(220)	15% (2019)
C\$/US\$ Up 0.10 (C\$ Weakening)	(13)	(15)	(18)	(13)	17	63	111	150	194	14% (2018)
Low Export Price	(31)	(70)	(106)	(147)	(236)	(338)	(446)	(600)	(777)	14% (2019)
High Export Price	31	75	138	218	332	448	562	705	848	15% (2018)
5 Year Drought (starting in 2018/19)	(299)	(761)	(930)	(1 151)	(1 367)					12% (2020)
+ 1% Rate Increase in 2017/18	28	48	70	95	121	145	171	198	228	15% (2019)
- 1% Rate Increase in 2017/18	(27)	(46)	(68)	(92)	(119)	(150)	(182)	(215)	(253)	14% (2019)
\$1B in Capital Overruns	(11)	(33)	(54)	(104)	(178)	(254)	(331)	(410)	(498)	14% (2019)
Capital Down \$100 million/year	12	30	57	93	139	193	254	323	404	15% (2019)
Capital Up \$100 million/year	(9)	(26)	(52)	(87)	(131)	(185)	(246)	(316)	(404)	14% (2019)

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4 **Figure 4.4** reveals that a five-year drought beginning in 2018/19, interest rates one
5 percent higher or lower than forecast, and low and high export prices have the largest
6 potential impact on Manitoba Hydro’s retained earnings.

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9 While the sensitivity analysis provides good insight into the financial impacts of changes
10 to key assumptions in isolation, further analysis is undertaken in the form of Manitoba
11 Hydro’s uncertainty analysis. The uncertainty analysis is a sophisticated analytical tool
12 which evaluates the impacts of the variation of multiple planning variables in order to
13 determine a range of possible financial outcomes for the utility. The uncertainty analysis
14 presented below combines multiple risk factors which reveals a more extensive picture
15 of the risks facing the Corporation.

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Since its introduction at the 2013 Needs For and Alternatives To (NFAT) process, Manitoba Hydro has expanded the capabilities of the uncertainty analysis to incorporate and model the effects of water supply variability. Along with the other two significant risk factors, namely interest rates and export prices, the uncertainty analysis combines these three risk factors, some of which have offsetting impacts, to generate a number of discrete financial projections.

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It is assumed that the three risk factors are mutually independent, variation in one parameter is independent of the variation in another. For each combination of risk

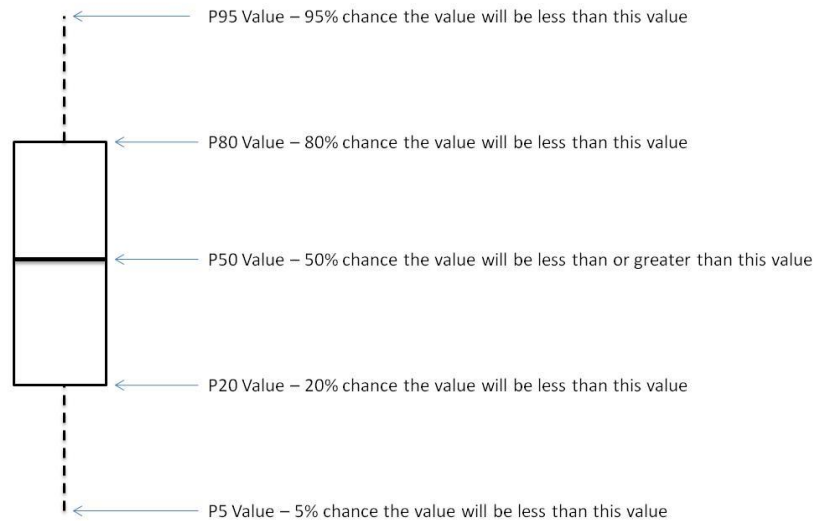
1 factors (i.e. each scenario), a set of pro forma financial statements (projected income
2 statement, projected balance sheet and projected statement of cash flows) is
3 generated. The uncertainty analysis focuses on four financial metrics from the pro
4 forma financial statements: the equity ratio, net income/loss, net debt balance and
5 retained earnings, and displays the range of possible financial outcomes.

6
7 The results of the uncertainty analysis have been graphically depicted in a box plot. The
8 box plot is a convenient way of showing groups of numerical data through their 20th and
9 80th percentiles. In other words, the box represents 60% of possible outcomes in a fiscal
10 year. Box plots also have lines (whiskers) extending vertically from the boxes indicating
11 variability from the 80th up to the 95th percentile and from the 20th down to the 5th
12 percentile. Box plots display variation in samples of a statistical population without
13 making any assumptions about the underlying statistical distribution. The following
14 diagram in **Figure 4.5** explains how to interpret the box plot figures.

15

1 **Figure 4.5 Box and Whisker Plot Interpretation**

Box and Whisker Plots



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4 Instead of relying on an expected case (MH16) and a few sensitivities for a view of the
5 future, the uncertainty analysis incorporates hundreds of plausible views of the future
6 to assist the decision making process. Instead of focusing on a single forecast value
7 (such as one equity ratio in 2027), this analysis provides the decision maker with the
8 likelihood that the equity ratio in 2027 will be less than or greater than a particular
9 value, based on a large sample set of financial projections.

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The next section describes the three key risk factors included in the uncertainty analysis.

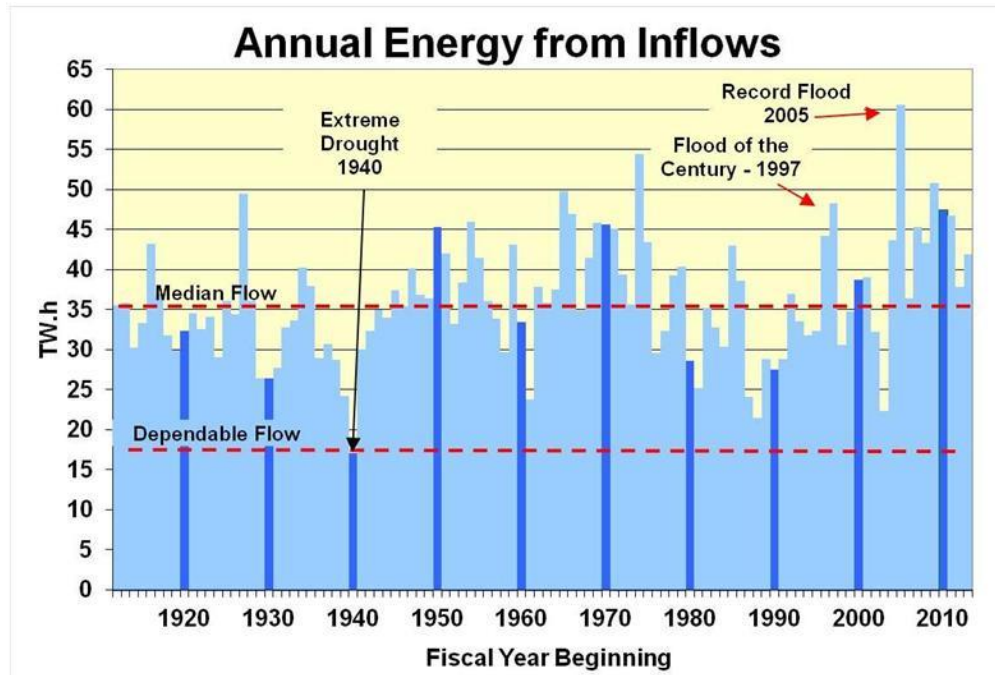
13 **Water Supply Variability**

14 The uncertainty of volume of water supply available for hydro generation is one of the
15 key risks that Manitoba Hydro faces. The IFF is produced from a forecast of interchange
16 revenues and generation costs based on the average of all historic stream flows. A
17 review of the chronology of the 102 historic stream flow record reveals the stream flow
18 variability from year to year, as well as trends over various periods of time. Much of this
19 water flow variability is dampened when only average revenues are assumed in the IFF.

20 **Figure 4.6** shows the annual energy in terawatt-hours (TWh) from inflows over the
21 period from 1912 to 2013.

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Figure 4.6 Annual Energy from Inflows (TWh)

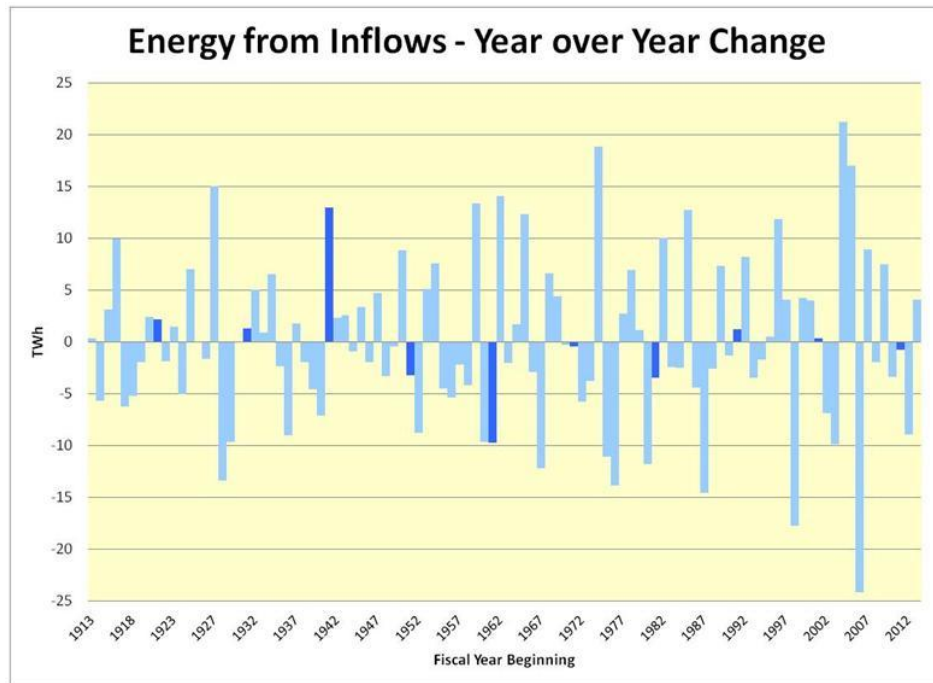


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Figure 4.7 shows the year over year change of the annual energy (in TWh) over the same 1912 – 2013 time period and demonstrates that the change in energy from one year to the next can be extreme.

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Figure 4.7 Energy from Inflows – Year over Year Change



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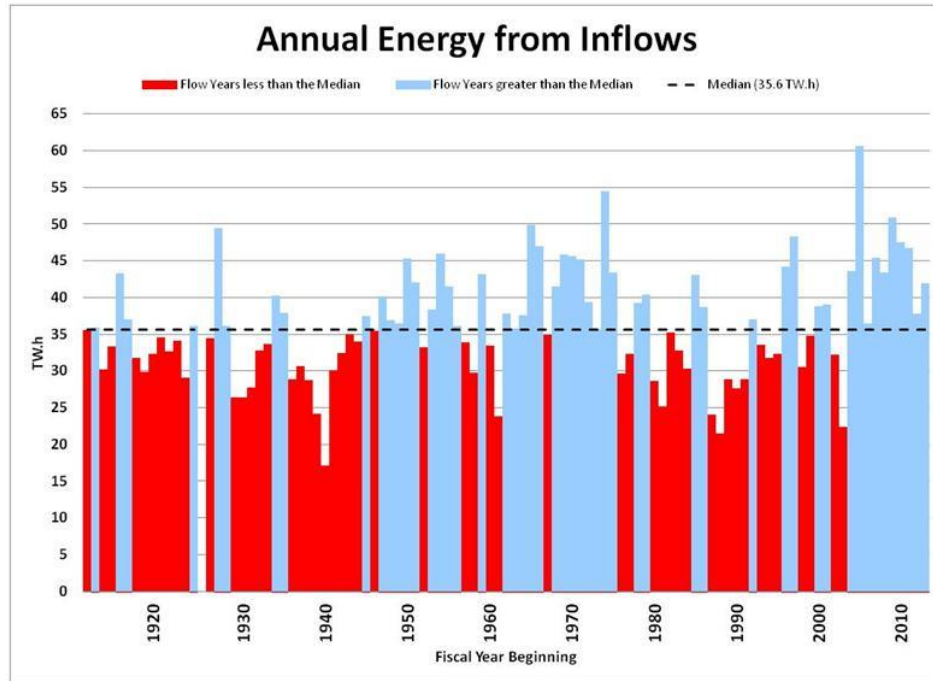
Figure 4.8 contains the same data points as **Figure 4.6**; however, in **Figure 4.8** the years that were below the historic median of 35.6 TWh are denoted in red and the years above the historic median are denoted in blue. This colour coding highlights trends or patterns of extended periods where the annual energy remained above or below the historic median level. For example, the period in the 1920s to 1940s had predominantly lower than median energy. The following period in the 1950s to 1970s had predominantly higher than median energy. The 1980s to early 2000s was a period of lower than median energy. **Now, mid 2000s to present day, energy from inflows has been well above median and for the longest sustained period in recorded history.**

14

If historical water flow cycles are repeated, it is reasonable to expect, at a minimum, a period of lower than median energy during the forecast period. For this reason, it is important to understand the potential variability of financial results from average.

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1 **Figure 4.8 Annual Energy from Inflows – Below and Above Median**



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To incorporate both the annual flow variability and the cycles, 102 ‘flow cases’ were constructed each beginning with a different historical ‘flow year’ (i.e. 1912 to 2013), followed by a repeat of the chronological flow history. The 102 ‘flow cases’ are run through the Corporation’s production costing model to produce time series forecasts of flow related revenues and costs which are then incorporated into the financial forecast model to produce 102 financial projections.

Export Prices

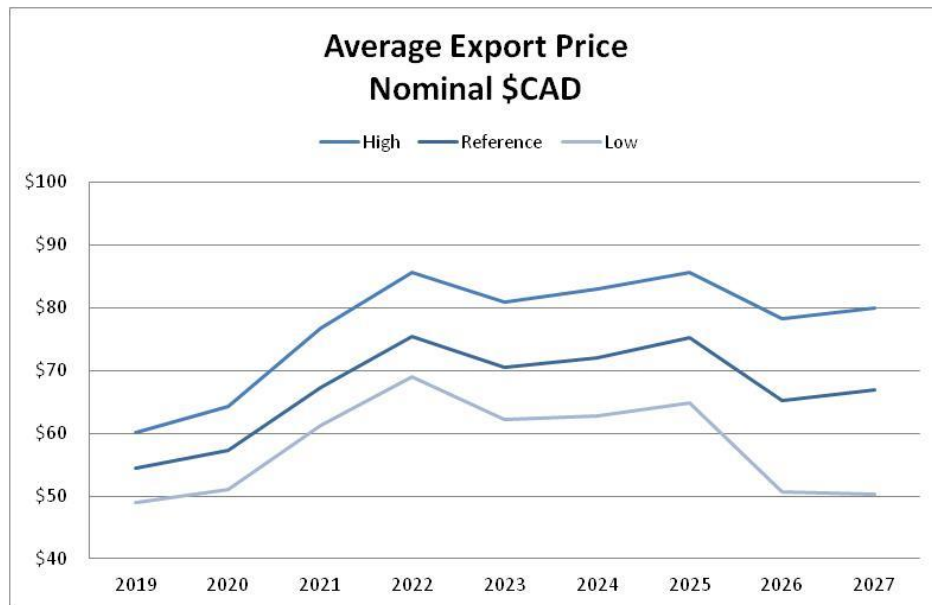
The 2016 Electricity Export Price Forecast contains three price forecasts:

- Reference** the consultant’s best estimate of the future, adjusted in January 2017 to further reduce the forecast to reflect the current trend in projected on-peak and off-peak prices and capacity values
- Low** contains 2016/17 on-peak and off-peak prices and capacity values held constant in real terms throughout the forecast period
- High** the consensus reference export price forecast from the 2015 Electricity Export Price Forecast was selected to represent the high price sensitivity for MH16

1 **Figure 4.9** shows the nominal dollar average unit export price for each of the three
 2 export price forecasts. The average export price is the average of all firm and
 3 opportunity export sales net of transmission charges. The reduction in average export
 4 price in 2025/26 is a function of the expiry of a portion of Manitoba Hydro’s firm
 5 dependable contracts.

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Figure 4.9 Average Export Price

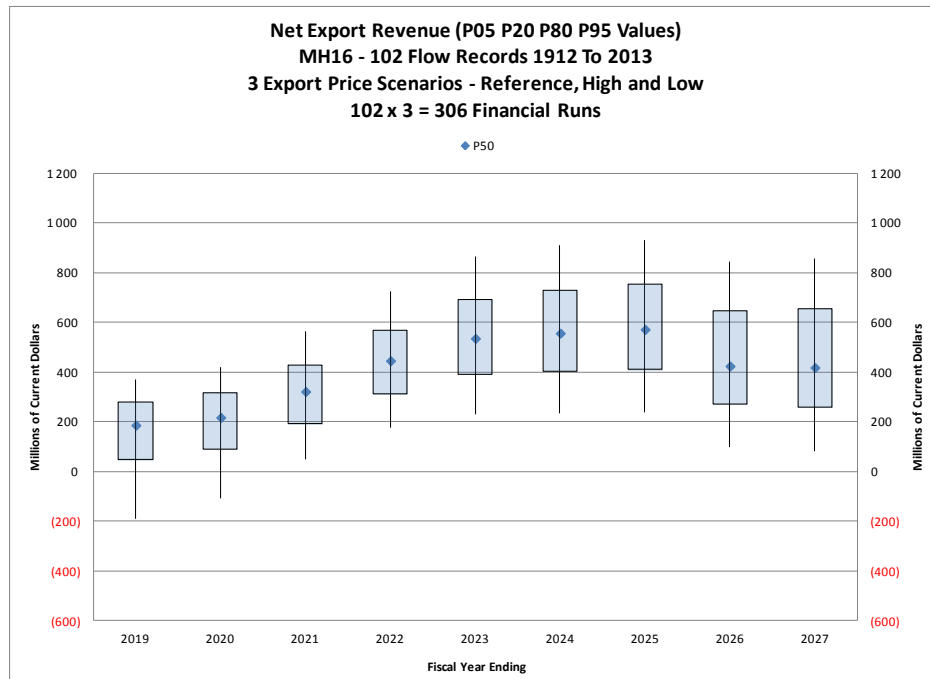


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10 **Figure 4.10** shows the annual variability of net extraprovincial revenues factoring in
 11 both water flow variability and export price uncertainty for the period 2019 to 2027.
 12 The three price forecasts were used in the Corporation’s production costing model to
 13 generate 306 distinct net extraprovincial revenue forecasts (102 flow cases x 3 price
 14 cases). Manitoba Hydro is no longer projecting that dependable energy prices and
 15 capacity values will be obtained for available firm energy where Manitoba Hydro does
 16 not presently have an export contract in place. This planning assumption change was
 17 made to capture changing market dynamics, namely the reduced cost for U.S.
 18 renewable supply options (aided in large part by subsidies) that would compete directly
 19 with hydro generation, along with reductions to natural gas price fundamentals and
 20 elements of the capacity market that are signaling a diminished need for new
 21 generation. These developments have had a dampening effect on the net export
 22 revenue variability once Keeyask is fully commissioned – 2023/24 and beyond.

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Figure 4.10 Net Export Revenue Variability



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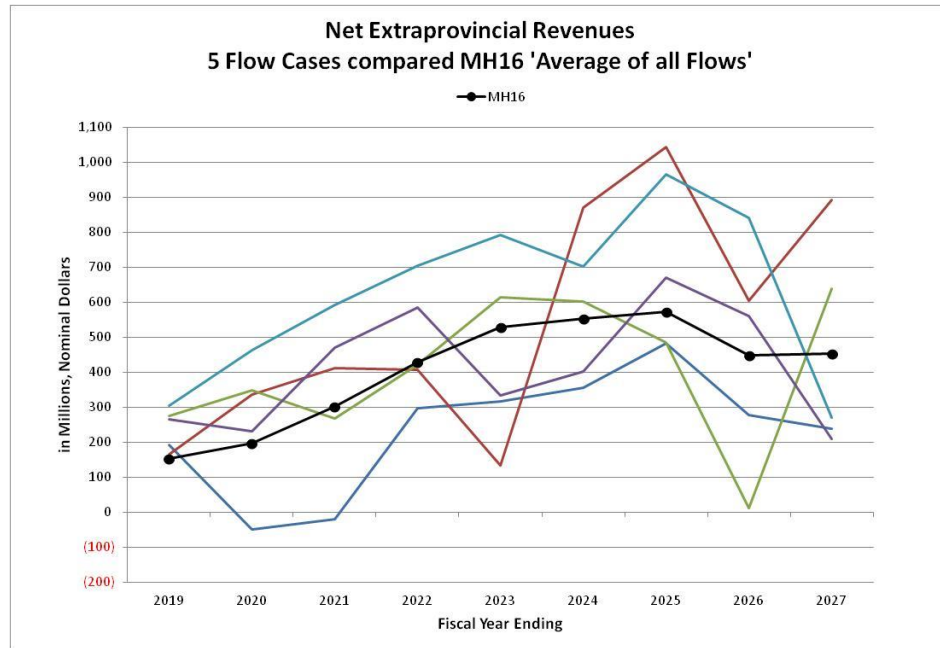
While the previous graph displays the possible range in any given forecast year, it does not show how net extraprovincial revenue can vary year to year in any one of the 306 projections.

Figure 4.11 shows the net extraprovincial revenue from a sample of 5 flow cases taken from the 306 different flow cases available. It compares these to the average of all flow cases (at reference export prices) from which MH16 is derived. As shown by these 5 flow cases used, the annual net extraprovincial revenues can vary substantially from what is projected in MH16. The timing of the occurrence of this variability from average (earlier vs. later in the forecast) can have a significant impact on the financial forecast not only in each year but also on a cumulative basis. For example, lower than average net extraprovincial revenues early in the forecast while capital spending is high may result in higher debt levels. The higher levels of debt will put downward pressure on the equity ratio in all future years which can impact how quickly the equity ratio returns to the minimum 25% target. **It is thus critical that rates be set on the right trajectory such that future rate increases are not unduly exposed to intervening events (i.e. drought) or adverse forecast error.**

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Figure 4.11 Net Export Revenue - 5 Flow Cases



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Interest Rates

In 2015, Manitoba Hydro undertook significant additional work to develop and validate the interest rate scenarios used in its uncertainty analysis. Manitoba Hydro set out to test the impacts of different interest rate scenarios that encompass both rising and declining paths, interest rate shocks as well as steady-state scenarios that are consistent with history. A publically available stochastic¹ interest rate generator developed by the American Academy of Actuaries and the Society of Actuaries was used to produce the interest rate forecasts used in this analysis. This model is based on historical U.S. interest rates (Treasury Bills) and produces a time series going forward for bonds of different durations (3-month, 1-year, 10-year, etc.) and captures both longer-term multi-year trends and shorter-term intra-annual variation. Manitoba Hydro engaged the Berkeley Research Group (BRG) to recommend an approach that made use of available data on current futures and options prices to establish and calibrate an appropriate range of interest rates emerging from the stochastic interest rate generator. BRG's scope of work, methodology and findings are discussed in Appendix 4.3 of this filing.

¹ Randomly determined.

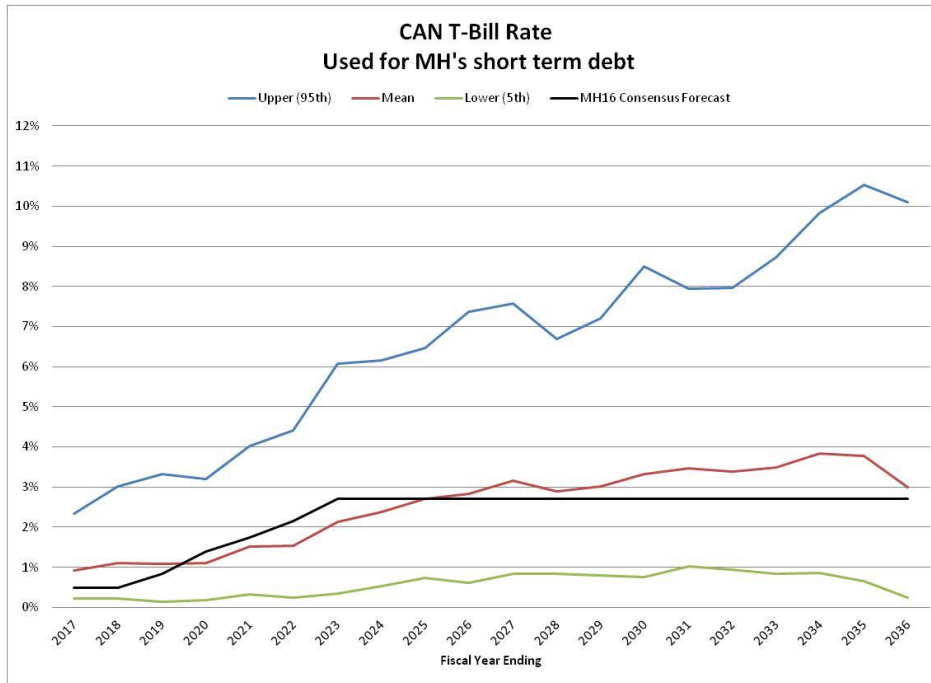
1 MH16 reflects Manitoba Hydro's revised debt management strategy that opts to
2 shorten the weighted average term to maturity of new debt issuance to 12 years from
3 20 years. On a forecast basis, new long-term debt generated by the financial forecasting
4 model is fixed at an interest rate that reflects this change and a 12-year average term to
5 maturity. In MH15, new long-term debt was fixed at an interest rate that reflected a 20-
6 year average term to maturity.

7
8 Manitoba Hydro updated the stochastic interest rate generator with December 2016
9 futures and options prices. Notably, the results aligned with the timing of the consensus
10 projection of interest rates obtained from various external forecasters and used in
11 MH16. **Figures 4.12** and **4.13** show the mean, upper and lower bounds for the Canadian
12 short term and long term interest rates resulting from the stochastic interest rate
13 generator and compare these to the consensus forecast assumed in MH16. Overall, the
14 mean interest rates for both short-term and long-term Canadian interest rates (the red
15 line) closely mirror the consensus forecast interest rates. As well, with the exception of
16 2017/18, the interest rate sensitivity one percent higher or lower than the consensus
17 forecast also falls within the upper and lower bounds produced by the stochastic
18 interest rate generator.

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Figure 4.12 Short Term Interest Rates

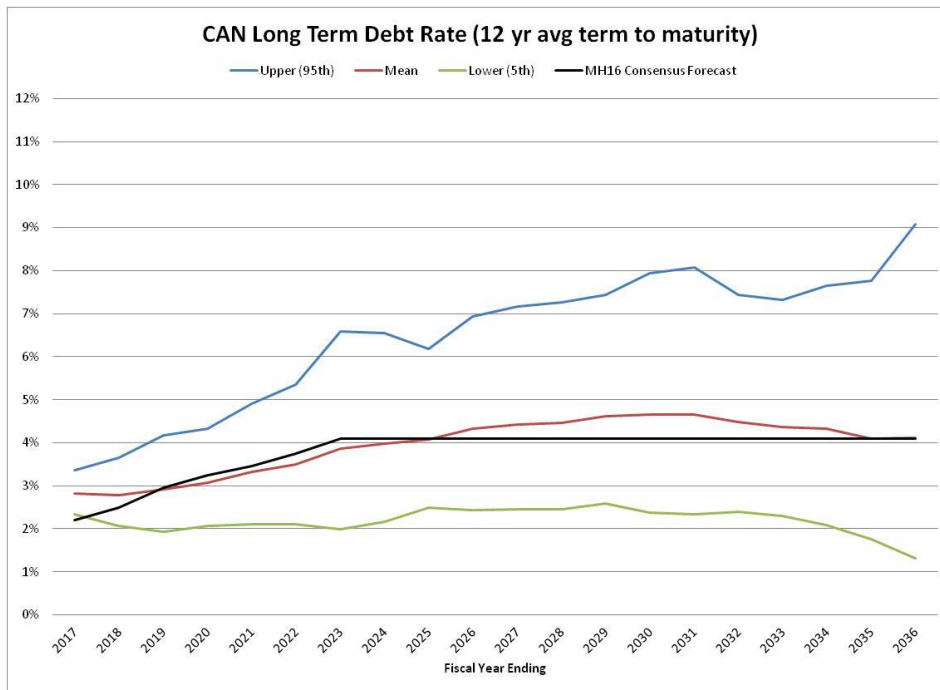


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Figure 4.13 Long Term Interest Rates



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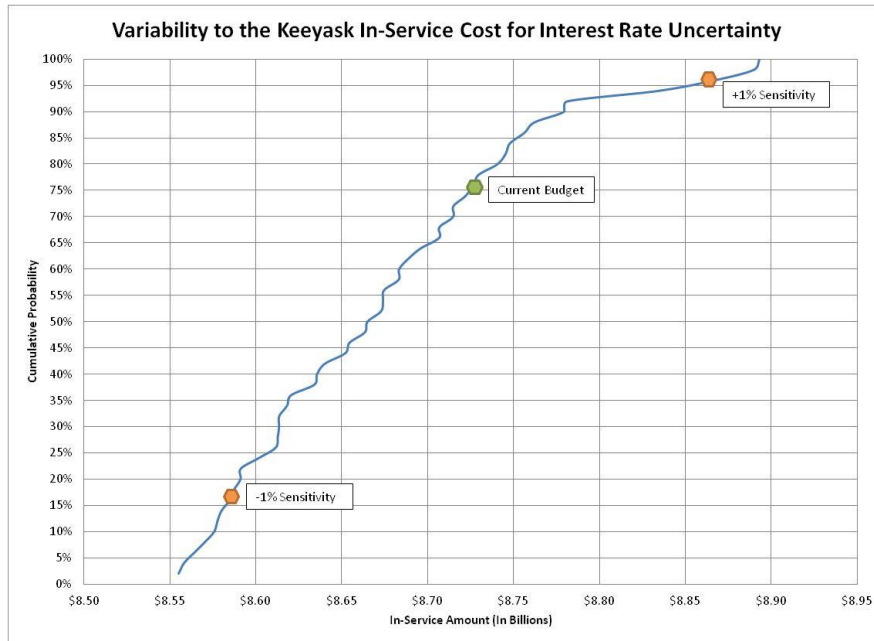
1 Interest is capitalized on Manitoba Hydro's capital projects at the weighted average rate
2 of the Corporation's entire debt portfolio. During the early years of the forecast, the
3 weighted average rate does not fluctuate as much as the incremental cost of borrowing
4 when forecast interest rates are varied through the uncertainty analysis. This is arising
5 from the fact the average rate is so highly weighted with Manitoba Hydro's embedded
6 costs that it is not until new debt is either generated in the forecast and/or existing debt
7 that is maturing is refinanced that the incremental borrowing costs can impact the
8 weighted average rate.

9
10 The Keeyask project is an exception as the majority of the interest capitalized on the
11 project is calculated using the incremental cost of borrowing. The Project Financing
12 Agreement, a schedule to the Joint Keeyask Development Agreement, outlines how
13 interest is to be calculated during construction using incremental costs for the Keeyask
14 HydroPower Limited Partnership (KHLP) assets. **Figure 4.14** shows the impacts to the
15 \$8.7 billion in-service cost of the Keeyask project from the sample set of 50 interest rate
16 cases generated by the stochastic interest rate generator model as well as the +/-1%
17 sensitivity to the consensus projection of interest rates used in MH16. The blue line
18 represents the range of in-service amounts that result from the 50 interest rate cases.
19 The current budget and the +/- 1% sensitivities have also been included in the graph.
20 The impact of varying interest rates is +/- \$170 million or 2% of the budget in-service
21 cost.

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Figure 4.14 Impact of Interest Rates on Keyask In-Service Costs



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Uncertainty Analysis Results

The uncertainty analysis was initially prepared using two different approaches to the development of its interest rate assumptions. One approach uses the consensus forecast of interest rates with two sensitivities, the first being one percent higher and the second being one percent lower, and requires the generation of 918 discrete financial projections. The other approach uses a representative sample set of 50 interest rate cases from the stochastic interest rate generator described above and produces 15,300 discrete financial projections. Both approaches are summarized in **Figure 4.15**.

Figure 4.15 Uncertainty Analyses Approaches

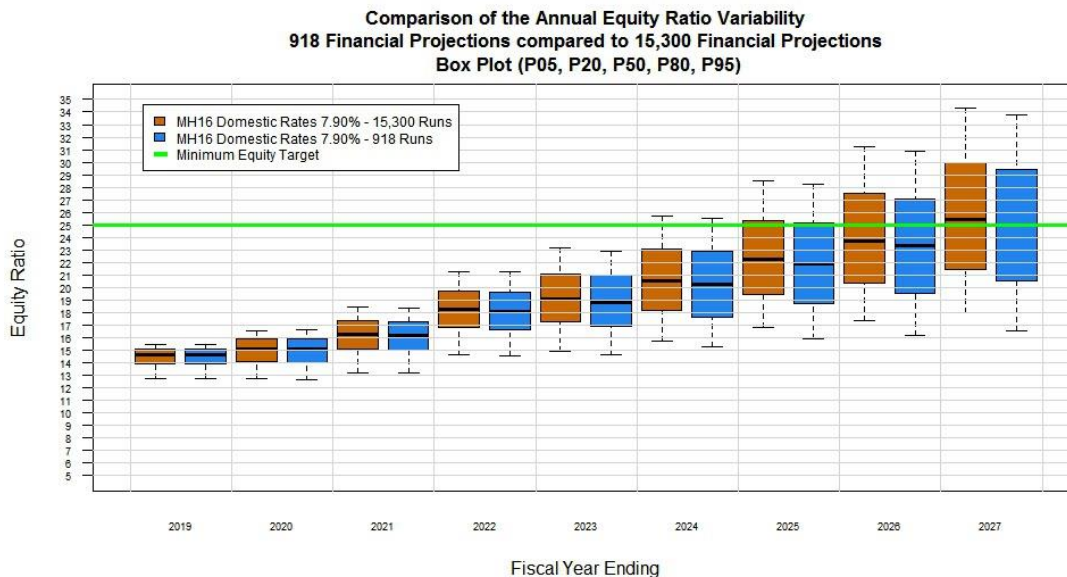
	3 Interest Rate Cases	50 Interest Rate Cases
Rate Increases	7.9% FY2018 to FY2022, 2%	7.9% FY2018 to FY2022, 2%
Water Flow Cases	102	102
Electricity Export Prices	3	3
Interest Rate Cases	3	50
Discrete Financial Projections	918 (102 x 3 x 3)	15,300 (102 x 3 x 50)

15

1 A considerable amount of time and effort is required to prepare the uncertainty analysis
2 under the second approach. The processing time required to generate 15,300 scenarios
3 was considered a major obstacle and Manitoba Hydro sought out to test whether
4 generating a smaller set of discrete financial projections would render reasonably
5 indicative results compared to the generation of a full set of 15,300 financial runs.
6

7 **Figure 4.16** compares the results of the projected equity ratio from the two approaches
8 listed above.

10 **Figure 4.16 Projected Equity Ratios from Uncertainty Analyses**



11 **Figure 4.16** shows that the first approach that produces 918 discrete financial
12 projections generates a reasonable and unbiased representation of the key financial
13 risks that Manitoba Hydro is facing when compared to the approach that uses 50
14 interest rate cases. A comparison of the two approaches also highlights the fact that
15 water flow variability is Manitoba Hydro’s largest risk factor.
16

17
18 Each of the 918 discrete financial projections is given an equal likelihood of occurring
19 (i.e. 1/918 = 0.11%) and the uncertainty analysis was run with two different domestic
20 rate increase scenarios:

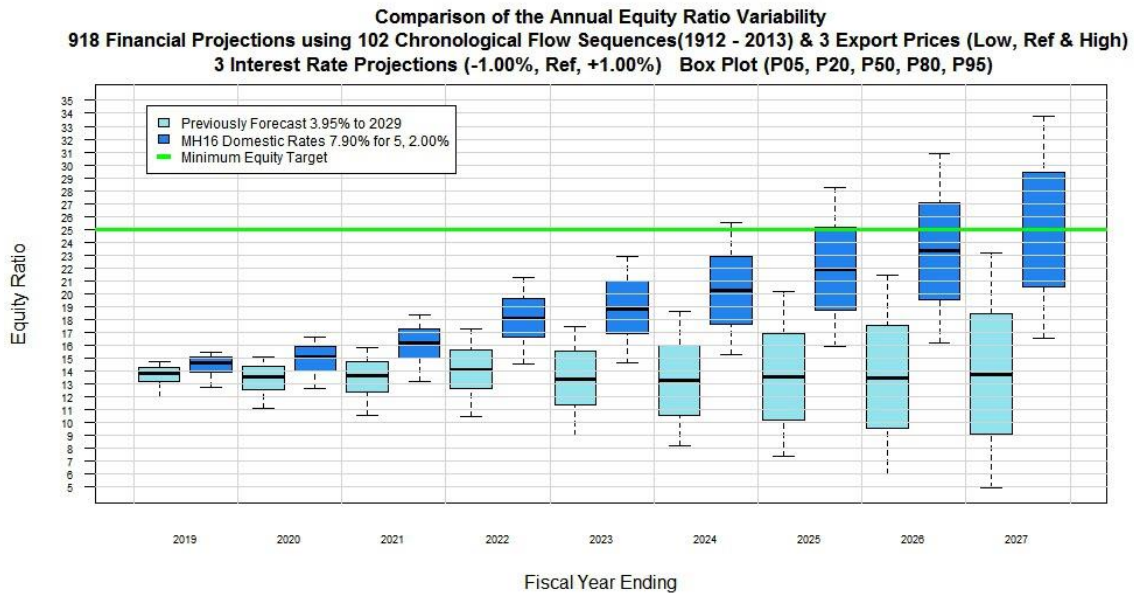
- 21 1) The MH16 proposed rate increases of 7.90% annually from 2017/18 to 2021/22,
22 and then 2.00% rate increases thereafter, and

- 1 2) The previously forecast 3.95% annually from 2017/18 to 2028/29, followed by
2 2.00% rate increases thereafter.

3
4 **Projected Equity Ratios**

5 **Figure 4.17** shows the equity ratios under the financial projections incorporating water
6 flow, export price and interest rate risks.

7
8 **Figure 4.17 Comparison of Equity Ratio Variability**



9
10 From **Figure 4.17**, it can be observed that:

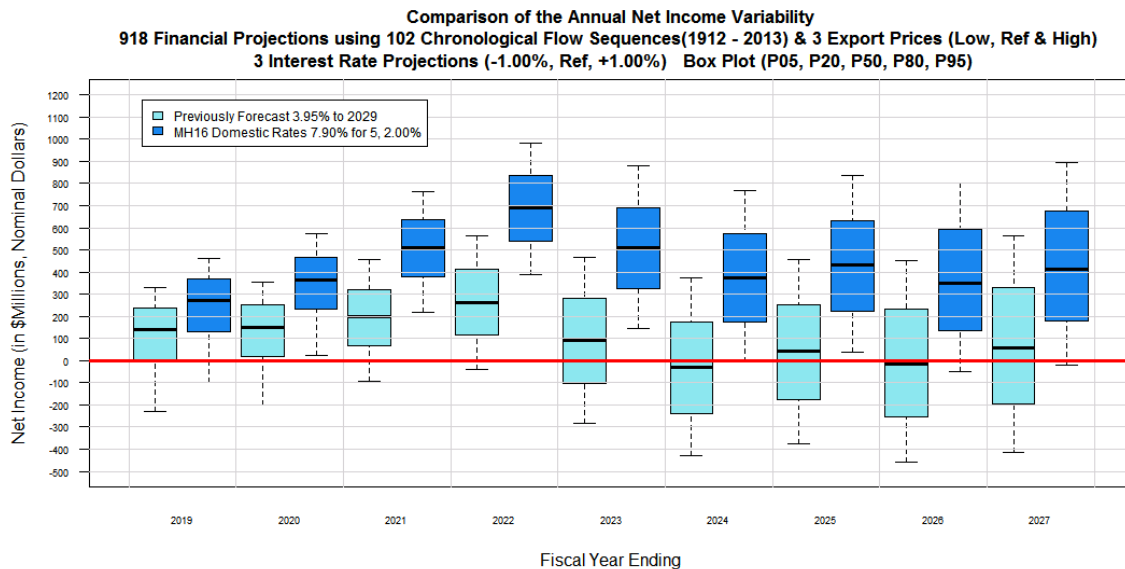
- 11 • With 7.90% rate increases, the chance of the equity ratio being below 15% goes
12 from an 80% probability in 2018/19 to being only a 20% probability in 2020/21.
13 By 2023/24, there is less than a 5% chance that the equity ratio will be below
14 15%. By the end of the 10-year forecast period, there is a 50% chance that
15 Manitoba Hydro will achieve the minimum 25% equity ratio target.
- 16 • With 3.95% rate increases, there is roughly only a 20% chance that the equity
17 ratio will be above 15% during the five year period 2018/19 to 2022/23. Over
18 the entire forecast period shown above, there remains a 50% chance that the
19 equity ratio will be either above or below 13% while the overall variability of the
20 equity ratio grows (as shown by the increase to the size of the boxes) once
21 Keeyask is commissioned. 3.95% annual rate increases does not provide a
22 sufficient financial cushion to absorb the key risks Manitoba Hydro is facing over

the period 2018/19 to 2026/27. By the end of the 10-year forecast period, there is very little chance the minimum 25% equity ratio target will be achieved.

Projected Net Income or Losses

Figure 4.18 shows the annual projected net income under the range of projections.

Figure 4.18 Comparison of Net Income Variability



From Figure 4.18, it can be observed that:

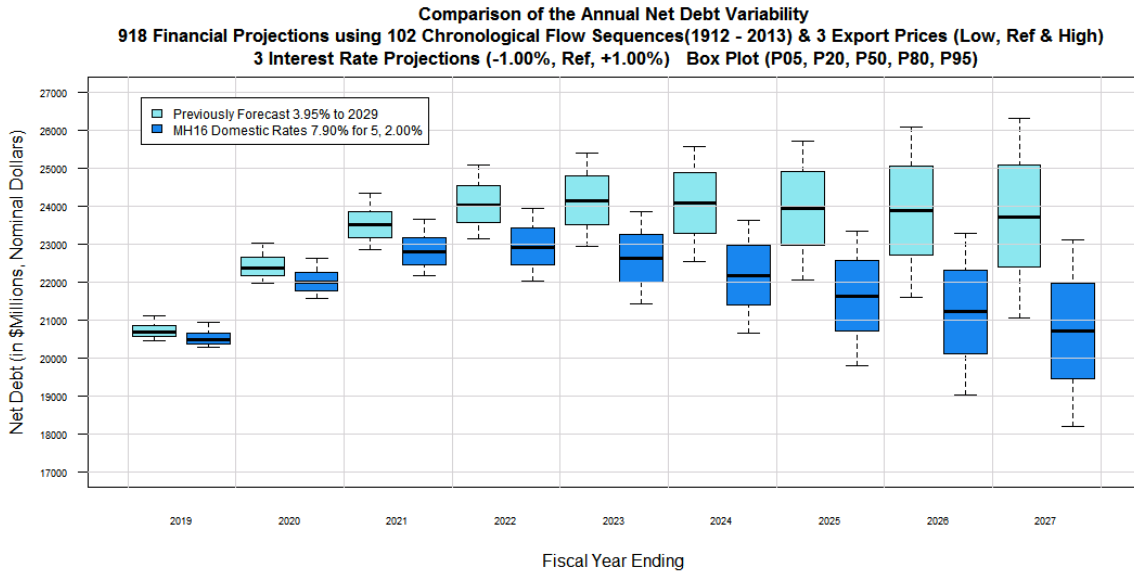
- With 7.90% rate increases, there is only a very small chance of a net loss either before or after Keyask is commissioned, thus allowing Manitoba Hydro to build its reserves and progress towards the minimum 25% equity ratio target. **It must be recognized that as the Corporation’s net plant in service doubles between 2016/17 and 2023/24, annual earnings will need to average approximately \$400 million over the 10-year forecast period to achieve the minimum 25% equity ratio target by the 10th year of the forecast.**
- With 3.95% rate increases, the domestic revenue projection does not build sufficient reserves during the construction phase and cannot adequately support the carrying costs of the Bipole III and Keyask projects once they are both fully commissioned. From 2023/24 to 2026/27, there is only roughly a 50% chance that the Corporation will record a profit and considerable potential of significant losses.

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Projected Net Debt Balances

Figure 4.19 shows the annual projected net debt balances under the range of projections.

Figure 4.19 Comparison of Net Debt Variability



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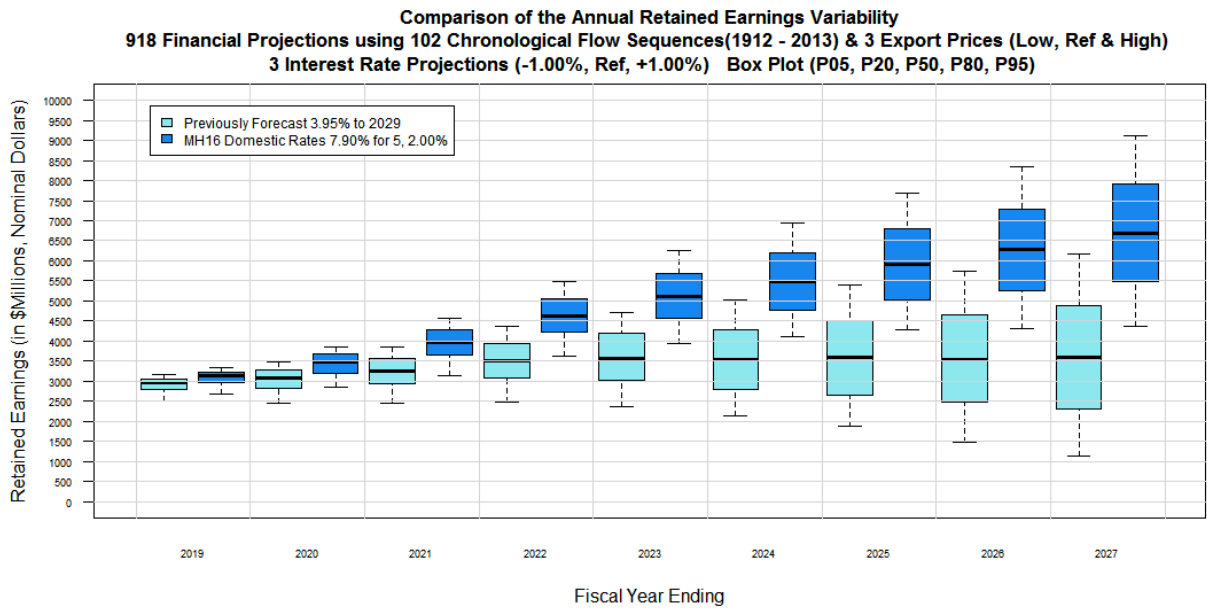
From **Figure 4.19**, it can be observed that:

- With 7.90% rate increases, net debt rises to \$23 billion and is able to recover to less than \$21 billion by 2026/27 in 50% of the financial projections; over \$3 billion lower than with 3.95% rate increases by the end of the 10-year forecast period.
- With 3.95% rate increases, net debt rises to \$24 billion by 2021/22 and remains at that level in 50% of the cases for the remainder of the forecast period.

Projected Retained Earnings Balances

Figure 4.20 summarizes the retained earnings results for the range of projections.

1 **Figure 4.20 Comparison of Retained Earnings Variability**



2
3 From **Figure 4.20**, it can be observed that:

- 4 • With 7.90% rate increases, the retained earnings balance grows between
- 5 2018/19 and 2021/22 to keep pace with the net debt balance. From 2022/23
- 6 and on, the retained earning balance continues to grow as the equity ratio
- 7 progresses from 19% to 25% by 2026/27 in 50% of the financial projections.
- 8 • With 3.95% rate increases, the retained earnings balance is expected to grow by
- 9 only \$500 million over the 10-year forecast period in 50% of the financial
- 10 projections while at the same time the net debt balance is expected to grow by
- 11 \$4 billion. As such, 3.95% rate increases do not enable any progress on the
- 12 Corporation's equity ratio over the next decade.

1 **Conclusions**

2 Overall, the approach to the uncertainty analysis that incorporates 3 interest rate
3 scenarios and generates 918 financial projections produces a reasonable and unbiased
4 representation of the financial risk facing the Corporation. This is based on the
5 similarity of outcomes achieved when results are compared to the uncertainty analysis
6 with 15,300 projections.

7
8 The uncertainty analysis demonstrates that with 7.90% rate increases, Manitoba Hydro
9 would make steady progress towards the minimum 25% equity ratio target and
10 achieve/exceed the target in the 10th year of the forecast in 50% of the cases. The
11 proposed 7.90% rate increases provide a level of domestic revenue that results in steady
12 earnings growth such that the net debt begins to decline following the commissioning of
13 the Bipole III and Keeyask projects.

14
15 The uncertainty analysis also demonstrates that 3.95% rate increases fail to provide
16 sufficient earnings both before and after the commissioning of Bipole III and the
17 Keeyask projects to make any improvement to the equity ratio or make any strides to
18 minimize the financial risks facing Manitoba Hydro over the next ten years. Given there
19 is only a 50% chance that the projected equity ratio will be either higher or lower than
20 13% while the overall variability of the equity ratio grows over the entire 10-year
21 forecast, 3.95% rate increases could place Manitoba Hydro at a higher risk that its debt
22 may not be viewed as self-supporting in the eyes of the credit rating agencies and
23 lenders.

21

PUB MFR 15

Financial Information

A table which details the debt to equity ratio, capital coverage ratio and interest coverage ratio, net assets, net income, total debt and retained earnings for the last five fiscal years and each of the years in the 20-year electric IFF. [Appendix 11.12, 2015/16 GRA]

Please see **Table 1** for the requested information related to electric operations.

Table 1. Financial Ratios 2016/17 to 2035/36

Fiscal Year Ended ⁽¹⁾	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA Interest Coverage Ratio	Total Assets	Net Income	Total Debt ⁽²⁾	Retained Earnings	Accumulated Other Comprehensive Income
2012	74:26	1.13	1.74	13,203	67	9,084	2,416	327
2013	75:25	1.25	1.81	13,928	84	9,690	2,500	299
2014	76:24	1.35	1.95	14,950	154	10,563	2,654	96
2015	82:18	1.20	1.73	16,766	111	12,375	2,659	(720)
2016	83:17	1.37	1.55	18,840	37	14,187	2,696	(776)
2017	85:15	1.08	1.50	21,665	34	15,908	2,730	(761)
2018	85:15	1.31	1.57	24,790	111	18,921	2,841	(714)
2019	86:14	1.49	1.76	27,734	242	21,473	3,083	(665)
2020	85:15	1.69	1.88	29,471	344	23,060	3,427	(616)
2021	84:16	2.11	2.01	30,847	494	23,575	3,921	(600)
2022	82:18	2.60	2.21	31,279	673	23,310	4,594	(562)
2023	81:19	2.33	2.16	31,364	500	23,185	5,094	(522)
2024	80:20	2.30	2.11	31,461	372	22,886	5,466	(521)
2025	78:22	2.17	2.20	31,507	432	22,466	5,898	(520)
2026	77:23	2.00	2.18	31,143	367	21,703	6,265	(520)
2027	75:25	2.09	2.30	31,242	440	21,317	6,705	(520)
2028	73:27	2.14	2.39	31,614	488	21,160	7,193	(520)
2029	71:29	2.19	2.51	32,163	565	21,092	7,759	(520)
2030	68:32	2.36	2.67	31,191	652	19,425	8,411	(520)
2031	66:34	2.35	2.79	31,155	728	18,622	9,138	(520)
2032	62:38	2.52	3.04	31,222	841	17,803	9,979	(520)
2033	59:41	2.64	3.28	31,397	950	16,984	10,929	(520)
2034	55:45	2.79	3.60	32,130	1,073	16,588	12,002	(520)
2035	50:50	2.71	3.96	32,958	1,198	16,162	13,200	(520)
2036	45:55	2.76	4.30	33,992	1,270	15,871	14,470	(520)

(1) 2015 and 2016 Actuals per IFRS, prior years per CGAAP

(2) Electric total gross debt which includes LTD and STD

PUB MFR 16 (Updated)

Financial Information

A table, which details the debt to equity ratio, capital coverage ratio and interest coverage ratio, net assets, net income, total debt and retained earnings for each of the years in the 20-year electric IFF – reflecting the scenarios from MFR #73 below. [Appendix 11.12, 2015/16 GRA]

- i. **75/25 in 2035/36; 33/34; 31/32; 26/27; 21/22**
- ii. **70/30 in 2035/36; 33/34; 31/32; 26/27; 21/22**
- iii. **80/20 in 2035/36; 33/34; 31/32; 26/27; 21/22**

The response to PUB MFR 16 has been updated to reflect the July 2017 update to the financial forecast for electric operations (MH16 Update).

Please see the schedules below for the requested information.

- i. 75/25 in 2035/36; 33/34; 31/32; 26/27; 21/22 (pages 1 to 5).

75/25 in 2035/36

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA Interest Coverage			Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Ratio	Ratio	Ratio					
2018	3.69%	85:15	1.40	1.58	24 852	131	18 469	2 880	(699)		
2019	3.69%	86:14	1.36	1.65	27 715	158	20 802	3 038	(636)		
2020	3.69%	86:14	1.20	1.58	29 563	53	22 607	3 091	(580)		
2021	3.69%	86:14	1.44	1.62	31 215	107	23 723	3 199	(537)		
2022	3.69%	86:14	1.68	1.70	31 210	171	24 367	3 369	(496)		
2023	3.69%	87:13	1.38	1.59	31 279	(35)	24 590	3 334	(438)		
2024	3.69%	88:12	1.28	1.53	31 198	(186)	24 600	3 149	(343)		
2025	3.69%	88:12	1.26	1.57	31 069	(139)	24 631	3 009	(342)		
2026	3.69%	89:11	1.15	1.55	31 155	(192)	24 717	2 817	(341)		
2027	3.69%	89:11	1.24	1.60	31 088	(127)	24 746	2 690	(341)		
2028	3.69%	89:11	1.34	1.66	31 317	(64)	24 704	2 626	(341)		
2029	3.69%	89:11	1.45	1.76	31 542	39	24 576	2 666	(341)		
2030	3.69%	88:12	1.64	1.87	31 269	157	24 321	2 823	(341)		
2031	3.69%	87:13	1.69	1.93	31 151	236	24 002	3 060	(341)		
2032	3.69%	86:14	1.90	2.08	31 361	383	23 530	3 442	(341)		
2033	3.69%	84:16	2.05	2.21	31 276	508	22 932	3 951	(341)		
2034	3.69%	82:18	2.24	2.37	31 854	651	22 176	4 601	(341)		
2035	3.69%	78:22	2.26	2.57	32 542	816	21 317	5 417	(341)		
2036	3.69%	75:25	2.35	2.73	33 220	919	20 360	6 336	(341)		

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 Financial Information

75/25 in 2033/34

Fiscal Year Ended	Rate Increase	Debt/Equity Ratio	Capital Coverage Ratio	EBITDA Interest Coverage		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Ratio	Ratio					
2018	4.05%	85:15	1.41	1.58	24 856	135	18 465	2 884	(699)	
2019	4.05%	86:14	1.38	1.66	27 731	169	20 786	3 053	(636)	
2020	4.05%	86:14	1.23	1.59	29 598	72	22 573	3 125	(580)	
2021	4.05%	86:14	1.48	1.65	31 274	134	23 664	3 259	(537)	
2022	4.05%	86:14	1.74	1.73	31 303	206	24 275	3 466	(496)	
2023	4.05%	87:13	1.46	1.63	31 415	10	24 455	3 476	(438)	
2024	4.05%	87:13	1.38	1.58	31 187	(130)	24 411	3 346	(343)	
2025	4.05%	87:13	1.37	1.64	31 128	(70)	24 373	3 276	(342)	
2026	4.05%	87:13	1.27	1.62	31 294	(108)	24 379	3 168	(341)	
2027	4.05%	87:13	1.38	1.70	31 122	(28)	24 312	3 140	(341)	
2028	4.05%	87:13	1.51	1.77	31 468	53	24 153	3 193	(341)	
2029	4.05%	86:14	1.64	1.89	31 626	176	23 892	3 369	(341)	
2030	4.05%	85:15	1.87	2.04	31 513	316	23 477	3 685	(341)	
2031	4.05%	84:16	1.94	2.12	31 174	420	22 979	4 105	(341)	
2032	4.05%	81:19	2.18	2.32	31 392	595	22 299	4 700	(341)	
2033	4.05%	79:21	2.38	2.49	31 548	751	21 460	5 451	(341)	
2034	4.05%	75:25	2.60	2.72	32 199	929	20 431	6 379	(341)	
2035	2.00%	71:29	2.54	2.94	32 725	1 059	19 335	7 438	(341)	
2036	2.00%	67:33	2.58	3.12	33 405	1 120	18 175	8 558	(341)	

Manitoba Hydro 2017/18 & 2018/19 General Rate Application **206**
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 Financial Information

75/25 in 2031/32

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio	Total Assets					
2018	4.53%	85:15	1.42	1.59	24 862	140	18 460	2 889	(699)	
2019	4.53%	86:14	1.42	1.68	27 752	185	20 765	3 073	(636)	
2020	4.53%	86:14	1.29	1.62	29 646	98	22 524	3 171	(580)	
2021	4.53%	86:14	1.55	1.68	31 357	171	23 581	3 342	(537)	
2022	4.53%	85:15	1.84	1.77	31 234	255	24 143	3 597	(496)	
2023	4.53%	86:14	1.58	1.69	31 410	73	24 266	3 670	(444)	
2024	4.53%	86:14	1.52	1.65	31 257	(52)	24 153	3 618	(355)	
2025	4.53%	86:14	1.52	1.73	31 091	26	24 023	3 644	(354)	
2026	4.53%	86:14	1.45	1.73	31 172	7	23 913	3 651	(354)	
2027	4.53%	85:15	1.60	1.83	31 140	112	23 706	3 764	(354)	
2028	4.53%	84:16	1.75	1.94	31 448	218	23 386	3 981	(354)	
2029	4.53%	83:17	1.91	2.09	31 797	367	22 935	4 348	(354)	
2030	4.53%	81:19	2.19	2.28	31 505	536	22 298	4 884	(354)	
2031	4.53%	78:22	2.29	2.42	31 218	679	21 548	5 563	(354)	
2032	4.53%	75:25	2.58	2.70	31 332	894	20 572	6 456	(354)	
2033	2.00%	71:29	2.72	2.88	31 547	1 011	19 474	7 467	(354)	
2034	2.00%	67:33	2.88	3.13	32 196	1 140	18 235	8 607	(354)	
2035	2.00%	62:38	2.81	3.44	32 746	1 285	16 913	9 892	(354)	
2036	2.00%	57:43	2.87	3.71	33 667	1 359	15 513	11 250	(354)	

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 Financial Information

75/25 in 2026/27

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio						
2018	6.61%	85:15	1.47	1.61		24 885	161	18 436	2 910	(699)
2019	6.61%	85:15	1.55	1.75		27 643	254	20 673	3 164	(636)
2020	6.61%	85:15	1.50	1.73		29 649	211	22 321	3 375	(580)
2021	6.61%	85:15	1.86	1.83		31 319	332	23 220	3 707	(537)
2022	6.61%	83:17	2.27	1.98		31 212	475	23 566	4 182	(496)
2023	6.61%	83:17	2.13	1.96		31 471	357	23 412	4 539	(451)
2024	6.61%	82:18	2.17	1.98		31 474	304	22 956	4 843	(375)
2025	6.61%	80:20	2.23	2.16		31 545	468	22 388	5 311	(374)
2026	6.61%	78:22	2.29	2.28		31 361	545	21 744	5 856	(374)
2027	6.61%	75:25	2.58	2.54		31 581	768	20 886	6 624	(374)
2028	2.00%	72:28	2.69	2.68		32 321	853	19 933	7 478	(374)
2029	2.00%	68:32	2.78	2.88		33 274	971	18 877	8 448	(374)
2030	2.00%	64:36	3.01	3.12		32 144	1 101	17 678	9 549	(374)
2031	2.00%	59:41	3.04	3.45		31 206	1 241	16 380	10 790	(374)
2032	2.00%	54:46	3.31	3.96		31 255	1 426	14 869	12 216	(374)
2033	2.00%	48:52	3.49	4.48		31 442	1 585	13 198	13 800	(374)
2034	2.00%	42:58	3.69	5.20		32 495	1 754	11 342	15 554	(374)
2035	2.00%	34:66	3.58	6.20		33 083	1 936	9 376	17 490	(374)
2036	2.00%	27:73	3.67	7.42		34 892	2 046	7 288	19 536	(374)

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75/25 in 2021/22

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio						
2018	14.02%	85:15	1.62	1.69	24 767	238	18 354	2 987	(699)	
2019	14.02%	84:16	2.05	2.02	27 786	509	20 331	3 496	(636)	
2020	14.02%	82:18	2.35	2.18	29 626	653	21 544	4 148	(580)	
2021	14.02%	79:21	3.14	2.47	31 348	988	21 791	5 137	(537)	
2022	14.02%	75:25	4.12	2.92	31 764	1 401	21 213	6 537	(496)	
2023	2.00%	72:28	3.81	2.96	32 102	1 251	20 195	7 788	(465)	
2024	2.00%	67:33	3.70	2.96	32 936	1 135	18 949	8 923	(429)	
2025	2.00%	63:37	3.47	3.17	33 767	1 228	17 620	10 151	(428)	
2026	2.00%	58:42	3.35	3.32	34 260	1 223	16 298	11 374	(427)	
2027	2.00%	53:47	3.47	3.65	34 462	1 356	14 858	12 730	(427)	
2028	2.00%	48:52	3.63	4.02	35 827	1 478	13 281	14 208	(427)	
2029	2.00%	42:58	3.71	4.47	37 433	1 625	11 571	15 833	(427)	
2030	2.00%	35:65	4.01	5.09	37 189	1 785	9 687	17 618	(427)	
2031	2.00%	28:72	4.04	6.08	34 975	1 966	7 665	19 584	(427)	
2032	2.00%	19:81	4.41	8.65	35 430	2 235	5 347	21 818	(427)	
2033	2.00%	10:90	4.63	12.09	36 271	2 449	2 821	24 267	(427)	
2034	2.00%	0:100	4.88	19.07	38 603	2 658	61	26 926	(427)	
2035	2.00%	-10:110	4.71	38.71	40 911	2 869	(2 851)	29 795	(427)	
2036	2.00%	-22:122	4.81	(1 200.32)	43 688	3 015	(5 908)	32 810	(427)	

ii. 70/30 in 2035/36; 33/34; 31/32; 26/27; 21/22 (Pages 6 to 10)

70/30 in 2035/36

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio						
2018	3.90%	85:15	1.41	1.58	24 855	133	18 467	2 882	(699)	
2019	3.90%	86:14	1.37	1.66	27 724	164	20 793	3 046	(636)	
2020	3.90%	86:14	1.22	1.59	29 582	64	22 588	3 110	(580)	
2021	3.90%	86:14	1.46	1.64	31 248	123	23 690	3 233	(537)	
2022	3.90%	86:14	1.71	1.71	31 262	191	24 315	3 424	(496)	
2023	3.90%	87:13	1.42	1.62	31 355	(10)	24 515	3 414	(438)	
2024	3.90%	87:13	1.34	1.55	31 303	(154)	24 495	3 260	(343)	
2025	3.90%	87:13	1.32	1.61	31 011	(99)	24 490	3 161	(342)	
2026	3.90%	88:12	1.22	1.59	31 146	(145)	24 527	3 016	(341)	
2027	3.90%	88:12	1.32	1.66	31 134	(71)	24 500	2 944	(341)	
2028	3.90%	88:12	1.43	1.72	31 428	1	24 393	2 946	(341)	
2029	3.90%	88:12	1.55	1.83	31 527	116	24 192	3 062	(341)	
2030	3.90%	87:13	1.77	1.96	31 544	247	23 845	3 309	(341)	
2031	3.90%	85:15	1.83	2.04	31 125	338	23 429	3 647	(341)	
2032	3.90%	83:17	2.06	2.21	31 453	501	22 838	4 148	(341)	
2033	3.90%	81:19	2.23	2.36	31 700	642	22 108	4 791	(341)	
2034	3.90%	78:22	2.43	2.55	32 224	804	21 206	5 594	(341)	
2035	3.90%	74:26	2.46	2.80	32 683	990	20 176	6 584	(341)	
2036	3.90%	70:30	2.58	3.03	33 160	1 117	19 020	7 701	(341)	

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70/30 in 2033/34

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio	Total Assets					
2018	4.32%	85:15	1.42	1.58	24 859	138	18 462	2 886	(699)	
2019	4.32%	86:14	1.40	1.67	27 742	178	20 775	3 064	(636)	
2020	4.32%	86:14	1.26	1.61	29 623	86	22 548	3 150	(580)	
2021	4.32%	86:14	1.52	1.67	31 318	154	23 620	3 305	(537)	
2022	4.32%	86:14	1.79	1.75	31 371	233	24 206	3 538	(496)	
2023	4.32%	86:14	1.53	1.67	31 317	45	24 352	3 583	(438)	
2024	4.32%	86:14	1.46	1.62	31 334	(85)	24 270	3 498	(349)	
2025	4.32%	86:14	1.45	1.69	31 123	(17)	24 184	3 481	(348)	
2026	4.32%	86:14	1.37	1.68	31 152	(45)	24 127	3 436	(347)	
2027	4.32%	86:14	1.50	1.77	31 060	50	23 981	3 486	(347)	
2028	4.32%	86:14	1.64	1.86	31 296	145	23 732	3 632	(347)	
2029	4.32%	84:16	1.79	2.00	31 763	281	23 362	3 913	(347)	
2030	4.32%	83:17	2.05	2.16	31 369	435	22 827	4 348	(347)	
2031	4.32%	81:19	2.13	2.28	31 170	562	22 190	4 911	(347)	
2032	4.32%	78:22	2.40	2.52	31 351	757	21 347	5 668	(347)	
2033	4.32%	74:26	2.63	2.74	31 498	939	20 316	6 606	(347)	
2034	4.32%	70:30	2.89	3.03	32 366	1 142	19 071	7 749	(347)	
2035	2.00%	65:35	2.81	3.32	32 910	1 288	17 749	9 037	(347)	
2036	2.00%	60:40	2.87	3.57	33 634	1 364	16 346	10 401	(347)	

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70/30 in 2031/32

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio	Total Assets					
2018	4.89%	85:15	1.43	1.59	24 866	144	18 456	2 892	(699)	
2019	4.89%	86:14	1.44	1.69	27 768	196	20 749	3 089	(636)	
2020	4.89%	86:14	1.32	1.64	29 481	117	22 489	3 206	(580)	
2021	4.89%	86:14	1.61	1.71	31 221	198	23 518	3 404	(537)	
2022	4.89%	85:15	1.91	1.81	31 335	291	24 042	3 695	(496)	
2023	4.89%	86:14	1.67	1.74	31 357	120	24 112	3 816	(438)	
2024	4.89%	85:15	1.63	1.70	31 267	7	23 938	3 823	(349)	
2025	4.89%	85:15	1.64	1.79	31 173	99	23 734	3 922	(348)	
2026	4.89%	84:16	1.59	1.82	31 145	97	23 534	4 020	(347)	
2027	4.89%	83:17	1.76	1.94	31 220	219	23 220	4 239	(347)	
2028	4.89%	82:18	1.94	2.07	31 452	345	22 776	4 584	(347)	
2029	4.89%	80:20	2.12	2.25	31 950	516	22 175	5 099	(347)	
2030	4.89%	78:22	2.44	2.48	31 427	707	21 370	5 806	(347)	
2031	4.89%	74:26	2.58	2.68	31 151	883	20 409	6 689	(347)	
2032	4.89%	70:30	2.91	3.04	31 301	1 130	19 196	7 820	(347)	
2033	2.00%	65:35	3.07	3.30	31 374	1 268	17 841	9 087	(347)	
2034	2.00%	60:40	3.24	3.64	32 310	1 415	16 327	10 502	(347)	
2035	2.00%	54:46	3.16	4.09	32 544	1 580	14 715	12 082	(347)	
2036	2.00%	48:52	3.24	4.57	33 784	1 680	12 996	13 763	(347)	

70/30 in 2026/27

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio						
2018	7.57%	85:15	1.49	1.62	24 895	171	18 426	2 920	(699)	
2019	7.57%	85:15	1.61	1.79	27 686	286	20 631	3 206	(636)	
2020	7.57%	85:15	1.61	1.79	29 546	265	22 224	3 471	(580)	
2021	7.57%	84:16	2.02	1.91	31 295	410	23 044	3 881	(537)	
2022	7.57%	82:18	2.48	2.08	31 294	581	23 284	4 462	(496)	
2023	7.57%	82:18	2.39	2.10	31 689	497	22 993	4 959	(451)	
2024	7.57%	80:20	2.49	2.15	31 866	477	22 365	5 436	(375)	
2025	7.57%	77:23	2.58	2.38	32 151	682	21 582	6 118	(374)	
2026	7.57%	74:26	2.70	2.56	32 230	808	20 675	6 926	(374)	
2027	7.57%	70:30	3.07	2.93	32 168	1 093	19 498	8 019	(374)	
2028	2.00%	66:34	3.22	3.16	33 259	1 204	18 194	9 223	(374)	
2029	2.00%	61:39	3.31	3.43	34 582	1 341	16 769	10 564	(374)	
2030	2.00%	55:45	3.58	3.79	33 843	1 491	15 180	12 055	(374)	
2031	2.00%	49:51	3.62	4.31	31 325	1 659	13 462	13 714	(374)	
2032	2.00%	42:58	3.97	5.49	31 258	1 916	11 466	15 630	(374)	
2033	2.00%	34:66	4.19	6.67	31 771	2 113	9 269	17 743	(374)	
2034	2.00%	25:75	4.42	8.44	33 383	2 312	6 854	20 056	(374)	
2035	2.00%	16:84	4.29	11.35	34 561	2 522	4 298	22 578	(374)	
2036	2.00%	6:94	4.40	16.66	36 988	2 664	1 592	25 243	(374)	

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70/30 in 2021/22

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio						
2018	17.89%	85:15	1.70	1.73	24 810	278	18 311	3 027	(699)	
2019	17.89%	83:17	2.33	2.17	27 772	650	20 145	3 676	(636)	
2020	17.89%	81:19	2.83	2.44	29 662	906	21 108	4 582	(580)	
2021	17.89%	76:24	3.90	2.88	31 376	1 383	20 962	5 965	(537)	
2022	17.89%	70:30	5.29	3.57	32 176	1 986	19 802	7 951	(496)	
2023	2.00%	64:36	5.01	3.78	32 535	1 876	18 168	9 827	(472)	
2024	2.00%	58:42	4.91	3.91	34 028	1 794	16 290	11 622	(462)	
2025	2.00%	51:49	4.60	4.31	35 552	1 921	14 268	13 543	(461)	
2026	2.00%	44:56	4.49	4.72	36 778	1 955	12 214	15 498	(461)	
2027	2.00%	36:64	4.64	5.43	37 752	2 128	10 002	17 626	(461)	
2028	2.00%	27:73	4.84	6.32	39 930	2 292	7 611	19 918	(461)	
2029	2.00%	18:82	4.94	7.55	42 394	2 482	5 044	22 400	(461)	
2030	2.00%	8:92	5.32	9.52	43 053	2 689	2 256	25 089	(461)	
2031	2.00%	-3:103	5.35	13.72	41 993	2 918	(720)	28 007	(461)	
2032	2.00%	-15:115	5.78	35.04	43 653	3 238	(4 042)	31 245	(461)	
2033	2.00%	-28:128	6.04	(370.38)	45 950	3 505	(7 625)	34 750	(461)	
2034	2.00%	-42:142	6.34	(32.11)	49 577	3 766	(11 494)	38 516	(461)	
2035	2.00%	-57:157	6.11	(17.73)	53 631	4 032	(15 572)	42 548	(461)	
2036	2.00%	-73:173	6.24	(12.07)	57 627	4 234	(19 847)	46 783	(461)	

iii. 80/20 in 2035/36; 33/34; 31/32; 26/27; 21/22 (Pages 11 to 15)

80/20 in 2035/36

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA			Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio	Total Assets	Net Income			
2018	3.49%	85:15	1.40	1.58	24 850	129	18 471	2 878	(699)
2019	3.49%	86:14	1.35	1.65	27 706	151	20 811	3 029	(636)
2020	3.49%	86:14	1.18	1.57	29 544	43	22 627	3 071	(580)
2021	3.49%	87:13	1.40	1.61	31 178	92	23 761	3 163	(537)
2022	3.49%	86:14	1.63	1.68	31 349	150	24 428	3 313	(496)
2023	3.49%	88:12	1.32	1.57	31 391	(61)	24 672	3 253	(432)
2024	3.49%	88:12	1.22	1.50	31 275	(218)	24 710	3 035	(330)
2025	3.49%	89:11	1.19	1.54	31 105	(177)	24 782	2 858	(329)
2026	3.49%	89:11	1.07	1.51	31 141	(238)	24 918	2 620	(328)
2027	3.49%	90:10	1.15	1.55	31 019	(183)	25 003	2 437	(328)
2028	3.49%	90:10	1.24	1.60	31 184	(129)	25 024	2 309	(328)
2029	3.49%	90:10	1.34	1.69	31 535	(38)	24 970	2 271	(328)
2030	3.49%	90:10	1.51	1.79	31 374	68	24 803	2 339	(328)
2031	3.49%	89:11	1.54	1.83	31 148	133	24 593	2 472	(328)
2032	3.49%	88:12	1.74	1.96	31 438	264	24 240	2 736	(328)
2033	3.49%	87:13	1.87	2.06	31 418	371	23 777	3 107	(328)
2034	3.49%	85:15	2.04	2.19	31 853	495	23 177	3 602	(328)
2035	3.49%	83:17	2.05	2.35	32 167	641	22 493	4 244	(328)
2036	3.49%	80:20	2.12	2.48	32 853	725	21 727	4 968	(328)

80/20 in 2033/34

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio	Total Assets					
2018	3.78%	85:15	1.41	1.58	24 853	132	18 468	2 881	(699)	
2019	3.78%	86:14	1.37	1.66	27 719	161	20 798	3 041	(636)	
2020	3.78%	86:14	1.21	1.58	29 571	58	22 599	3 099	(580)	
2021	3.78%	86:14	1.45	1.63	31 229	114	23 709	3 213	(537)	
2022	3.78%	86:14	1.69	1.70	31 232	179	24 345	3 392	(496)	
2023	3.78%	87:13	1.40	1.60	31 311	(24)	24 558	3 368	(438)	
2024	3.78%	87:13	1.31	1.54	31 242	(173)	24 556	3 195	(343)	
2025	3.78%	88:12	1.29	1.59	31 129	(124)	24 571	3 072	(342)	
2026	3.78%	88:12	1.17	1.56	31 231	(172)	24 641	2 900	(341)	
2027	3.78%	89:11	1.27	1.63	31 009	(103)	24 649	2 797	(341)	
2028	3.78%	89:11	1.38	1.69	31 244	(35)	24 577	2 762	(341)	
2029	3.78%	88:12	1.49	1.79	31 703	70	24 415	2 832	(341)	
2030	3.78%	88:12	1.69	1.91	31 265	192	24 125	3 024	(341)	
2031	3.78%	87:13	1.75	1.98	31 189	279	23 764	3 303	(341)	
2032	3.78%	85:15	1.96	2.13	31 447	431	23 244	3 734	(341)	
2033	3.78%	83:17	2.13	2.27	31 418	563	22 590	4 297	(341)	
2034	3.78%	80:20	2.32	2.45	31 857	716	21 774	5 012	(341)	
2035	2.00%	77:23	2.27	2.61	32 359	831	20 900	5 843	(341)	
2036	2.00%	74:26	2.30	2.73	33 195	876	19 985	6 720	(341)	

80/20 in 2031/32

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio						
2018	4.15%	85:15	1.41	1.58	24 857	136	18 464	2 885	(699)	
2019	4.15%	86:14	1.39	1.67	27 735	173	20 782	3 057	(636)	
2020	4.15%	86:14	1.24	1.60	29 607	78	22 563	3 135	(580)	
2021	4.15%	86:14	1.50	1.65	31 291	142	23 647	3 277	(537)	
2022	4.15%	86:14	1.76	1.74	31 328	217	24 250	3 494	(496)	
2023	4.15%	87:13	1.49	1.65	31 254	24	24 415	3 518	(438)	
2024	4.15%	87:13	1.42	1.59	31 246	(112)	24 359	3 406	(349)	
2025	4.15%	87:13	1.40	1.66	31 004	(48)	24 303	3 358	(348)	
2026	4.15%	87:13	1.32	1.65	31 199	(84)	24 280	3 274	(347)	
2027	4.15%	87:13	1.43	1.73	31 058	3	24 183	3 277	(347)	
2028	4.15%	87:13	1.56	1.81	31 437	89	23 990	3 366	(347)	
2029	4.15%	86:14	1.69	1.93	31 635	216	23 690	3 582	(347)	
2030	4.15%	84:16	1.94	2.08	31 368	362	23 228	3 944	(347)	
2031	4.15%	82:18	2.01	2.19	31 081	475	22 679	4 419	(347)	
2032	4.15%	80:20	2.27	2.39	31 366	657	21 932	5 076	(347)	
2033	2.00%	77:23	2.38	2.52	31 525	754	21 090	5 829	(347)	
2034	2.00%	74:26	2.52	2.69	32 113	863	20 125	6 692	(347)	
2035	2.00%	70:30	2.46	2.90	32 761	987	19 098	7 679	(347)	
2036	2.00%	66:34	2.49	3.06	33 158	1 039	18 022	8 718	(347)	

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 Financial Information

80/20 in 2026/27

Fiscal Year Ended	Rate Increase	Debt/ Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio						
2018	5.61%	85:15	1.44	1.60	24 874	151	18 448	2 900	(699)	
2019	5.61%	85:15	1.48	1.72	27 799	220	20 717	3 120	(636)	
2020	5.61%	86:14	1.40	1.68	29 550	156	22 420	3 276	(580)	
2021	5.61%	85:15	1.72	1.76	31 346	253	23 392	3 530	(537)	
2022	5.61%	84:16	2.06	1.88	31 334	367	23 843	3 897	(496)	
2023	5.61%	85:15	1.86	1.83	31 453	218	23 823	4 114	(444)	
2024	5.61%	84:16	1.85	1.81	31 282	129	23 536	4 244	(362)	
2025	5.61%	83:17	1.89	1.94	31 339	250	23 181	4 493	(361)	
2026	5.61%	82:18	1.87	2.00	31 090	280	22 802	4 774	(360)	
2027	5.61%	80:20	2.10	2.17	31 389	442	22 265	5 215	(360)	
2028	2.00%	78:22	2.18	2.26	31 780	505	21 660	5 720	(360)	
2029	2.00%	76:24	2.25	2.40	32 366	604	20 972	6 324	(360)	
2030	2.00%	73:27	2.45	2.56	31 450	714	20 160	7 038	(360)	
2031	2.00%	70:30	2.47	2.71	31 096	809	19 277	7 847	(360)	
2032	2.00%	66:34	2.67	2.97	31 271	952	18 239	8 799	(360)	
2033	2.00%	62:38	2.80	3.20	31 549	1 069	17 079	9 868	(360)	
2034	2.00%	58:42	2.96	3.50	32 257	1 198	15 780	11 066	(360)	
2035	2.00%	53:47	2.88	3.91	32 658	1 345	14 401	12 411	(360)	
2036	2.00%	48:52	2.94	4.28	33 840	1 420	12 940	13 830	(360)	

80/20 in 2021/22

Fiscal Year Ended	Rate Increase	Debt/Equity Ratio	Capital Coverage Ratio	EBITDA		Total Assets	Net Income	Total Debt	Retained Earnings	Accumulated Other Comprehensive Income
				Interest Coverage Ratio						
2018	9.74%	85:15	1.53	1.64	24 920	194	18 402	2 942	(699)	
2019	9.74%	85:15	1.76	1.86	27 787	360	20 530	3 302	(636)	
2020	9.74%	84:16	1.84	1.91	29 568	391	22 002	3 693	(580)	
2021	9.74%	82:18	2.38	2.08	31 301	594	22 637	4 287	(537)	
2022	9.74%	80:20	3.00	2.34	31 357	838	22 621	5 125	(496)	
2023	2.00%	79:21	2.67	2.27	31 700	646	22 189	5 771	(458)	
2024	2.00%	77:23	2.54	2.21	31 900	501	21 550	6 272	(395)	
2025	2.00%	75:25	2.38	2.31	32 064	560	20 889	6 832	(394)	
2026	2.00%	73:27	2.25	2.33	31 853	519	20 271	7 351	(393)	
2027	2.00%	70:30	2.34	2.48	31 512	611	19 574	7 962	(393)	
2028	2.00%	68:32	2.45	2.63	32 089	690	18 784	8 652	(393)	
2029	2.00%	65:35	2.52	2.81	32 867	796	17 904	9 448	(393)	
2030	2.00%	61:39	2.74	3.04	31 549	913	16 893	10 360	(393)	
2031	2.00%	57:43	2.77	3.33	31 210	1 034	15 796	11 394	(393)	
2032	2.00%	53:47	2.99	3.75	31 224	1 193	14 519	12 587	(393)	
2033	2.00%	48:52	3.14	4.19	31 354	1 331	13 105	13 919	(393)	
2034	2.00%	42:58	3.33	4.78	32 319	1 478	11 525	15 396	(393)	
2035	2.00%	36:64	3.23	5.58	32 805	1 637	9 854	17 033	(393)	
2036	2.00%	30:70	3.30	6.48	34 292	1 725	8 088	18 758	(393)	

PUB MFR 17 (Updated)

Financial Information

Details of the determination of each of the financial ratios for the last five fiscal years and for each of the years in the 20 year forecast. [Appendix 11.13, 2015/16 GRA]

The response to PUB MFR 17 has been updated to reflect the July 2017 update to the financial forecast for electric operations (MH16 Update).

Please see **Figures 1 to 4** below for the details of the financial targets for 2017/18-2035/36.

Figure 1. Debt Ratio Calculations

Debt Ratio Manitoba Hydro (Electric only) (\$ millions)															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	$\frac{(K-L+M-N)}{(E+H+J+K-L+M-N)}$
					(A-B-C-D)	Unamortized		(F-G)		Accumulated		Sinking			
Fiscal Year Ended	Retained Earnings Consolidated	Retained Earnings Gas	Retained Earnings Subs	Adjustments and Eliminations	Retained Earnings	Customer Contributions Consolidated	Customer Contributions Gas	Unamortized Customer Contributions	Other Comprehensive Income	Non-Controlling Interest	Long-Term Debt	Fund Investment	Short-Term Debt	Short-Term Investments	Debt Ratio
2018					2 923			781	(699)	208	19 153	182	-	549	0.85
2019					3 221			799	(636)	257	21 505	400	-	489	0.85
2020					3 505			757	(580)	306	23 282	531	-	560	0.85
2021					3 942			708	(537)	346	24 160	501	-	675	0.84
2022					4 560			646	(496)	382	23 570	34	-	348	0.82
2023					4 973			585	(451)	87	23 567	88	-	496	0.82
2024					5 230			571	(382)	99	23 189	290	-	318	0.80
2025					5 533			582	(381)	102	22 770	206	-	387	0.79
2026					5 781			593	(380)	104	22 206	313	-	63	0.78
2027					6 092			603	(380)	108	22 021	327	-	271	0.77
2028					6 457			615	(380)	111	21 863	415	-	489	0.75
2029					6 911			624	(380)	107	21 796	596	-	779	0.74
2030					7 464			634	(380)	105	20 528	531	-	229	0.72
2031					8 089			644	(380)	103	19 726	224	-	434	0.69
2032					8 840			654	(380)	100	19 106	436	-	439	0.66
2033					9 691			665	(380)	99	18 265	621	-	355	0.63
2034					10 652			676	(380)	96	18 110	836	-	1 053	0.59
2035					11 739			687	(380)	94	17 314	1 047	-	1 169	0.55
2036					12 881			699	(380)	92	17 023	993	-	2 116	0.51

Figure 2. Long-Term Debt Calculations

Calculation of Long-Term Debt for input into Debt:Equity Ratio

Fiscal Year Ended	A	B	C	D	E	F	G
	MHEB Long-Term Debt	Gas Long-Term Debt	(A-B) Long-Term Debt	MHEB Current Portion of Long- Term Debt	Gas Current Portion of Long-Term Debt	(D-E) Current Portion of Long-Term Debt	(C+F) Long-Term Debt
2018	18 541	390	18 151	1 002	0	1 002	19 153
2019	21 576	400	21 176	349	20	329	21 505
2020	22 409	420	21 989	1 293	0	1 293	23 282
2021	23 224	430	22 794	1 366	0	1 366	24 160
2022	22 888	440	22 448	1 141	20	1 121	23 570
2023	23 737	450	23 287	290	10	280	23 567
2024	23 238	460	22 778	412	0	412	23 189
2025	22 560	470	22 090	715	35	680	22 770
2026	21 514	485	21 029	1 178	0	1 178	22 206
2027	22 366	495	21 871	150	0	150	22 021
2028	22 308	505	21 803	60	0	60	21 863
2029	19 921	515	19 406	2 450	60	2 390	21 796
2030	16 878	525	16 353	4 186	10	4 176	20 528
2031	18 128	535	17 593	2 173	40	2 133	19 726
2032	17 507	545	16 962	2 185	40	2 145	19 106
2033	18 142	565	17 577	719	30	689	18 265
2034	17 635	575	17 060	1 110	60	1 050	18 110
2035	17 684	605	17 079	255	20	235	17 314
2036	17 568	625	16 943	140	60	80	17 023

Figure 3. Interest Coverage Ratio Calculation

**EBIDTA Interest Coverage
Electric
(\$ millions)**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N		
	Consolidated	Gas	Subs	(A-B-C)	Consolidated	Gas	Corporate	Subs	(E-F-G-H)	Consolidated	Gas	Subs	(J-K-L)	Electric		
Fiscal Year Ended	Net Income	Net Income	Net Income	Electric Net Income	Finance Expense	Finance Expense	Allocation	Finance Expense	Electric Finance Expense*	Depreciation Expense	Depreciation Expense	Depreciation Expense	Electric Depreciation Expense*	Capitalized Interest	Electric Interest	
																<u>(D+H+M+N)/(I+N)</u>
																Electric EBITDA Interest Coverage
2018				175					577				409	360		1.62
2019				297					659				483	320		1.80
2020				284					716				549	319		1.81
2021				437					779				597	333		1.93
2022				618					840				644	290		2.12
2023				413					1 063				736	55		2.03
2024				256					1 112				824	19		1.96
2025				303					1 095				841	19		2.03
2026				248					1 067				857	18		2.02
2027				311					1 054				871	20		2.10
2028				365					1 040				885	20		2.18
2029				454					1 015				898	24		2.30
2030				553					985				910	22		2.45
2031				626					973				923	23		2.56
2032				751					934				940	19		2.77
2033				850					907				957	18		2.95
2034				962					863				975	19		3.20
2035				1 086					811				993	21		3.50
2036				1 143					755				1 011	24		3.77

*Presented gross of corporate allocation

Figure 4. Capital Coverage Ratio Calculation

Capital Coverage Ratio Excluding Major Generation Electric (\$ millions)							
	A	B	C	D	E	F	C/F
			(A-B)			(D-E)	
Fiscal Year Ended	Consolidated Funds from Operations	Gas Funds from Operations	Electric Funds from Operations	Consolidated Capital Expenditures	Gas Capital Expenditures	Electric Capital Expenditures	Electric Capital Coverage
2018			785			526	1.49
2019			843			517	1.63
2020			848			516	1.64
2021			1057			511	2.07
2022			1278			499	2.56
2023			1159			521	2.23
2024			1135			544	2.09
2025			1211			616	1.97
2026			1168			640	1.82
2027			1252			659	1.90
2028			1319			671	1.97
2029			1418			697	2.03
2030			1524			688	2.22
2031			1613			727	2.22
2032			1758			734	2.39
2033			1881			748	2.51
2034			2015			760	2.65
2035			2147			835	2.57
2036			2226			852	2.61

REFERENCE:

Coalition MFR 3 pg. 6-11

PREAMBLE TO IR (IF ANY):

QUESTION:

Please provide an update to coalition MFR3 to allow for reconciliation of the determination of financial targets PUB MFR18.

RATIONALE FOR QUESTION:

RESPONSE:

Figures 1 through **4** have been updated for both 2017 actual values and the most recent MH16 Update with Interim projected financial statements attached in Figure 5.

Figure 1. Debt Ratio Calculation

Debt Ratio Manitoba Hydro (Electric Only) (\$ millions)																
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	(K-L+M-N)	
					(A-B-C-D)			(F-G)						(E+H+I+J+K-L+M-N)		
Fiscal Year Ended	Retained Earnings Consolidated	Retained Earnings Gas	Retained Earnings Subs	Adjustments and Eliminations	Retained Earnings	Unamortized Customer Contributions Consolidated	Unamortized Customer Contributions Gas	Unamortized Customer Contributions*	Accumulated Other Comprehensive Income	Non-Controlling Interest	Long-Term Debt	Sinking Fund Investment	Short-Term Debt	Short-Term Investments	Debt Ratio	
2012	2 450	34	26		2 390	318	33	285	327	100	9 084	372	-	42	0.74	
2013	2 542	42	32		2 468	340	33	307	299	95	9 690	352	-	24	0.75	
2014	2 716	62	39		2 615	381	42	339	96	73	10 563	111	-	131	0.77	
2015	2 779	66	48	6	2 659	457	42	415	(720)	120	12 375	114	-	482	0.83	
2016	2 828	65	57	10	2 696	534	45	489	(776)	140	14 187	-	-	944	0.84	
2017	2 899	69	69	12	2 749	651	45	606	(709)	170	16 078	-	-	634	0.85	
2018					2 842			812	(699)	208	19 143	182	-	488	0.85	
2019					3 053			837	(636)	257	21 705	400	-	562	0.86	
2020					3 258			786	(580)	306	23 482	531	-	544	0.86	
2021					3 606			728	(537)	346	24 360	501	-	564	0.85	
2022					4 124			657	(497)	382	23 971	34	-	328	0.83	
2023					4 557			587	(449)	87	23 954	92	-	474	0.83	
2024					4 969			571	(377)	99	23 584	294	-	458	0.81	
2025					5 498			582	(376)	102	23 165	210	-	754	0.79	
2026					5 987			593	(375)	104	22 401	317	-	471	0.77	
2027					6 564			603	(375)	108	21 816	328	-	541	0.75	
2028					7 214			615	(375)	111	21 658	415	-	1 047	0.73	
2029					7 969			624	(375)	107	21 591	593	-	1 640	0.70	
2030					8 842			634	(375)	105	19 323	526	-	411	0.67	
2031					9 831			644	(375)	103	17 921	224	-	370	0.63	
2032					10 977			654	(375)	100	16 901	419	-	389	0.59	
2033					12 257			665	(375)	99	15 855	581	-	549	0.54	
2034					13 680			676	(375)	96	15 310	733	-	1 378	0.48	
2035					15 259			687	(375)	94	14 114	911	-	1 616	0.43	
2036					16 927			699	(375)	92	13 823	820	-	3 126	0.36	

*Unamortized Customer Contributions includes a \$29M FMV adjustment for Centra Gas acquisition and an \$11M adjustment for intercompany contributions.

References for MH16 Updated Values:

- Col E: Figure 5, Electric Operations Projected Balance Sheet, pages 8-9: Retained Earnings
- Col H: Figure 5, Electric Operations Projected Balance Sheet, pages 8-9: Deferred Revenue plus Bipole III Reserve Account
- Col I: Figure 5, Electric Operations Projected Balance Sheet, pages 8-9: Accumulated Other Comprehensive Income
- Col J: Figure 5, Electric Operations Projected Balance Sheet, pages 8-9: Non-Controlling Interests
- Col K: Figure 2, Column G
- Col L: Figure 5, Electric Operations Projected Balance Sheet, pages 8-9: Sinking Fund Investments
- Col N: Figure 5, Electric Operations Projected Balance Sheet, pages 8-9: Cash and Cash Equivalents

Figure 2. Long-Term Debt Calculation

Calculation of Long-Term Debt for input into Debt:Equity Ratio

Fiscal Year Ended	A	B	C (A-B)	D	E	F (D-E)	G (C+F)
	MHEB Long-Term Debt	Gas Long-Term Debt	Long-Term Debt*	MHEB Current Portion of Long- Term Debt	Gas Current Portion of Long-Term Debt	Current Portion of Long-Term Debt	Long-Term Debt
2012	9 101	235	8 866	281	63	218	9 084
2013	9 329	295	9 034	656	0	656	9 690
2014	10 460	270	10 190	408	35	373	10 563
2015	12 303	305	11 998	377	0	377	12 375
2016	14 201	340	13 861	326	0	326	14 187
2017	16 102	360	15 742	336	0	336	16 078
2018	18 541	400	18 141	1 002	0	1 002	19 143
2019	21 776	400	21 376	349	20	329	21 705
2020	22 609	420	22 189	1 293	0	1 293	23 482
2021	23 424	430	22 994	1 366	0	1 366	24 360
2022	23 290	440	22 850	1 141	20	1 121	23 971
2023	24 134	460	23 674	290	10	280	23 954
2024	23 633	460	23 173	412	0	412	23 584
2025	22 955	470	22 485	715	35	680	23 165
2026	21 708	485	21 223	1 178	0	1 178	22 401
2027	22 161	495	21 666	150	0	150	21 816
2028	22 103	505	21 598	60	0	60	21 658
2029	19 736	515	19 221	2 440	70	2 370	21 591
2030	15 453	525	14 928	4 396	0	4 396	19 323
2031	16 323	535	15 788	2 173	40	2 133	17 921
2032	15 296	545	14 751	2 190	40	2 150	16 901
2033	15 542	565	14 977	908	30	878	15 855
2034	14 855	575	14 280	1 100	70	1 030	15 310
2035	14 464	605	13 859	265	10	255	14 114
2036	14 368	625	13 743	140	60	80	13 823

*Long-Term Debt includes a \$17M FMV adjustment for Centra Gas acquisition.

References for MH16 Updated Values:

Col C: Figure 5, Electric Operations Projected Balance Sheet, pages 8-9: Long-Term Debt

Col F: Figure 5, Electric Operations Projected Balance Sheet, pages 8-9: Current Portion of Long-Term Debt

Figure 3. EBITDA Interest Coverage Ratio Calculation

EBITDA Interest Coverage Electric (\$ millions)																
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
	(A-B-C-D)				(F-G-H-I)						(K-L-M)			(N-O)		(E+J+N+O)/(J+O)
Fiscal Year Ended	Consolidated Net Income	Gas Net Income	Subs Net Income	Adjustments and Eliminations	Electric Net Income	Consolidated Net Finance Expense	Gas Finance Expense	Corporate Allocation	Subs Finance Expense	Electric Finance Expense*	Consolidated Depreciation Expense	Gas Depreciation Expense	Subs Depreciation Expense	Electric Depreciation Expense*	Electric Capitalized Interest	Electric EBITDA Interest Coverage
2012	61	(6)	5		62	423	19	12		392					171	1.11
2013	92	8	6		78	489	18	12		459					141	1.13
2014	174	20	8		146	470	16	12		443					142	1.25
2015	136	11	9	5	111	525	19	12	(2)	496	378	22	1	355	148	1.72
2016	49	(1)	9	4	37	597	20	12	(1)	566	394	23	2	369	180	1.54
2017	71	4	11	3	53	628	19	12	-	597	402	23	3	376	250	1.51
2018					93					577				409	360	1.54
2019					211					662				483	320	1.71
2020					205					723				549	319	1.72
2021					349					789				597	333	1.84
2022					518					854				644	290	2.01
2023					434					1 082				736	55	2.03
2024					411					1 128				824	19	2.08
2025					530					1 106				841	19	2.22
2026					489					1 071				857	18	2.24
2027					577					1 041				871	20	2.36
2028					650					1 015				885	20	2.48
2029					755					980				898	24	2.65
2030					873					941				910	22	2.85
2031					989					893				923	23	3.09
2032					1 147					832				940	19	3.45
2033					1 280					783				957	18	3.79
2034					1 423					718				975	19	4.25
2035					1 579					645				993	21	4.86
2036					1 668					569				1 011	24	5.52

*Presented gross of corporate allocation.

References for MH16 Updated Values:

Col E: Figure 5, Electric Operations Projected Operating Statement, pages 6-7: Net Income Attributable to Manitoba Hydro

Col J: Figure 5, Electric Operations Projected Operating Statement, pages 6-7: Finance Expense less Financing Income plus Finance Expense Corporate Allocation

Col N: Figure 5, Electric Operations Projected Operating Statement, pages 6-7: Depreciation and Amortization plus Depreciation Corporate Allocation minus Depreciation in Net Movement

Col O: Figure 5, Electric Operations Projected Operating Statement, pages 6-7: Capitalized Interest

Figure 4. Capital Coverage Ratio Calculation

Capital Coverage Ratio
Excluding Major Generation
Electric
(\$ millions)

	A	B	C	D	E	F	C/F
			(A-B)			(D-E)	
Fiscal Year Ended	Consolidated Funds from Operations*	Gas Funds from Operations	Electric Funds from Operations	Consolidated Capital Expenditures**	Gas Capital Expenditures	Electric Capital Expenditures	Electric Capital Coverage
2012	567	49	518	503	31	472	1.10
2013	589	35	554	472	34	438	1.26
2014	691	29	662	511	35	476	1.39
2015	665	4	661	557	27	525	1.26
2016	791	75	716	579	40	534	1.34
2017	872	58	814	588	55	530	1.54
2018			734			526	1.40
2019			767			517	1.48
2020			759			516	1.47
2021			961			511	1.88
2022			1 169			499	2.34
2023			1 171			521	2.25
2024			1 287			544	2.37
2025			1 437			616	2.34
2026			1 408			640	2.20
2027			1 512			659	2.29
2028			1 604			671	2.39
2029			1 720			697	2.47
2030			1 843			688	2.68
2031			1 972			727	2.71
2032			2 155			734	2.93
2033			2 307			748	3.08
2034			2 473			760	3.25
2035			2 637			835	3.16
2036			2 752			852	3.23

*Includes subsidiary funds from operations.

**Includes gas meter compliance expenditures that are capitalized on consolidation.

References for MH16 Updated Values:

Col C: Figure 5, Electric Operations Projected Cash Flow Statement, pages 10-11: Cash Flow from Operating Activities

Col F: IFF16, Appendix 3.1, page 55: Electric Business Operations Capital Total

Figure 5. MH16 Update with Interim Financial Statements

		ELECTRIC OPERATIONS PROJECTED OPERATING STATEMENT MH16 Update with Interim (In Millions of Dollars)										
<i>For the year ended March 31</i>		ACTUAL										
		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
REVENUES												
General Consumers at approved rates additional*												
		1 515	1 578	1 565	1 551	1 537	1 544	1 542	1 542	1 553	1 567	1 583
		0	37	179	315	458	619	789	973	1 094	1 158	1 224
		(96)	(151)	1	80	80	80	27	0	0	0	0
		460	514	469	420	567	693	779	788	805	667	671
		28	30	31	31	33	33	34	34	35	35	36
		1 907	2 008	2 246	2 398	2 674	2 970	3 223	3 364	3 487	3 426	3 513
EXPENSES												
Operating and Administrative												
		536	518	501	511	513	524	536	548	559	571	583
		<i>858</i>	<i>947</i>	<i>997</i>	<i>1 063</i>	<i>1 150</i>	<i>1 173</i>	<i>1 170</i>	<i>1 159</i>	<i>1 142</i>	<i>1 110</i>	<i>1 075</i>
Figure 3	Column O	<i>(250)</i>	<i>(360)</i>	<i>(320)</i>	<i>(319)</i>	<i>(333)</i>	<i>(290)</i>	<i>(55)</i>	<i>(19)</i>	<i>(19)</i>	<i>(18)</i>	<i>(20)</i>
Gross Finance Expense												
Figure 3	Column J	608	587	677	744	817	882	1 115	1 140	1 123	1 092	1 056
Figure 3	Column J	(17)	(17)	(21)	(28)	(35)	(34)	(39)	(18)	(24)	(27)	(21)
Figure 3	Column N	375	396	471	515	555	597	689	714	726	739	752
Depreciation and Amortization												
Water Rentals and Assessments												
		131	130	120	110	113	117	127	128	131	131	131
Fuel and Power Purchased												
		132	124	140	158	165	156	140	135	138	127	129
Capital and Other Taxes												
		119	132	145	154	161	165	174	175	175	175	176
Other Expenses												
Figure 3	Column J	60	116	109	481	94	92	71	64	67	71	76
Figure 3	Column N	<i>6</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>6</i>
Depreciation and Amortization												
		<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>
Other Revenues												
		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Corporate Allocation												
		<i>8</i>	<i>8</i>	<i>8</i>	<i>8</i>	<i>8</i>	<i>8</i>	<i>8</i>	<i>8</i>	<i>8</i>	<i>8</i>	<i>8</i>
		1 952	1 995	2 150	2 655	2 392	2 507	2 822	2 893	2 904	2 887	2 889
Net Income before Net Movement in Reg. Deferral												
		(46)	13	96	(257)	283	463	401	470	582	540	625
Figure 3	Column N	<i>20</i>	<i>20</i>	<i>20</i>	<i>20</i>	<i>20</i>	<i>20</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Operating and Administrative												
		<i>(10)</i>	<i>(12)</i>	<i>(11)</i>	<i>(32)</i>	<i>(41)</i>	<i>(46)</i>	<i>(109)</i>	<i>(114)</i>	<i>(117)</i>	<i>(118)</i>	<i>(118)</i>
Depreciation and Amortization												
		<i>56</i>	<i>64</i>	<i>104</i>	<i>477</i>	<i>92</i>	<i>89</i>	<i>69</i>	<i>62</i>	<i>64</i>	<i>68</i>	<i>73</i>
Other Expenses												
		66	72	114	464	71	64	43	(48)	(50)	(49)	(45)
Net Movement in Regulatory Deferral												
Non-recurring Gain												
		20										
Net Income												
		41	85	209	208	354	526	443	423	533	491	580
Net Income Attributable to:												
Manitoba Hydro before Non-recurring Item												
		33	93	211	205	349	518	434	411	530	489	577
Figure 3	Column E	20										
Non-recurring Gain												
		53	93	211	205	349	518	434	411	530	489	577
Manitoba Hydro												
		(12)	(8)	(1)	2	5	9	10	11	3	2	3
Non-controlling Interest												
		41	85	209	208	354	526	443	423	533	491	580
* Additional General Consumers Revenue												
Percent Increase			3.36%	7.90%	7.90%	7.90%	7.90%	7.90%	7.90%	4.54%	2.00%	2.00%
Cumulative Percent Increase			3.36%	11.53%	20.34%	29.84%	40.10%	51.17%	63.11%	70.52%	73.93%	77.40%
Financial Ratios												
Equity		16%	15%	14%	14%	15%	17%	17%	19%	21%	23%	25%
EBITDA Interest Coverage		1.51	1.54	1.71	1.72	1.84	2.01	2.03	2.08	2.22	2.24	2.36
Capital Coverage		1.53	1.40	1.48	1.47	1.88	2.34	2.25	2.37	2.34	2.20	2.29

**ELECTRIC OPERATIONS
PROJECTED OPERATING STATEMENT
MH16 Update with Interim
(In Millions of Dollars)**

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
REVENUES									
General Consumers at approved rates additional*	1 599	1 614	1 630	1 647	1 673	1 701	1 729	1 757	1 786
BPIII Reserve Account	1 294	1 364	1 438	1 515	1 603	1 696	1 793	1 894	1 999
Extraprovincial	0	0	0	0	0	0	0	0	0
Other	662	677	697	709	705	701	696	694	602
	36	37	38	38	39	40	40	40	41
	3 591	3 693	3 803	3 910	4 021	4 138	4 257	4 385	4 428
EXPENSES									
Operating and Administrative	595	607	620	633	646	660	674	688	702
Gross Finance Expense	1 057	1 043	1 016	932	869	818	761	697	642
Capitalized Interest	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Finance Expense	1 037	1 020	994	909	850	800	742	675	618
Finance Income	(29)	(46)	(57)	(18)	(19)	(19)	(26)	(32)	(50)
Depreciation and Amortization	765	776	790	805	822	840	857	872	888
Water Rentals and Assessments	132	132	132	133	133	133	134	134	134
Fuel and Power Purchased	131	134	138	147	129	128	134	143	133
Capital and Other Taxes	177	177	178	179	180	181	183	184	190
Other Expenses	79	84	87	87	89	91	92	95	96
Finance Expense	6	6	4	2	2	2	2	2	2
Depreciation and Amortization	1	1	1	1	1	1	1	1	1
Other Revenues	0	0	0	0	0	0	0	0	0
Corporate Allocation	8	8	5	3	3	3	3	3	3
	2 894	2 892	2 888	2 878	2 833	2 818	2 792	2 762	2 714
Net Income before Net Movement in Reg. Deferral	698	801	915	1 032	1 189	1 320	1 465	1 623	1 714
Operating and Administrative	0	0	0	0	0	0	0	0	0
Depreciation and Amortization	(120)	(121)	(119)	(117)	(117)	(116)	(117)	(120)	(123)
Other Expenses	76	81	84	85	86	88	89	92	93
Net Movement in Regulatory Deferral	(44)	(40)	(35)	(33)	(31)	(28)	(28)	(28)	(30)
Non-recurring Gain									
Net Income	654	761	880	999	1 158	1 292	1 437	1 595	1 684
Net Income Attributable to:									
Manitoba Hydro before Non-recurring Item	650	755	873	989	1 147	1 280	1 423	1 579	1 668
Non-recurring Gain									
Manitoba Hydro	650	755	873	989	1 147	1 280	1 423	1 579	1 668
Non-controlling Interest	4	5	8	10	11	13	14	15	16
	654	761	880	999	1 158	1 292	1 437	1 595	1 684
* Additional General Consumers Revenue Percent Increase	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Cumulative Percent Increase	80.95%	84.57%	88.26%	92.03%	95.87%	99.79%	103.78%	107.86%	112.01%
Financial Ratios									
Equity	27%	30%	33%	37%	41%	46%	52%	57%	64%
EBITDA Interest Coverage	2.48	2.65	2.85	3.09	3.45	3.79	4.25	4.86	5.52
Capital Coverage	2.39	2.47	2.68	2.71	2.93	3.08	3.25	3.16	3.23

ELECTRIC OPERATIONS
PROJECTED BALANCE SHEET
MH16 Update with Interim
(In Millions of Dollars)

		ACTUAL											
		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
<i>For the year ended March 31</i>													
ASSETS													
	Plant in Service	13 065	13 679	19 062	19 684	20 747	26 168	30 504	31 034	31 670	32 334	32 945	
	Accumulated Depreciation	(972)	(1 301)	(1 731)	(2 178)	(2 616)	(3 125)	(3 705)	(4 328)	(4 942)	(5 607)	(6 212)	
	Net Plant in Service	12 093	12 378	17 332	17 506	18 131	23 043	26 799	26 706	26 727	26 727	26 732	
	Construction in Progress	7 079	9 471	6 745	7 522	8 012	3 836	367	454	418	414	411	
Figure 1	Column N	<i>Cash and Cash Equivalents</i>	634	488	562	544	564	328	474	458	754	471	541
		<i>Other Current Assets</i>	544	593	587	635	657	677	697	716	736	755	775
Figure 1	Column L	<i>Sinking Fund Investments</i>	0	182	400	531	501	34	92	294	210	317	328
		<i>Other Non-Current Assets</i>	596	651	720	787	847	904	509	520	531	543	555
	Current and Other Assets	1 773	1 915	2 269	2 498	2 569	1 943	1 773	1 989	2 230	2 086	2 199	
	Goodwill and Intangible Assets	327	541	782	926	1 348	1 302	1 256	1 211	1 167	1 123	1 081	
	Total Assets before Regulatory Deferral	21 272	24 305	27 127	28 452	30 060	30 123	30 194	30 360	30 542	30 350	30 423	
	Regulatory Deferral Balance	462	533	647	1 111	1 182	1 246	1 289	1 241	1 192	1 143	1 098	
		21 733	24 839	27 774	29 563	31 243	31 369	31 483	31 601	31 734	31 493	31 522	
LIABILITIES AND EQUITY													
Figure 2	Column C	Long-Term Debt	15 725	18 141	21 376	22 189	22 994	22 850	23 674	23 173	22 485	21 223	21 666
Figure 2	Column F	<i>Current Portion of Long-Term Debt</i>	336	1 002	329	1 293	1 366	1 121	280	412	680	1 178	150
		<i>Other Current Liabilities</i>	1 258	891	881	597	603	611	609	605	605	601	598
Figure 1	Column J	<i>Non-Controlling Interests</i>	170	208	257	306	346	382	87	99	102	104	108
		<i>Other Non-Current Liabilities</i>	1 440	1 543	1 579	1 618	2 041	2 037	2 042	2 055	2 068	2 093	2 120
	Current and Other Liabilities	3 204	3 643	3 046	3 815	4 356	4 142	3 020	3 174	3 455	3 976	2 976	
	Provisions	70	50	49	48	46	45	43	42	41	40	39	
Figure 1	Column H	Deferred Revenue	450	465	491	520	542	551	561	571	582	593	603
Figure 1	Column H	BPIII Reserve Account	196	347	346	266	186	106	27	(0)	(0)	(0)	(0)
Figure 1	Column E	Retained Earnings	2 749	2 842	3 053	3 258	3 606	4 124	4 557	4 969	5 498	5 987	6 564
Figure 1	Column I	Accumulated Other Comprehensive Income	(709)	(699)	(636)	(580)	(537)	(497)	(449)	(377)	(376)	(375)	(375)
	Total Liabilities and Equity before Regulatory Deferral	21 684	24 790	27 725	29 515	31 194	31 321	31 434	31 552	31 685	31 444	31 473	
	Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49	49	49	
		21 733	24 839	27 774	29 563	31 243	31 369	31 483	31 601	31 734	31 493	31 522	
	Net Debt	15 427	18 473	20 743	22 407	23 296	23 609	23 388	22 831	22 201	21 613	20 947	
	Total Equity	2 856	3 163	3 511	3 770	4 143	4 666	4 783	5 262	5 806	6 309	6 900	
	Equity Ratio	16%	15%	14%	14%	15%	17%	17%	19%	21%	23%	25%	

ELECTRIC OPERATIONS
PROJECTED BALANCE SHEET
MH16 Update with Interim
(In Millions of Dollars)

For the year ended March 31

		2028	2029	2030	2031	2032	2033	2034	2035	2036	
ASSETS											
Plant in Service		33 553	34 299	34 958	35 790	36 566	37 361	38 104	38 907	39 975	
Accumulated Depreciation		(6 906)	(7 603)	(8 311)	(9 040)	(9 788)	(10 577)	(11 366)	(12 168)	(12 975)	
Net Plant in Service		26 647	26 696	26 647	26 749	26 778	26 785	26 739	26 739	26 999	
Construction in Progress		493	454	490	400	374	366	406	461	257	
Figure 1	Column N	<i>Cash and Cash Equivalents</i>	1 047	1 640	411	370	389	549	1 378	1 616	3 126
Figure 1	Column L	<i>Other Current Assets</i>	795	815	835	856	877	898	919	940	962
<i>Sinking Fund Investments</i>		415	593	526	224	419	581	733	911	820	
<i>Other Non-Current Assets</i>		568	581	586	591	594	598	600	601	601	
Current and Other Assets		2 824	3 630	2 359	2 041	2 278	2 625	3 629	4 069	5 509	
Goodwill and Intangible Assets		1 040	1 001	962	924	885	848	810	773	736	
Total Assets before Regulatory Deferral		31 004	31 781	30 458	30 114	30 315	30 623	31 584	32 041	33 501	
Regulatory Deferral Balance		1 055	1 014	980	947	916	888	860	832	802	
		32 058	32 796	31 438	31 061	31 231	31 511	32 444	32 873	34 303	
LIABILITIES AND EQUITY											
Figure 2	Column C	Long-Term Debt	21 598	19 221	14 928	15 788	14 751	14 977	14 280	13 859	13 743
Figure 2	Column F	<i>Current Portion of Long-Term Debt</i>	60	2 370	4 396	2 133	2 150	878	1 030	255	80
<i>Other Current Liabilities</i>		601	609	601	593	590	588	590	579	574	
Figure 1	Column J	<i>Non-Controlling Interests</i>	111	107	105	103	100	99	96	94	92
<i>Other Non-Current Liabilities</i>		2 149	2 185	2 223	2 262	2 300	2 341	2 386	2 434	2 484	
Current and Other Liabilities		2 920	5 271	7 325	5 089	5 140	3 906	4 103	3 363	3 230	
Provisions		38	37	36	35	34	33	32	31	30	
Figure 1	Column H	Deferred Revenue	615	624	634	644	654	665	676	687	699
Figure 1	Column H	BPIII Reserve Account	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
Figure 1	Column E	Retained Earnings	7 214	7 969	8 842	9 831	10 977	12 257	13 680	15 259	16 927
Figure 1	Column I	Accumulated Other Comprehensive Income	(375)	(375)	(375)	(375)	(375)	(375)	(375)	(375)	
Total Liabilities and Equity before Regulatory Deferral		32 010	32 747	31 389	31 012	31 183	31 463	32 395	32 824	34 254	
Regulatory Deferral Balance		49	49	49	49	49	49	49	49	49	
		32 058	32 796	31 438	31 061	31 231	31 511	32 444	32 873	34 303	
Net Debt		20 197	19 357	18 386	17 327	16 094	14 725	13 200	11 587	9 877	
Total Equity		7 564	8 325	9 206	10 203	11 357	12 645	14 077	15 665	17 343	
Equity Ratio		27%	30%	33%	37%	41%	46%	52%	57%	64%	

ELECTRIC OPERATIONS
PROJECTED CASH FLOW STATEMENT
MH16 Update with Interim
(In Millions of Dollars)

For the year ended March 31

	ACTUAL										
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
OPERATING ACTIVITIES											
Cash Receipts from Customers	1 901	2 152	2 233	2 307	2 582	2 877	3 130	3 325	3 474	3 414	3 500
Cash Paid to Suppliers and Employees	(555)	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(953)	(966)
Interest Paid	(553)	(531)	(635)	(700)	(762)	(834)	(1 063)	(1 112)	(1 101)	(1 072)	(1 037)
Interest Received	17	5	12	22	26	20	8	10	17	20	14
	<u>810</u>	<u>734</u>	<u>767</u>	<u>759</u>	<u>961</u>	<u>1 169</u>	<u>1 171</u>	<u>1 287</u>	<u>1 437</u>	<u>1 408</u>	<u>1 512</u>
FINANCING ACTIVITIES											
Proceeds from Long-Term Debt	2 166	3 468	3 600	2 160	2 190	990	1 160	(10)	(10)	(50)	590
Sinking Fund Withdrawals	146	0	0	120	318	813	182	46	337	138	232
Sinking Fund Payment	(146)	(182)	(222)	(260)	(296)	(353)	(240)	(249)	(253)	(245)	(242)
Retirement of Long-Term Debt	(320)	(407)	(1 002)	(349)	(1 293)	(1 366)	(1 141)	(290)	(412)	(715)	(1 178)
Other	(5)	(10)	(10)	(11)	(11)	(11)	11	(5)	(5)	(5)	(5)
	<u>1 841</u>	<u>2 869</u>	<u>2 366</u>	<u>1 661</u>	<u>908</u>	<u>73</u>	<u>(28)</u>	<u>(507)</u>	<u>(342)</u>	<u>(877)</u>	<u>(603)</u>
INVESTING ACTIVITIES											
Property, Plant and Equipment, net of contributions	(2 925)	(3 660)	(3 002)	(2 391)	(1 760)	(1 368)	(898)	(700)	(704)	(732)	(756)
Other	(35)	(89)	(57)	(46)	(89)	(109)	(99)	(96)	(96)	(82)	(81)
	<u>(2 960)</u>	<u>(3 749)</u>	<u>(3 059)</u>	<u>(2 438)</u>	<u>(1 850)</u>	<u>(1 477)</u>	<u>(997)</u>	<u>(796)</u>	<u>(800)</u>	<u>(814)</u>	<u>(838)</u>
Net Increase (Decrease) in Cash	(309)	(145)	74	(18)	19	(236)	146	(16)	295	(283)	71
Cash at Beginning of Year	943	634	488	562	544	564	328	474	458	754	471
Cash at End of Year	<u>634</u>	<u>488</u>	<u>562</u>	<u>544</u>	<u>564</u>	<u>328</u>	<u>474</u>	<u>458</u>	<u>754</u>	<u>471</u>	<u>541</u>

Figure 4 Column C

ELECTRIC OPERATIONS
PROJECTED CASH FLOW STATEMENT
MH16 Update with Interim
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
OPERATING ACTIVITIES									
Cash Receipts from Customers	3 578	3 679	3 789	3 896	4 007	4 123	4 243	4 370	4 413
Cash Paid to Suppliers and Employees	(980)	(996)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 087)	(1 097)
Interest Paid	(1 019)	(1 014)	(997)	(908)	(837)	(795)	(742)	(696)	(632)
Interest Received	26	51	63	20	15	22	36	49	67
	<u>1 604</u>	<u>1 720</u>	<u>1 843</u>	<u>1 972</u>	<u>2 155</u>	<u>2 307</u>	<u>2 473</u>	<u>2 637</u>	<u>2 752</u>
FINANCING ACTIVITIES									
Proceeds from Long-Term Debt	(10)	(10)	170	2 990	1 150	1 140	360	(100)	(30)
Sinking Fund Withdrawals	150	60	310	520	0	30	36	10	275
Sinking Fund Payment	(237)	(239)	(243)	(218)	(195)	(193)	(188)	(189)	(184)
Retirement of Long-Term Debt	(150)	(60)	(2 440)	(4 396)	(2 173)	(2 190)	(908)	(1 100)	(265)
Other	(5)	(5)	(5)	(5)	(5)	(7)	(4)	(4)	(5)
	<u>(252)</u>	<u>(254)</u>	<u>(2 208)</u>	<u>(1 109)</u>	<u>(1 223)</u>	<u>(1 219)</u>	<u>(704)</u>	<u>(1 383)</u>	<u>(209)</u>
INVESTING ACTIVITIES									
Property, Plant and Equipment, net of contributions	(767)	(798)	(793)	(832)	(840)	(857)	(870)	(948)	(966)
Other	(80)	(74)	(72)	(73)	(72)	(71)	(70)	(68)	(67)
	<u>(847)</u>	<u>(873)</u>	<u>(864)</u>	<u>(905)</u>	<u>(913)</u>	<u>(928)</u>	<u>(940)</u>	<u>(1 016)</u>	<u>(1 033)</u>
Net Increase (Decrease) in Cash	505	594	(1 229)	(41)	19	160	829	238	1 510
Cash at Beginning of Year	541	1 047	1 640	411	370	389	549	1 378	1 616
Cash at End of Year	1 047	1 640	411	370	389	549	1 378	1 616	3 126

Figure 4 Column C

22

REFERENCE:

Appendix 4.1 Section 4.8.1

PREAMBLE TO IR (IF ANY):

KPMG States:

For Crown utilities such as Manitoba Hydro, in contrast, debt is either guaranteed by the Province or obtained through the province. Hence, in the event of financial distress, debt holders have a call on the resources of the Province and the provincial revenue base in seeking repayment of their debt, to remedy a default by the utility. This is a fundamental distinction and allows such Crown utilities to raise higher amounts of debt than would be consistent with a stand-alone, investor-owned utility.

Although Crown utilities may have access to a debt guarantee, one philosophy is that their financial targets should be set such that they have the same capital structure as a stand-alone, investor-owned, utility. Among other things, this would increase, relative to a more debt-intensive structure, the probability that the utility would remain self-supporting and would not impair the credit rating of its provincial shareholder. For Manitoba Hydro to reach the higher equity position that would be consistent with this approach, it would need to have higher rates for a period of time relative to those that would otherwise have been required. This reflects Manitoba Hydro's reliance on retained earnings for building its equity position.

QUESTION:

Please discuss whether it is Manitoba Hydro's expectation or goal to achieve a capital structure consistent with a stand-alone investor owned utility.

RATIONALE FOR QUESTION:

RESPONSE:

Manitoba Hydro does not have the goal of achieving a debt:equity capital structure consistent with that typically seen in a stand-alone investor owned utility. Manitoba Hydro observes that stand-alone investor owned utilities typically maintain equity levels that of 40%, significantly greater than Manitoba Hydro's equity target of 25%.

In Manitoba Hydro's view, achievement of a capital structure consistent with that of a typical stand-alone investor owned utility would be inconsistent with the regulatory framework that exists in Manitoba which, unlike many other jurisdictions, is not predicated on a rate of return construct.

Manitoba Hydro's financial targets are set in the context of being a government-owned entity with a modified cost of service rate regime. As such, targets are set based on a minimum level of financial strength that reasonably minimizes the risk of any contagion impact of the Corporation's financial profile on the credit rating and/or borrowing costs of the Province of Manitoba as well as ensuring Manitoba Hydro has the wherewithal to absorb adverse conditions (below average water conditions, rising interest rates) or event risks (asset failures) without imposing rate shock on customers.

Such wherewithal stems from appropriate levels of income, cash flow and reserves. As is noted, Manitoba Hydro's equity position can only be enhanced through net income and, as such, building an adequate equity position requires a multi-year plan. A strong equity capital position is the output of prudent financial planning, inclusive of rate setting, wherein Manitoba Hydro builds a base case plan with the objective of an appropriate level of net income and cash flow over a reasonable planning horizon. This is in particular critical in the early years of the current financial plan where the capacity to absorb risk is low due to current deficiencies in income and equity levels along with an unavoidable escalation in debt and operating costs as two major new projects are completed and commissioned.

REFERENCE:

PUB/MH I-42

PREAMBLE TO IR (IF ANY):

Manitoba Hydro states: “Manitoba Hydro does not have the goal of achieving a debt:equity capital structure consistent with that typically seen in a stand-alone investor owned utility. Manitoba Hydro observes that stand-alone investor owned utilities typically maintain equity levels that of 40%, significantly greater than Manitoba Hydro’s equity target of 25%.

In Manitoba Hydro’s view, achievement of a capital structure consistent with that of a typical stand-alone investor owned utility would be inconsistent with the regulatory framework that exists in Manitoba which, unlike many other jurisdictions, is not predicated on a rate of return construct.”

BCG also recommended that “[the 5-year] "workout program" would accelerate meeting 25% target equity from 2035 to 2024. Creates "surplus" equity position which can be used to maintain investment grade rating, issue government dividend and/or fund future capital projects”

Manitoba Hydro’s 20-year forecast based on Appendix 3.8 reflects an equity ratio exceeding 25% and achieving a ratio of 64% at the end of the 20-year forecast.

QUESTION:

- a) Please explain what action MH plans on taking to address this trajectory which achieves an equity level well above the approved target and inconsistent with the regulatory framework in Manitoba.
- b) Please provide an IFF with indicated rate changes to maintain a 75:25 debt to equity ratio throughout the 20-year forecast once achieved.

RATIONALE FOR QUESTION:

RESPONSE:

Manitoba Hydro's financial plan reflects a goal to return to its target 25% equity to capitalization ratio in 10 years. The focus of the Corporation's application is on the next 10 years of forecast financial results through 2026/27. 20 year financial forecasts have been provided in response to Minimum Filing Requirements and Information Requests. Manitoba Hydro ascribes limited value to forecasts a decade or more in the future given the potential for volatility in key assumptions many of which are beyond Manitoba Hydro's ability to accurately predict or control. The 20 year forecasts provided to date have essentially reflected a simplifying assumption that domestic rates and operating costs increase at 2% per annum as a proxy for inflation. PUB/MH II-28 provides some additional commentary on important limitations to the practical use of 20 year forecasts.

That said, the value to Manitoba Hydro's customers and the broader Manitoba economy from meeting Manitoba Hydro's 10 year target is apparent as discussed below as well as Coalition/MH II-19.

As compared to a plan to reach 25% equity by 2033/34 using even annual rate increases of 4.14% (Coalition/MH II-19), MH16 Update with Interim would leave forecast net debt \$3.4 billion or 14% lower at the end of the 10 year period ending 2026/27. As a consequence, annual interest expense is reduced by \$170 million in 2027/28 generating lower revenue requirement in 2027/28 and beyond.

With significantly less debt to service and a healthier financial condition, Manitoba Hydro and its regulator will have established the flexibility to consider future rate changes with a then much clearer understanding than is available today of load growth, export pricing, interest rates and reinvestment needs for the years beyond 2027.

As noted throughout this application, significantly higher levels of revenue from domestic rates are required in order to generate the income and cash flow necessary over the next 10 years to restore Manitoba Hydro's financial health. However, once the target debt/equity levels are reached, the necessity of the same level of income diminishes to a degree dependent on then estimates of future capital needs, growth expectations and interest

rates. As noted above, a \$3.4 billion reduction in net debt has a material consequent impact on revenue requirement. With a sound balance sheet, Manitoba Hydro and its regulator will be in a substantially preferred position to consider sub-inflationary rate increases or even rate decreases depending on the then understanding of business needs.

Due to the inherent uncertainty associated with attempting to forecast results in the 2028 to 2036 time frame, it is impossible to predict the measures Manitoba Hydro would propose to abate equity growth to unnecessary levels. However, should Manitoba Hydro find itself in a relatively stable operating environment but with significant capital investment needs on the near to intermediate term horizon, it is reasonable to expect the pace and extent of rate increases necessary to support major renewal and growth investments will be significantly abated by entering this period with a balance sheet and rate levels capable of absorbing incremental debt financing needs. In the alternative, without major expansion or other capital needs during or just beyond the 2028-2036 horizon, rate relief may be affordable and prudent.

The response to PUB/MH II-21b below offers an illustration of a potential outcome where rate changes are designed to keep the equity ratio at 25% each year in 2027/28 and thereafter. As can be seen, a substantial rate decrease of 19.8% is forecast for 2027/28. While Manitoba Hydro does not regard as prudent any financial plan that forecasts minimal or negative net income (as the scenario in part b) contemplates), the Corporation does note certain important conclusions with respect to ratepayer impacts. Coalition/MH II-6 provides further analysis.

The response to PUB/MH II-21b forecasts cumulative rate increases through 2033/34 of 38.8% after peaking (on a cumulative basis) at 77.4% in 2026/27. In a scenario of even annual rate increases of 4.14% to achieve an equity ratio of 25% by 2033/34 (Coalition/MH II-19), the cumulative rate increases amount to 97.7%. In other words, the cumulative rate increases in 2033/34 would be 60% less than under a more prolonged plan to address Manitoba Hydro's financial health. In absolute terms, for the average residential customer, electricity bills would be 30% lower in 2033/34 as compared to under the alternate plan of even annual rate increases of 4.14% over 16 years. Moreover, while Manitoba Hydro acknowledges its customers pay higher rates during the period of recovery,

a residential customer using 1,000 kWh/month would experience lower bills over the period from 2017/18 to 2033/34, as shown in the table below.

	25% Equity Ratio Achieved	Cumulative Increase		Average Monthly Bill - 2033/34	Cumulative Bills 2017/18 to 2033/34
		To 2026/27	To 2033/34		
PUB/MH II-21b Scenario based on MH16 - Update with Interim	2026/27	77.4%	38.8%	\$121	\$25,173
Coalition / MH II-19 Scenario even annual rate increases to 2033/34	2033/34	48.9%	97.7%	\$172	\$25,881
Difference			-60.3%	-29.9%	-2.7%

Customer interests and the long-run health of the economy of the Province of Manitoba are best served by a 10 year plan to reduce the Corporation’s debt to more manageable levels.

The IFF scenario presented in the response to part b) provides a powerful and plausible illustration of the importance of strong near-term action to address Manitoba Hydro’s deteriorating financial condition. In doing so, Manitoba Hydro’s customers enjoy both a substantially diminished risk of rate volatility and a significantly higher probability of lower rates beyond 2026/27 as compared to plans to address the Corporation’s condition over 15 or 20 years. This advantage holds true regardless of eventual outcomes for key uncontrollable variables such as interest rates. This is illustrated in the following table comparing cumulative rates in 2033/34 under the Manitoba Hydro’s 10-year plan to restore financial stability and an alternative 17-year plan.

	Cumulative Rate Increases in 2033/34	
	MH 10-Year Plan 25% Equity Ratio 2026/27	Alternative 17-Year Plan 25% Equity Ratio 2033/34
MH16 Update with Interim	38.75% (PUB/MH II-21b)	97.73% (Coalition/MH II-19)
Interest Rates + 50 basis points	42.08%	106.86%
Interest Rates + 100 basis points	45.81%	114.07%

In addition to the response to PUB/MH II-21b Manitoba Hydro offers two further alternative scenarios for consideration that are likely more plausible than a strict adherence to an exact target equity level once met. In the Alternative 1 (pages 11 to 16 of this response), even annual rate decreases of 5.7% are implemented in the three years from

2027/28 to 2029/30 in order to methodically reduce Manitoba Hydro's forecast net income to the range of \$200 million per year. Manitoba Hydro reiterates its view that targeting \$nil or negative net income as a planning matter is imprudent given the scale of the Corporation's business and assets and the potential for volatility in its results. While still targeting (for planning) a reasonable level of income, Manitoba Hydro notes that the cumulative annual rate increase by 2033/34 is 48.8% as compared to 97.7% under the "even annual increases to 2033/34" scenario (Coalition/MH II-19). This represents a 50% improvement over the "even annual rate increases" plan and, overall, 25% lower bills for residential customers as compared to the deferred alternative. Alternative 2 (pages 17 to 22 of this response) contemplates 0% rate increases in 2027/28 and every year after. Again, by 2033/34, cumulative rate increases of 77.4% under this scenario compare to 97.7% in the "even annual increases to 2033/34" scenario, a 21% improvement. Income levels and equity ratio growth in the second decade of the IFF are beyond what Manitoba Hydro would regard as needed absent an expectation of significant capital needs in the years beyond the 20 year horizon.

**ELECTRIC OPERATIONS
PROJECTED OPERATING STATEMENT
PUB/MH II-21b
(In Millions of Dollars)**

For the year ended March 31

	ACTUAL										
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
REVENUES											
Domestic Revenue											
at approved rates	1 515	1 578	1 565	1 551	1 537	1 544	1 542	1 542	1 553	1 567	1 583
additional*	-	37	179	315	458	619	789	973	1 094	1 158	1 224
BP/III Reserve Account	(96)	(151)	1	80	80	80	80	27	-	-	-
Extraprovincial	460	514	469	420	567	693	779	788	805	667	671
Other	28	30	31	31	33	33	34	34	35	35	36
	<u>1 907</u>	<u>2 008</u>	<u>2 246</u>	<u>2 398</u>	<u>2 674</u>	<u>2 970</u>	<u>3 223</u>	<u>3 364</u>	<u>3 487</u>	<u>3 426</u>	<u>3 513</u>
EXPENSES											
Operating and Administrative	536	518	501	511	513	524	536	548	559	571	583
Finance Expense	608	587	677	744	817	882	1 115	1 140	1 123	1 092	1 056
Finance Income	(17)	(17)	(21)	(28)	(35)	(34)	(39)	(18)	(24)	(27)	(21)
Depreciation and Amortization	375	396	471	515	555	597	689	714	726	739	752
Water Rentals and Assessments	131	130	120	110	113	117	127	128	131	131	131
Fuel and Power Purchased	132	124	140	158	165	156	140	135	138	127	129
Capital and Other Taxes	119	132	145	154	161	165	174	175	175	175	176
Other Expenses	60	116	109	481	94	92	71	64	67	71	76
Corporate Allocation	8	8	8	8	8	8	8	8	8	8	8
	<u>1 952</u>	<u>1 995</u>	<u>2 150</u>	<u>2 655</u>	<u>2 392</u>	<u>2 507</u>	<u>2 822</u>	<u>2 893</u>	<u>2 904</u>	<u>2 887</u>	<u>2 889</u>
Net Income before Net Movement in Reg. Deferral	(46)	13	96	(257)	283	463	401	470	582	540	625
Net Movement in Regulatory Deferral	66	72	114	464	71	64	43	(48)	(50)	(49)	(45)
Non-recurring Gain	20	-	-	-	-	-	-	-	-	-	-
Net Income	<u>41</u>	<u>85</u>	<u>209</u>	<u>208</u>	<u>354</u>	<u>526</u>	<u>443</u>	<u>423</u>	<u>533</u>	<u>491</u>	<u>580</u>
Net Income Attributable to:											
Manitoba Hydro before Non-recurring Item	33	93	211	205	349	518	434	411	530	489	577
Non-recurring Gain	20	-	-	-	-	-	-	-	-	-	-
Manitoba Hydro	<u>53</u>	<u>93</u>	<u>211</u>	<u>205</u>	<u>349</u>	<u>518</u>	<u>434</u>	<u>411</u>	<u>530</u>	<u>489</u>	<u>577</u>
Non-controlling Interest	(12)	(8)	(1)	2	5	9	10	11	3	2	3
	<u>41</u>	<u>85</u>	<u>209</u>	<u>208</u>	<u>354</u>	<u>526</u>	<u>443</u>	<u>423</u>	<u>533</u>	<u>491</u>	<u>580</u>
* Additional Domestic Revenue											
Percent Increase		3.36%	7.90%	7.90%	7.90%	7.90%	7.90%	7.90%	4.54%	2.00%	2.00%
Cumulative Percent Increase		3.36%	11.53%	20.34%	29.84%	40.10%	51.17%	63.11%	70.52%	73.93%	77.40%
Financial Ratios											
Equity	16%	15%	14%	14%	15%	17%	17%	19%	21%	23%	25%
EBITDA Interest Coverage	1.51	1.54	1.71	1.72	1.84	2.01	2.03	2.08	2.22	2.24	2.36
Capital Coverage	1.53	1.40	1.48	1.47	1.88	2.34	2.25	2.37	2.34	2.20	2.29

**ELECTRIC OPERATIONS
PROJECTED OPERATING STATEMENT
PUB/MH II-21b
(In Millions of Dollars)**

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
REVENUES									
Domestic Revenue at approved rates	1 599	1 614	1 630	1 647	1 673	1 701	1 729	1 757	1 786
additional*	677	612	593	640	626	649	669	698	791
BP/III Reserve Account	-	-	-	-	-	-	-	-	-
Extraprovincial	662	677	697	709	705	701	696	694	602
Other	36	37	38	38	39	40	40	40	41
	2 975	2 940	2 958	3 035	3 044	3 091	3 134	3 189	3 219
EXPENSES									
Operating and Administrative	595	607	620	633	646	660	674	688	702
Finance Expense	1 037	1 020	1 012	1 047	1 045	1 062	1 069	1 065	1 062
Finance Income	(21)	(18)	(16)	(16)	(17)	(18)	(20)	(19)	(17)
Depreciation and Amortization	765	776	790	805	822	840	857	872	888
Water Rentals and Assessments	132	132	132	133	133	133	134	134	134
Fuel and Power Purchased	131	134	138	147	129	128	134	143	133
Capital and Other Taxes	177	177	178	179	180	181	182	183	189
Other Expenses	79	84	87	87	89	91	92	95	96
Corporate Allocation	8	8	5	3	3	3	3	3	3
	2 901	2 920	2 947	3 018	3 030	3 081	3 124	3 164	3 191
Net Income before Net Movement in Reg. Deferral	73	20	11	17	13	10	9	25	29
Net Movement in Regulatory Deferral	(44)	(40)	(35)	(33)	(31)	(28)	(28)	(28)	(30)
Non-recurring Gain	-	-	-	-	-	-	-	-	-
Net Income	30	(20)	(24)	(16)	(18)	(18)	(19)	(3)	(1)
Net Income Attributable to:									
Manitoba Hydro before Non-recurring Item	26	(25)	(31)	(26)	(29)	(30)	(33)	(19)	(17)
Non-recurring Gain	-	-	-	-	-	-	-	-	-
Manitoba Hydro	26	(25)	(31)	(26)	(29)	(30)	(33)	(19)	(17)
Non-controlling Interest	4	5	8	10	11	13	14	15	16
	30	(20)	(24)	(16)	(18)	(18)	(19)	(3)	(1)
* Additional Domestic Revenue									
Percent Increase	-19.75%	-3.12%	-1.11%	1.81%	-1.05%	0.57%	0.40%	0.72%	3.26%
Cumulative Percent Increase	42.37%	37.92%	36.39%	38.86%	37.41%	38.19%	38.75%	39.74%	44.29%
Financial Ratios									
Equity	25%	25%	25%	25%	25%	25%	25%	25%	25%
EBITDA Interest Coverage	1.87	1.85	1.86	1.85	1.87	1.87	1.88	1.91	1.93
Capital Coverage	1.46	1.35	1.37	1.33	1.34	1.34	1.34	1.26	1.26

**ELECTRIC OPERATIONS
PROJECTED BALANCE SHEET
PUB/MH II-21b
(In Millions of Dollars)**

For the year ended March 31

	ACTUAL										
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ASSETS											
Plant in Service	13 065	13 679	19 062	19 684	20 747	26 168	30 504	31 034	31 670	32 334	32 945
Accumulated Depreciation	(972)	(1 301)	(1 731)	(2 178)	(2 616)	(3 125)	(3 705)	(4 328)	(4 942)	(5 607)	(6 212)
Net Plant in Service	12 093	12 378	17 332	17 506	18 131	23 043	26 799	26 706	26 727	26 727	26 732
Construction in Progress	7 079	9 471	6 745	7 522	8 012	3 836	367	454	418	414	411
Current and Other Assets	1 773	1 915	2 269	2 498	2 569	1 943	1 773	1 989	2 230	2 086	2 199
Goodwill and Intangible Assets	327	541	782	926	1 348	1 302	1 256	1 211	1 167	1 123	1 081
Total Assets before Regulatory Deferral	21 272	24 305	27 127	28 452	30 060	30 123	30 194	30 360	30 542	30 350	30 423
Regulatory Deferral Balance	462	533	647	1 111	1 182	1 246	1 289	1 241	1 192	1 143	1 098
	<u>21 733</u>	<u>24 839</u>	<u>27 774</u>	<u>29 563</u>	<u>31 243</u>	<u>31 369</u>	<u>31 483</u>	<u>31 601</u>	<u>31 734</u>	<u>31 493</u>	<u>31 522</u>
LIABILITIES AND EQUITY											
Long-Term Debt	15 725	18 141	21 376	22 189	22 994	22 850	23 674	23 173	22 485	21 223	21 666
Current and Other Liabilities	3 204	3 643	3 046	3 815	4 356	4 142	3 020	3 174	3 455	3 976	2 976
Provisions	70	50	49	48	46	45	43	42	41	40	39
Deferred Revenue	450	465	491	520	542	551	561	571	582	593	603
BP/III Reserve Account	196	347	346	266	186	106	27	(0)	(0)	(0)	(0)
Retained Earnings	2 749	2 842	3 053	3 258	3 606	4 124	4 557	4 969	5 498	5 987	6 564
Accumulated Other Comprehensive Income	(709)	(699)	(636)	(580)	(537)	(497)	(449)	(377)	(376)	(375)	(375)
Total Liabilities and Equity before Regulatory Deferral	21 684	24 790	27 725	29 515	31 194	31 321	31 434	31 552	31 685	31 444	31 473
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49	49	49
	<u>21 733</u>	<u>24 839</u>	<u>27 774</u>	<u>29 563</u>	<u>31 243</u>	<u>31 369</u>	<u>31 483</u>	<u>31 601</u>	<u>31 734</u>	<u>31 493</u>	<u>31 522</u>
Net Debt	15 427	18 473	20 743	22 407	23 296	23 609	23 388	22 831	22 201	21 613	20 947
Total Equity	2 856	3 163	3 511	3 770	4 143	4 666	4 783	5 262	5 806	6 309	6 900
Equity Ratio	16%	15%	14%	14%	15%	17%	17%	19%	21%	23%	25%

**ELECTRIC OPERATIONS
PROJECTED BALANCE SHEET
PUB/MH II-21b
(In Millions of Dollars)**

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
ASSETS									
Plant in Service	33 553	34 299	34 958	35 790	36 566	37 361	38 104	38 907	39 975
Accumulated Depreciation	(6 906)	(7 603)	(8 311)	(9 040)	(9 788)	(10 577)	(11 366)	(12 168)	(12 975)
Net Plant in Service	26 647	26 696	26 647	26 749	26 778	26 785	26 739	26 739	26 999
Construction in Progress	493	454	490	400	374	366	406	461	257
Current and Other Assets	2 200	2 225	2 254	2 131	2 398	2 442	2 794	3 048	3 806
Goodwill and Intangible Assets	1 040	1 001	962	924	885	848	810	773	736
Total Assets before Regulatory Deferral	30 380	30 376	30 353	30 204	30 435	30 440	30 749	31 021	31 799
Regulatory Deferral Balance	1 055	1 014	980	947	916	888	860	832	802
	31 434	31 391	31 333	31 151	31 352	31 328	31 609	31 852	32 600
LIABILITIES AND EQUITY									
Long-Term Debt	21 598	19 221	17 128	19 188	19 351	20 577	20 680	21 659	22 543
Current and Other Liabilities	2 920	5 271	7 329	5 103	5 160	3 932	4 133	3 405	3 276
Provisions	38	37	36	35	34	33	32	31	30
Deferred Revenue	615	624	634	644	654	665	676	687	699
BPll Reserve Account	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Retained Earnings	6 590	6 564	6 533	6 507	6 478	6 448	6 415	6 396	6 379
Accumulated Other Comprehensive Income	(375)	(375)	(375)	(375)	(375)	(375)	(375)	(375)	(375)
Total Liabilities and Equity before Regulatory Deferral	31 385	31 342	31 284	31 102	31 303	31 279	31 560	31 804	32 552
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49
	31 434	31 391	31 333	31 151	31 352	31 328	31 609	31 852	32 600
Net Debt	20 821	20 762	20 691	20 637	20 573	20 508	20 435	20 407	20 380
Total Equity	6 940	6 921	6 897	6 879	6 858	6 836	6 812	6 802	6 795
Equity Ratio	25%	25%	25%	25%	25%	25%	25%	25%	25%

**ELECTRIC OPERATIONS
PROJECTED CASH FLOW STATEMENT
PUB/MH II-21b
(In Millions of Dollars)**

For the year ended March 31

	ACTUAL										
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
OPERATING ACTIVITIES											
Cash Receipts from Customers	1 901	2 152	2 233	2 307	2 582	2 877	3 130	3 325	3 474	3 414	3 500
Cash Paid to Suppliers and Employees	(555)	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(953)	(966)
Interest Paid	(553)	(531)	(635)	(700)	(762)	(834)	(1 063)	(1 112)	(1 101)	(1 072)	(1 037)
Interest Received	17	5	12	22	26	20	8	10	17	20	14
	<u>810</u>	<u>734</u>	<u>767</u>	<u>759</u>	<u>961</u>	<u>1 169</u>	<u>1 171</u>	<u>1 287</u>	<u>1 437</u>	<u>1 408</u>	<u>1 512</u>
FINANCING ACTIVITIES											
Proceeds from Long-Term Debt	2 166	3 468	3 600	2 160	2 190	990	1 160	(10)	(10)	(50)	590
Sinking Fund Withdrawals	146	0	0	120	318	813	182	46	337	138	232
Sinking Fund Payment	(146)	(182)	(222)	(260)	(296)	(353)	(240)	(249)	(253)	(245)	(242)
Retirement of Long-Term Debt	(320)	(407)	(1 002)	(349)	(1 293)	(1 366)	(1 141)	(290)	(412)	(715)	(1 178)
Other	(5)	(10)	(10)	(11)	(11)	(11)	11	(5)	(5)	(5)	(5)
	<u>1 841</u>	<u>2 869</u>	<u>2 366</u>	<u>1 661</u>	<u>908</u>	<u>73</u>	<u>(28)</u>	<u>(507)</u>	<u>(342)</u>	<u>(877)</u>	<u>(603)</u>
INVESTING ACTIVITIES											
Property, Plant and Equipment, net of contributions	(2 925)	(3 660)	(3 002)	(2 391)	(1 760)	(1 368)	(898)	(700)	(704)	(732)	(756)
Other	(35)	(89)	(57)	(46)	(89)	(109)	(99)	(96)	(96)	(82)	(81)
	<u>(2 960)</u>	<u>(3 749)</u>	<u>(3 059)</u>	<u>(2 438)</u>	<u>(1 850)</u>	<u>(1 477)</u>	<u>(997)</u>	<u>(796)</u>	<u>(800)</u>	<u>(814)</u>	<u>(838)</u>
Net Increase (Decrease) in Cash	(309)	(145)	74	(18)	19	(236)	146	(16)	295	(283)	71
Cash at Beginning of Year	943	634	488	562	544	564	328	474	458	754	471
Cash at End of Year	<u>634</u>	<u>488</u>	<u>562</u>	<u>544</u>	<u>564</u>	<u>328</u>	<u>474</u>	<u>458</u>	<u>754</u>	<u>471</u>	<u>541</u>

ELECTRIC OPERATIONS
PROJECTED CASH FLOW STATEMENT
PUB/MH II-21b
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
OPERATING ACTIVITIES									
Cash Receipts from Customers	2 961	2 927	2 944	3 021	3 029	3 076	3 119	3 174	3 205
Cash Paid to Suppliers and Employees	(980)	(996)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 086)	(1 096)
Interest Paid	(1 019)	(1 014)	(1 011)	(1 036)	(1 027)	(1 052)	(1 060)	(1 069)	(1 073)
Interest Received	18	22	22	18	12	23	24	33	33
	980	939	943	967	985	1 004	1 021	1 052	1 069
FINANCING ACTIVITIES									
Proceeds from Long-Term Debt	(10)	(10)	2 370	4 190	2 350	2 140	1 160	1 300	970
Sinking Fund Withdrawals	150	60	310	542	0	230	36	10	275
Sinking Fund Payment	(237)	(239)	(243)	(240)	(228)	(239)	(239)	(250)	(262)
Retirement of Long-Term Debt	(150)	(60)	(2 440)	(4 396)	(2 173)	(2 190)	(908)	(1 100)	(265)
Other	(5)	(5)	(5)	(5)	(5)	(7)	(4)	(4)	(5)
	(252)	(254)	(8)	91	(56)	(66)	44	(45)	714
INVESTING ACTIVITIES									
Property, Plant and Equipment, net of contributions	(767)	(798)	(793)	(832)	(840)	(857)	(870)	(948)	(966)
Other	(80)	(74)	(72)	(73)	(72)	(71)	(70)	(68)	(67)
	(847)	(873)	(864)	(905)	(913)	(928)	(940)	(1 016)	(1 033)
Net Increase (Decrease) in Cash	(119)	(187)	70	154	16	10	125	(8)	750
Cash at Beginning of Year	541	422	236	306	460	476	486	611	603
Cash at End of Year	422	236	306	460	476	486	611	603	1 353

ELECTRIC OPERATIONS
PROJECTED OPERATING STATEMENT
Alternate 1: MH16 Update with Interim with 5.70% Rate Decrease from 2028-2030
(In Millions of Dollars)

For the year ended March 31

	ACTUAL 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
REVENUES											
Domestic Revenue at approved rates	1 515	1 578	1 565	1 551	1 537	1 544	1 542	1 542	1 553	1 567	1 583
additional*	-	37	179	315	458	619	789	973	1 094	1 158	1 224
BPIII Reserve Account	(96)	(151)	1	80	80	80	80	27	-	-	-
Extraprovincial	460	514	469	420	567	693	779	788	805	667	671
Other	28	30	31	31	33	33	34	34	35	35	36
	<u>1 907</u>	<u>2 008</u>	<u>2 246</u>	<u>2 398</u>	<u>2 674</u>	<u>2 970</u>	<u>3 223</u>	<u>3 364</u>	<u>3 487</u>	<u>3 426</u>	<u>3 513</u>
EXPENSES											
Operating and Administrative	536	518	501	511	513	524	536	548	559	571	583
Finance Expense	608	587	677	744	817	882	1 115	1 140	1 123	1 092	1 056
Finance Income	(17)	(17)	(21)	(28)	(35)	(34)	(39)	(18)	(24)	(27)	(21)
Depreciation and Amortization	375	396	471	515	555	597	689	714	726	739	752
Water Rentals and Assessments	131	130	120	110	113	117	127	128	131	131	131
Fuel and Power Purchased	132	124	140	158	165	156	140	135	138	127	129
Capital and Other Taxes	119	132	145	154	161	165	174	175	175	175	176
Other Expenses	60	116	109	481	94	92	71	64	67	71	76
Corporate Allocation	8	8	8	8	8	8	8	8	8	8	8
	<u>1 952</u>	<u>1 995</u>	<u>2 150</u>	<u>2 655</u>	<u>2 392</u>	<u>2 507</u>	<u>2 822</u>	<u>2 893</u>	<u>2 904</u>	<u>2 887</u>	<u>2 889</u>
Net Income before Net Movement in Reg. Deferral	(46)	13	96	(257)	283	463	401	470	582	540	625
Net Movement in Regulatory Deferral	66	72	114	464	71	64	43	(48)	(50)	(49)	(45)
Non-recurring Gain	20	-	-	-	-	-	-	-	-	-	-
Net Income	<u>41</u>	<u>85</u>	<u>209</u>	<u>208</u>	<u>354</u>	<u>526</u>	<u>443</u>	<u>423</u>	<u>533</u>	<u>491</u>	<u>580</u>
Net Income Attributable to:											
Manitoba Hydro before Non-recurring Item	33	93	211	205	349	518	434	411	530	489	577
Non-recurring Gain	20	-	-	-	-	-	-	-	-	-	-
Manitoba Hydro	<u>53</u>	<u>93</u>	<u>211</u>	<u>205</u>	<u>349</u>	<u>518</u>	<u>434</u>	<u>411</u>	<u>530</u>	<u>489</u>	<u>577</u>
Non-controlling Interest	(12)	(8)	(1)	2	5	9	10	11	3	2	3
	<u>41</u>	<u>85</u>	<u>209</u>	<u>208</u>	<u>354</u>	<u>526</u>	<u>443</u>	<u>423</u>	<u>533</u>	<u>491</u>	<u>580</u>
* Additional Domestic Revenue											
Percent Increase		3.36%	7.90%	7.90%	7.90%	7.90%	7.90%	7.90%	4.54%	2.00%	2.00%
Cumulative Percent Increase		3.36%	11.53%	20.34%	29.84%	40.10%	51.17%	63.11%	70.52%	73.93%	77.40%
Financial Ratios											
Equity	16%	15%	14%	14%	15%	17%	17%	19%	21%	23%	25%
EBITDA Interest Coverage	1.51	1.54	1.71	1.72	1.84	2.01	2.03	2.08	2.22	2.24	2.36
Capital Coverage	1.53	1.40	1.48	1.47	1.88	2.34	2.25	2.37	2.34	2.20	2.29

ELECTRIC OPERATIONS
PROJECTED OPERATING STATEMENT
Alternate 1: MH16 Update with Interim with 5.70% Rate Decrease from 2028-2030
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
REVENUES									
Domestic Revenue at approved rates	1 599	1 614	1 630	1 647	1 673	1 701	1 729	1 757	1 786
additional*	1 075	932	794	803	815	829	842	856	870
BPIII Reserve Account	-	-	-	-	-	-	-	-	-
Extraprovincial	662	677	697	709	705	701	696	694	602
Other	36	37	38	38	39	40	40	40	41
	<u>3 373</u>	<u>3 260</u>	<u>3 159</u>	<u>3 197</u>	<u>3 233</u>	<u>3 270</u>	<u>3 307</u>	<u>3 347</u>	<u>3 299</u>
EXPENSES									
Operating and Administrative	595	607	620	633	646	660	674	688	702
Finance Expense	1 037	1 020	995	990	977	979	975	958	945
Finance Income	(26)	(34)	(29)	(16)	(17)	(17)	(21)	(20)	(20)
Depreciation and Amortization	765	776	790	805	822	840	857	872	888
Water Rentals and Assessments	132	132	132	133	133	133	134	134	134
Fuel and Power Purchased	131	134	138	147	129	128	134	143	133
Capital and Other Taxes	177	177	178	179	180	181	182	183	189
Other Expenses	79	84	87	87	89	91	92	95	96
Corporate Allocation	8	8	5	3	3	3	3	3	3
	<u>2 896</u>	<u>2 904</u>	<u>2 917</u>	<u>2 962</u>	<u>2 962</u>	<u>2 999</u>	<u>3 029</u>	<u>3 056</u>	<u>3 071</u>
Net Income before Net Movement in Reg. Deferral	477	356	242	236	271	271	277	291	228
Net Movement in Regulatory Deferral	(44)	(40)	(35)	(33)	(31)	(28)	(28)	(28)	(30)
Non-recurring Gain	-	-	-	-	-	-	-	-	-
Net Income	<u>433</u>	<u>316</u>	<u>208</u>	<u>203</u>	<u>240</u>	<u>244</u>	<u>249</u>	<u>263</u>	<u>198</u>
Net Income Attributable to:									
Manitoba Hydro before Non-recurring Item	429	311	200	193	229	231	235	247	182
Non-recurring Gain	-	-	-	-	-	-	-	-	-
Manitoba Hydro	<u>429</u>	<u>311</u>	<u>200</u>	<u>193</u>	<u>229</u>	<u>231</u>	<u>235</u>	<u>247</u>	<u>182</u>
Non-controlling Interest	4	5	8	10	11	13	14	15	16
	<u>433</u>	<u>316</u>	<u>208</u>	<u>203</u>	<u>240</u>	<u>244</u>	<u>249</u>	<u>263</u>	<u>198</u>
* Additional Domestic Revenue									
Percent Increase	-5.70%	-5.70%	-5.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cumulative Percent Increase	67.29%	57.75%	48.75%	48.75%	48.75%	48.75%	48.75%	48.75%	48.75%
Financial Ratios									
Equity	26%	28%	29%	29%	30%	31%	32%	33%	34%
EBITDA Interest Coverage	2.27	2.19	2.12	2.12	2.19	2.21	2.24	2.29	2.26
Capital Coverage	2.06	1.83	1.70	1.63	1.69	1.68	1.70	1.57	1.49

ELECTRIC OPERATIONS
PROJECTED BALANCE SHEET
 Alternate 1: MH16 Update with Interim with 5.70% Rate Decrease from 2028-2030
 (In Millions of Dollars)

For the year ended March 31

	ACTUAL										
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ASSETS											
Plant in Service	13 065	13 679	19 062	19 684	20 747	26 168	30 504	31 034	31 670	32 334	32 945
Accumulated Depreciation	(972)	(1 301)	(1 731)	(2 178)	(2 616)	(3 125)	(3 705)	(4 328)	(4 942)	(5 607)	(6 212)
Net Plant in Service	12 093	12 378	17 332	17 506	18 131	23 043	26 799	26 706	26 727	26 727	26 732
Construction in Progress	7 079	9 471	6 745	7 522	8 012	3 836	367	454	418	414	411
Current and Other Assets	1 773	1 915	2 269	2 498	2 569	1 943	1 773	1 989	2 230	2 086	2 199
Goodwill and Intangible Assets	327	541	782	926	1 348	1 302	1 256	1 211	1 167	1 123	1 081
Total Assets before Regulatory Deferral	21 272	24 305	27 127	28 452	30 060	30 123	30 194	30 360	30 542	30 350	30 423
Regulatory Deferral Balance	462	533	647	1 111	1 182	1 246	1 289	1 241	1 192	1 143	1 098
	21 733	24 839	27 774	29 563	31 243	31 369	31 483	31 601	31 734	31 493	31 522
LIABILITIES AND EQUITY											
Long-Term Debt	15 725	18 141	21 376	22 189	22 994	22 850	23 674	23 173	22 485	21 223	21 666
Current and Other Liabilities	3 204	3 643	3 046	3 815	4 356	4 142	3 020	3 174	3 455	3 976	2 976
Provisions	70	50	49	48	46	45	43	42	41	40	39
Deferred Revenue	450	465	491	520	542	551	561	571	582	593	603
BPIII Reserve Account	196	347	346	266	186	106	27	(0)	(0)	(0)	(0)
Retained Earnings	2 749	2 842	3 053	3 258	3 606	4 124	4 557	4 969	5 498	5 987	6 564
Accumulated Other Comprehensive Income	(709)	(699)	(636)	(580)	(537)	(497)	(449)	(377)	(376)	(375)	(375)
Total Liabilities and Equity before Regulatory Deferral	21 684	24 790	27 725	29 515	31 194	31 321	31 434	31 552	31 685	31 444	31 473
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49	49	49
	21 733	24 839	27 774	29 563	31 243	31 369	31 483	31 601	31 734	31 493	31 522
Net Debt	15 427	18 473	20 743	22 407	23 296	23 609	23 388	22 831	22 201	21 613	20 947
Total Equity	2 856	3 163	3 511	3 770	4 143	4 666	4 783	5 262	5 806	6 309	6 900
Equity Ratio	16%	15%	14%	14%	15%	17%	17%	19%	21%	23%	25%

ELECTRIC OPERATIONS
PROJECTED BALANCE SHEET
 Alternate 1: MH16 Update with Interim with 5.70% Rate Decrease from 2028-2030
 (In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
ASSETS									
Plant in Service	33 553	34 299	34 958	35 790	36 566	37 361	38 104	38 907	39 975
Accumulated Depreciation	(6 906)	(7 603)	(8 311)	(9 040)	(9 788)	(10 577)	(11 366)	(12 168)	(12 975)
Net Plant in Service	26 647	26 696	26 647	26 749	26 778	26 785	26 739	26 739	26 999
Construction in Progress	493	454	490	400	374	366	406	461	257
Current and Other Assets	2 603	2 964	2 221	2 114	2 436	2 336	2 956	3 072	4 029
Goodwill and Intangible Assets	1 040	1 001	962	924	885	848	810	773	736
Total Assets before Regulatory Deferral	30 783	31 115	30 321	30 187	30 473	30 334	30 911	31 045	32 021
Regulatory Deferral Balance	1 055	1 014	980	947	916	888	860	832	802
	31 837	32 130	31 300	31 134	31 389	31 222	31 771	31 876	32 823
LIABILITIES AND EQUITY									
Long-Term Debt	21 598	19 221	16 128	17 988	17 951	18 777	18 880	19 459	20 343
Current and Other Liabilities	2 920	5 271	7 326	5 097	5 150	3 918	4 118	3 387	3 256
Provisions	38	37	36	35	34	33	32	31	30
Deferred Revenue	615	624	634	644	654	665	676	687	699
BPIII Reserve Account	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Retained Earnings	6 993	7 303	7 503	7 697	7 926	8 156	8 392	8 639	8 821
Accumulated Other Comprehensive Income	(375)	(375)	(375)	(375)	(375)	(375)	(375)	(375)	(375)
Total Liabilities and Equity before Regulatory Deferral	31 788	32 081	31 252	31 085	31 340	31 174	31 722	31 827	32 774
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49
	31 837	32 130	31 300	31 134	31 389	31 222	31 771	31 876	32 823
Net Debt	20 418	20 023	19 724	19 454	19 136	18 814	18 473	18 183	17 957
Total Equity	7 343	7 660	7 867	8 068	8 305	8 545	8 788	9 045	9 237
Equity Ratio	26%	28%	29%	29%	30%	31%	32%	33%	34%

ELECTRIC OPERATIONS
PROJECTED CASH FLOW STATEMENT
 Alternate 1: MH16 Update with Interim with 5.70% Rate Decrease from 2028-2030
 (In Millions of Dollars)

For the year ended March 31

	ACTUAL										
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
OPERATING ACTIVITIES											
Cash Receipts from Customers	1 901	2 152	2 233	2 307	2 582	2 877	3 130	3 325	3 474	3 414	3 500
Cash Paid to Suppliers and Employees	(555)	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(953)	(966)
Interest Paid	(553)	(531)	(635)	(700)	(762)	(834)	(1 063)	(1 112)	(1 101)	(1 072)	(1 037)
Interest Received	17	5	12	22	26	20	8	10	17	20	14
	<u>810</u>	<u>734</u>	<u>767</u>	<u>759</u>	<u>961</u>	<u>1 169</u>	<u>1 171</u>	<u>1 287</u>	<u>1 437</u>	<u>1 408</u>	<u>1 512</u>
FINANCING ACTIVITIES											
Proceeds from Long-Term Debt	2 166	3 468	3 600	2 160	2 190	990	1 160	(10)	(10)	(50)	590
Sinking Fund Withdrawals	146	0	0	120	318	813	182	46	337	138	232
Sinking Fund Payment	(146)	(182)	(222)	(260)	(296)	(353)	(240)	(249)	(253)	(245)	(242)
Retirement of Long-Term Debt	(320)	(407)	(1 002)	(349)	(1 293)	(1 366)	(1 141)	(290)	(412)	(715)	(1 178)
Other	(5)	(10)	(10)	(11)	(11)	(11)	11	(5)	(5)	(5)	(5)
	<u>1 841</u>	<u>2 869</u>	<u>2 366</u>	<u>1 661</u>	<u>908</u>	<u>73</u>	<u>(28)</u>	<u>(507)</u>	<u>(342)</u>	<u>(877)</u>	<u>(603)</u>
INVESTING ACTIVITIES											
Property, Plant and Equipment, net of contributions	(2 925)	(3 660)	(3 002)	(2 391)	(1 760)	(1 368)	(898)	(700)	(704)	(732)	(756)
Other	(35)	(89)	(57)	(46)	(89)	(109)	(99)	(96)	(96)	(82)	(81)
	<u>(2 960)</u>	<u>(3 749)</u>	<u>(3 059)</u>	<u>(2 438)</u>	<u>(1 850)</u>	<u>(1 477)</u>	<u>(997)</u>	<u>(796)</u>	<u>(800)</u>	<u>(814)</u>	<u>(838)</u>
Net Increase (Decrease) in Cash	(309)	(145)	74	(18)	19	(236)	146	(16)	295	(283)	71
Cash at Beginning of Year	943	634	488	562	544	564	328	474	458	754	471
Cash at End of Year	<u>634</u>	<u>488</u>	<u>562</u>	<u>544</u>	<u>564</u>	<u>328</u>	<u>474</u>	<u>458</u>	<u>754</u>	<u>471</u>	<u>541</u>

ELECTRIC OPERATIONS
PROJECTED CASH FLOW STATEMENT
Alternate 1: MH16 Update with Interim with 5.70% Rate Decrease from 2028-2030
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
OPERATING ACTIVITIES									
Cash Receipts from Customers	3 360	3 247	3 146	3 183	3 219	3 256	3 292	3 333	3 284
Cash Paid to Suppliers and Employees	(980)	(996)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 086)	(1 096)
Interest Paid	(1 019)	(1 014)	(997)	(983)	(962)	(973)	(965)	(965)	(955)
Interest Received	23	39	36	17	13	21	25	32	34
	<u>1 383</u>	<u>1 275</u>	<u>1 172</u>	<u>1 183</u>	<u>1 239</u>	<u>1 261</u>	<u>1 289</u>	<u>1 314</u>	<u>1 268</u>
FINANCING ACTIVITIES									
Proceeds from Long-Term Debt	(10)	(10)	1 370	3 990	2 150	1 740	1 160	900	970
Sinking Fund Withdrawals	150	60	310	532	0	230	36	10	271
Sinking Fund Payment	(237)	(239)	(243)	(230)	(216)	(225)	(221)	(230)	(237)
Retirement of Long-Term Debt	(150)	(60)	(2 440)	(4 396)	(2 173)	(2 190)	(908)	(1 100)	(265)
Other	(5)	(5)	(5)	(5)	(5)	(7)	(4)	(4)	(5)
	<u>(252)</u>	<u>(254)</u>	<u>(1 008)</u>	<u>(109)</u>	<u>(244)</u>	<u>(451)</u>	<u>63</u>	<u>(425)</u>	<u>734</u>
INVESTING ACTIVITIES									
Property, Plant and Equipment, net of contributions	(767)	(798)	(793)	(832)	(840)	(857)	(870)	(948)	(966)
Other	(80)	(74)	(72)	(73)	(72)	(71)	(70)	(68)	(67)
	<u>(847)</u>	<u>(873)</u>	<u>(864)</u>	<u>(905)</u>	<u>(913)</u>	<u>(928)</u>	<u>(940)</u>	<u>(1 016)</u>	<u>(1 033)</u>
Net Increase (Decrease) in Cash	284	149	(701)	170	82	(119)	412	(127)	969
Cash at Beginning of Year	541	826	975	274	443	525	407	818	691
Cash at End of Year	<u>826</u>	<u>975</u>	<u>274</u>	<u>443</u>	<u>525</u>	<u>407</u>	<u>818</u>	<u>691</u>	<u>1 661</u>

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PUB MFR 73 (Updated)

Financial Information

Electric operations-only, 20 year IFF scenarios, indicating the financial ratios, to show equal annual rate increases that result in the following debt-to-equity ratios at the end of the following fiscal years. [Following the Board Directives as used in Attachment 46, 2016/17 Interim Application and use an annual rate increase of 2% after the equity target has been achieved,]

- i. 75/25 in 2035/36; 33/34; 31/32; 26/27; 21/22;**
- ii. 70/30 in 2035/36; 33/34; 31/32; 26/27; 21/22;**
- iii. 80/20 in 2035/36; 33/34; 31/32; 26/27; 21/22**

The response to PUB MFR 73 has been updated to reflect the July 2017 update to the financial forecast for electric operations (MH16 Update).

Please see the schedules attached to this response.

i. 75/25 in 2035/36; 33/34; 31/32; 26/27; 21/22 (Pages 1 to 30)

**ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED OPERATING STATEMENT**

75/25 in 2035/36
(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
REVENUES										
General Consumers at approved rates	1 578	1 565	1 551	1 537	1 544	1 542	1 542	1 553	1 567	1 583
additional*	41	117	178	240	307	375	445	522	604	692
BPIII Reserve Account	(117)	11	70	70	70	70	23	0	0	0
Extraprovincial	514	469	420	567	693	779	788	805	667	671
Other	30	31	31	33	33	34	34	35	35	36
	<u>2 046</u>	<u>2 193</u>	<u>2 251</u>	<u>2 446</u>	<u>2 647</u>	<u>2 799</u>	<u>2 833</u>	<u>2 915</u>	<u>2 873</u>	<u>2 981</u>
EXPENSES										
Operating and Administrative	518	501	511	513	524	536	548	559	571	583
Finance Expense	587	676	749	829	906	1 157	1 202	1 211	1 206	1 222
Finance Income	(17)	(21)	(28)	(35)	(33)	(37)	(14)	(14)	(13)	(16)
Depreciation and Amortization	396	471	515	555	597	689	714	726	739	752
Water Rentals and Assessments	130	120	110	113	117	127	128	131	131	131
Fuel and Power Purchased	124	140	158	165	156	140	135	138	127	129
Capital and Other Taxes	132	145	154	161	165	174	175	175	175	175
Other Expenses	116	109	481	94	92	71	64	67	71	76
Corporate Allocation	8	8	8	8	8	8	8	8	8	8
	<u>1 995</u>	<u>2 150</u>	<u>2 659</u>	<u>2 404</u>	<u>2 532</u>	<u>2 866</u>	<u>2 960</u>	<u>3 001</u>	<u>3 014</u>	<u>3 059</u>
Net Income before Net Movement in Reg. Deferral	51	43	(409)	42	116	(68)	(127)	(87)	(141)	(79)
Net Movement in Regulatory Deferral	72	114	464	71	64	43	(48)	(50)	(49)	(45)
Net Income	<u>123</u>	<u>157</u>	<u>56</u>	<u>113</u>	<u>179</u>	<u>(25)</u>	<u>(174)</u>	<u>(136)</u>	<u>(190)</u>	<u>(124)</u>
Net Income Attributable to:										
Manitoba Hydro	131	158	53	107	171	(35)	(186)	(139)	(192)	(127)
Non-controlling Interest	(8)	(1)	2	5	9	10	11	3	2	3
* Additional General Consumers Revenue										
Percent Increase	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%
Cumulative Percent Increase	3.69%	7.52%	11.49%	15.61%	19.88%	24.31%	28.90%	33.66%	38.60%	43.72%
Financial Ratios										
Equity	15%	14%	14%	14%	14%	13%	12%	12%	11%	11%
EBITDA Interest Coverage	1.58	1.65	1.58	1.62	1.70	1.59	1.53	1.57	1.55	1.60
Capital Coverage	1.40	1.36	1.20	1.44	1.68	1.38	1.28	1.26	1.15	1.24

i. 75/25 in 2035/36; 33/34; 31/32; 26/27; 21/22 (Pages 1 to 30)

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED OPERATING STATEMENT
75/25 in 2035/36
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
REVENUES									
General Consumers at approved rates	1 599	1 614	1 630	1 647	1 673	1 701	1 729	1 757	1 786
additional*	783	880	982	1 089	1 209	1 337	1 473	1 617	1 770
BPIII Reserve Account	0	0	0	0	0	0	0	0	0
Extraprovincial	662	677	697	709	705	701	696	694	602
Other	36	37	38	38	39	40	40	40	41
	<u>3 081</u>	<u>3 208</u>	<u>3 347</u>	<u>3 484</u>	<u>3 627</u>	<u>3 779</u>	<u>3 937</u>	<u>4 108</u>	<u>4 199</u>
EXPENSES									
Operating and Administrative	595	607	620	633	646	660	674	688	702
Finance Expense	1 228	1 223	1 214	1 235	1 217	1 210	1 189	1 154	1 112
Finance Income	(16)	(18)	(18)	(17)	(16)	(16)	(20)	(23)	(24)
Depreciation and Amortization	765	776	790	805	822	840	857	872	888
Water Rentals and Assessments	132	132	132	133	133	133	134	134	134
Fuel and Power Purchased	131	134	138	147	129	128	134	143	133
Capital and Other Taxes	176	177	178	179	180	181	182	183	189
Other Expenses	79	84	87	87	89	91	92	95	96
Corporate Allocation	8	8	5	3	3	3	3	3	3
	<u>3 097</u>	<u>3 123</u>	<u>3 147</u>	<u>3 205</u>	<u>3 202</u>	<u>3 230</u>	<u>3 244</u>	<u>3 248</u>	<u>3 235</u>
Net Income before Net Movement in Reg. Deferral	(16)	85	200	279	425	549	693	860	965
Net Movement in Regulatory Deferral	(44)	(40)	(35)	(33)	(31)	(28)	(28)	(28)	(30)
Net Income	<u>(60)</u>	<u>45</u>	<u>165</u>	<u>246</u>	<u>394</u>	<u>521</u>	<u>665</u>	<u>831</u>	<u>935</u>
Net Income Attributable to:									
Manitoba Hydro	(64)	39	157	236	383	508	651	816	919
Non-controlling Interest	4	5	8	10	11	13	14	15	16
* Additional General Consumers Revenue									
Percent Increase	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%
Cumulative Percent Increase	49.03%	54.53%	60.24%	66.16%	72.30%	78.66%	85.26%	92.10%	99.20%
Financial Ratios									
Equity	11%	11%	12%	13%	14%	16%	18%	22%	25%
EBITDA Interest Coverage	1.66	1.76	1.87	1.93	2.08	2.21	2.37	2.57	2.73
Capital Coverage	1.34	1.45	1.64	1.69	1.90	2.05	2.24	2.26	2.35

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED BALANCE SHEET
75/25 in 2035/36
(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ASSETS										
Plant in Service	13 679	19 062	19 684	20 747	26 168	30 504	31 034	31 670	32 334	32 945
Accumulated Depreciation	(1 301)	(1 731)	(2 178)	(2 616)	(3 125)	(3 705)	(4 328)	(4 942)	(5 607)	(6 212)
Net Plant in Service	12 378	17 332	17 506	18 131	23 043	26 799	26 706	26 727	26 727	26 732
Construction in Progress	9 471	6 745	7 522	8 012	3 836	367	454	418	414	411
Current and Other Assets	1 928	2 210	2 497	2 541	1 784	1 569	1 586	1 566	1 748	1 765
Goodwill and Intangible Assets	541	782	926	1 348	1 302	1 256	1 211	1 167	1 123	1 081
Total Assets before Regulatory Deferral	24 319	27 068	28 452	30 033	29 964	29 990	29 957	29 877	30 012	29 990
Regulatory Deferral Balance	533	647	1 111	1 182	1 246	1 289	1 241	1 192	1 143	1 098
	24 852	27 715	29 563	31 215	31 210	31 279	31 198	31 069	31 155	31 088
LIABILITIES AND EQUITY										
Long-Term Debt	18 151	21 376	22 389	23 394	23 448	24 673	24 538	24 250	23 989	25 031
Current and Other Liabilities	3 643	3 046	3 815	4 359	4 151	3 033	3 192	3 480	4 008	3 016
Provisions	50	49	48	46	45	43	42	41	40	39
Deferred Revenue	465	491	520	542	551	561	571	582	593	603
BPIII Reserve Account	313	302	232	163	93	23	(0)	(0)	(0)	(0)
Retained Earnings	2 880	3 038	3 091	3 199	3 369	3 334	3 149	3 009	2 817	2 690
Accumulated Other Comprehensive Income	(699)	(636)	(580)	(537)	(496)	(438)	(343)	(342)	(341)	(341)
Total Liabilities and Equity before Regulatory Deferral	24 804	27 666	29 514	31 166	31 162	31 230	31 149	31 020	31 106	31 039
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49	49
	24 852	27 715	29 563	31 215	31 210	31 279	31 198	31 069	31 155	31 088
Net Debt	18 469	20 802	22 607	23 723	24 367	24 590	24 600	24 631	24 717	24 746
Total Equity	3 166	3 453	3 570	3 712	3 899	3 568	3 476	3 351	3 173	3 061
Equity Ratio	15%	14%	14%	14%	14%	13%	12%	12%	11%	11%

i. 75/25 in 2035/36; 33/34; 31/32; 26/27; 21/22 (Pages 1 to 30)

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED BALANCE SHEET
75/25 in 2035/36
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
ASSETS									
Plant in Service	33 553	34 299	34 958	35 790	36 566	37 361	38 104	38 907	39 975
Accumulated Depreciation	(6 906)	(7 603)	(8 311)	(9 040)	(9 788)	(10 577)	(11 366)	(12 168)	(12 975)
Net Plant in Service	26 647	26 696	26 647	26 749	26 778	26 785	26 739	26 739	26 999
Construction in Progress	493	454	490	400	374	366	406	461	257
Current and Other Assets	2 083	2 377	2 190	2 131	2 408	2 390	3 040	3 738	4 426
Goodwill and Intangible Assets	1 040	1 001	962	924	885	848	810	773	736
Total Assets before Regulatory Deferral	30 263	30 528	30 289	30 204	30 445	30 388	30 994	31 711	32 419
Regulatory Deferral Balance	1 055	1 014	980	947	916	888	860	832	802
	31 317	31 542	31 269	31 151	31 361	31 276	31 854	32 542	33 220
LIABILITIES AND EQUITY									
Long-Term Debt	25 364	23 166	20 713	22 354	22 123	22 763	22 260	22 879	22 743
Current and Other Liabilities	2 967	5 341	7 355	5 351	5 399	4 156	4 577	3 820	3 705
Provisions	38	37	36	35	34	33	32	31	30
Deferred Revenue	615	624	634	644	654	665	676	687	699
BPIII Reserve Account	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Retained Earnings	2 626	2 666	2 823	3 060	3 442	3 951	4 601	5 417	6 336
Accumulated Other Comprehensive Income	(341)	(341)	(341)	(341)	(341)	(341)	(341)	(341)	(341)
Total Liabilities and Equity before Regulatory Deferral	31 268	31 493	31 220	31 102	31 312	31 227	31 805	32 493	33 172
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49
	31 317	31 542	31 269	31 151	31 361	31 276	31 854	32 542	33 220
Net Debt	24 704	24 576	24 321	24 002	23 530	22 932	22 176	21 317	20 360
Total Equity	3 011	3 056	3 221	3 465	3 856	4 373	5 033	5 858	6 787
Equity Ratio	11%	11%	12%	13%	14%	16%	18%	22%	25%

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED CASH FLOW STATEMENT
75/25 in 2035/36
(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
OPERATING ACTIVITIES										
Cash Receipts from Customers	2 156	2 171	2 170	2 364	2 565	2 716	2 797	2 902	2 860	2 968
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(903)	(935)	(953)	(952)	(966)
Interest Paid	(531)	(635)	(704)	(771)	(853)	(1 102)	(1 170)	(1 181)	(1 179)	(1 195)
Interest Received	5	11	22	26	19	6	6	8	6	10
	738	704	618	734	837	717	698	776	735	816
FINANCING ACTIVITIES										
Proceeds from Long-Term Debt	3 478	3 590	2 360	2 390	1 190	1 570	380	390	950	1 190
Sinking Fund Withdrawals	0	0	120	318	813	182	52	348	154	251
Sinking Fund Payment	(182)	(222)	(260)	(296)	(353)	(246)	(259)	(268)	(265)	(271)
Retirement of Long-Term Debt	(407)	(1 002)	(349)	(1 293)	(1 366)	(1 141)	(290)	(412)	(715)	(1 178)
Other	(10)	(10)	(11)	(11)	(11)	11	(5)	(5)	(5)	(5)
	2 879	2 356	1 861	1 108	273	376	(121)	53	119	(13)
INVESTING ACTIVITIES										
Property, Plant and Equipment, net of contributions	(3 660)	(3 002)	(2 391)	(1 760)	(1 368)	(898)	(700)	(704)	(732)	(756)
Other	(89)	(57)	(46)	(89)	(109)	(99)	(96)	(96)	(82)	(81)
	(3 749)	(3 059)	(2 438)	(1 850)	(1 477)	(997)	(796)	(800)	(814)	(838)
Net Increase (Decrease) in Cash	(132)	1	41	(8)	(367)	96	(220)	28	39	(34)
Cash at Beginning of Year	634	502	503	544	536	169	265	45	74	113
Cash at End of Year	502	503	544	536	169	265	45	74	113	79

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED CASH FLOW STATEMENT
75/25 in 2035/36
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
OPERATING ACTIVITIES									
Cash Receipts from Customers	3 068	3 195	3 333	3 470	3 613	3 764	3 923	4 094	4 185
Cash Paid to Suppliers and Employees	(980)	(995)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 086)	(1 096)
Interest Paid	(1 205)	(1 217)	(1 218)	(1 223)	(1 201)	(1 207)	(1 186)	(1 168)	(1 137)
Interest Received	14	25	26	19	12	23	28	44	47
	<u>897</u>	<u>1 008</u>	<u>1 128</u>	<u>1 231</u>	<u>1 394</u>	<u>1 537</u>	<u>1 703</u>	<u>1 883</u>	<u>1 999</u>
FINANCING ACTIVITIES									
Proceeds from Long-Term Debt	390	190	1 980	3 980	2 150	1 740	960	1 310	360
Sinking Fund Withdrawals	150	60	507	528	0	224	0	10	275
Sinking Fund Payment	(272)	(280)	(287)	(274)	(262)	(270)	(267)	(275)	(284)
Retirement of Long-Term Debt	(150)	(60)	(2 450)	(4 386)	(2 373)	(2 384)	(1 093)	(1 497)	(655)
Other	(5)	(5)	(5)	(5)	(5)	(7)	(4)	(4)	(5)
	<u>113</u>	<u>(95)</u>	<u>(255)</u>	<u>(157)</u>	<u>(490)</u>	<u>(697)</u>	<u>(404)</u>	<u>(457)</u>	<u>(309)</u>
INVESTING ACTIVITIES									
Property, Plant and Equipment, net of contributions	(767)	(798)	(793)	(832)	(840)	(857)	(870)	(948)	(966)
Other	(80)	(74)	(72)	(73)	(72)	(71)	(70)	(68)	(67)
	<u>(847)</u>	<u>(873)</u>	<u>(864)</u>	<u>(905)</u>	<u>(913)</u>	<u>(928)</u>	<u>(940)</u>	<u>(1 016)</u>	<u>(1 033)</u>
Net Increase (Decrease) in Cash	163	41	8	169	(9)	(88)	359	411	657
Cash at Beginning of Year	79	241	282	290	460	451	363	722	1 133
Cash at End of Year	<u>241</u>	<u>282</u>	<u>290</u>	<u>460</u>	<u>451</u>	<u>363</u>	<u>722</u>	<u>1 133</u>	<u>1 790</u>

**ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED OPERATING STATEMENT**

75/25 in 2033/34

(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
REVENUES										
General Consumers at approved rates	1 578	1 565	1 551	1 537	1 544	1 542	1 542	1 553	1 567	1 583
additional*	45	129	196	265	339	415	494	581	673	772
BPIII Reserve Account	(117)	11	70	70	70	70	23	0	0	0
Extraprovincial	514	469	420	567	693	779	788	805	667	671
Other	30	31	31	33	33	34	34	35	35	36
	<u>2 050</u>	<u>2 204</u>	<u>2 269</u>	<u>2 471</u>	<u>2 680</u>	<u>2 839</u>	<u>2 882</u>	<u>2 973</u>	<u>2 942</u>	<u>3 061</u>
EXPENSES										
Operating and Administrative	518	501	511	513	524	536	548	559	571	583
Finance Expense	587	676	749	827	903	1 155	1 195	1 201	1 191	1 203
Finance Income	(17)	(21)	(29)	(35)	(34)	(39)	(14)	(15)	(14)	(17)
Depreciation and Amortization	396	471	515	555	597	689	714	726	739	752
Water Rentals and Assessments	130	120	110	113	117	127	128	131	131	131
Fuel and Power Purchased	124	140	158	165	156	140	135	138	127	129
Capital and Other Taxes	132	145	154	161	165	174	175	175	175	175
Other Expenses	116	109	481	94	92	71	64	67	71	76
Corporate Allocation	8	8	8	8	8	8	8	8	8	8
	<u>1 995</u>	<u>2 150</u>	<u>2 659</u>	<u>2 402</u>	<u>2 528</u>	<u>2 862</u>	<u>2 953</u>	<u>2 990</u>	<u>2 999</u>	<u>3 040</u>
Net Income before Net Movement in Reg. Deferral	55	55	(390)	68	151	(23)	(71)	(17)	(57)	21
Net Movement in Regulatory Deferral	72	114	464	71	64	43	(48)	(50)	(49)	(45)
Net Income	<u>126</u>	<u>168</u>	<u>74</u>	<u>140</u>	<u>215</u>	<u>20</u>	<u>(119)</u>	<u>(67)</u>	<u>(106)</u>	<u>(24)</u>
Net Income Attributable to:										
Manitoba Hydro	135	169	72	134	206	10	(130)	(70)	(108)	(28)
Non-controlling Interest	(8)	(1)	2	5	9	10	11	3	2	3
* Additional General Consumers Revenue										
Percent Increase	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%
Cumulative Percent Increase	4.05%	8.27%	12.66%	17.22%	21.97%	26.92%	32.06%	37.41%	42.98%	48.78%
Financial Ratios										
Equity	15%	14%	14%	14%	14%	13%	13%	13%	13%	13%
EBITDA Interest Coverage	1.58	1.66	1.59	1.65	1.73	1.63	1.58	1.64	1.62	1.70
Capital Coverage	1.41	1.38	1.23	1.48	1.74	1.46	1.38	1.37	1.27	1.38

i. 75/25 in 2035/36; 33/34; 31/32; 26/27; 21/22 (Pages 1 to 30)

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED OPERATING STATEMENT
75/25 in 2033/34
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
REVENUES									
General Consumers at approved rates	1 599	1 614	1 630	1 647	1 673	1 701	1 729	1 757	1 786
additional*	876	985	1 102	1 225	1 363	1 510	1 667	1 763	1 863
BPIII Reserve Account	0	0	0	0	0	0	0	0	0
Extraprovincial	662	677	697	709	705	701	696	694	602
Other	36	37	38	38	39	40	40	40	41
	<u>3 174</u>	<u>3 314</u>	<u>3 467</u>	<u>3 620</u>	<u>3 780</u>	<u>3 951</u>	<u>4 131</u>	<u>4 254</u>	<u>4 292</u>
EXPENSES									
Operating and Administrative	595	607	620	633	646	660	674	688	702
Finance Expense	1 206	1 194	1 177	1 189	1 159	1 143	1 105	1 056	1 010
Finance Income	(19)	(19)	(19)	(18)	(18)	(19)	(20)	(23)	(29)
Depreciation and Amortization	765	776	790	805	822	840	857	872	888
Water Rentals and Assessments	132	132	132	133	133	133	134	134	134
Fuel and Power Purchased	131	134	138	147	129	128	134	143	133
Capital and Other Taxes	176	177	178	179	180	181	182	183	190
Other Expenses	79	84	87	87	89	91	92	95	96
Corporate Allocation	8	8	5	3	3	3	3	3	3
	<u>3 073</u>	<u>3 092</u>	<u>3 109</u>	<u>3 157</u>	<u>3 144</u>	<u>3 160</u>	<u>3 160</u>	<u>3 151</u>	<u>3 127</u>
Net Income before Net Movement in Reg. Deferral	101	221	358	463	637	791	971	1 103	1 166
Net Movement in Regulatory Deferral	(44)	(40)	(35)	(33)	(31)	(28)	(28)	(28)	(30)
Net Income	<u>57</u>	<u>181</u>	<u>323</u>	<u>430</u>	<u>606</u>	<u>763</u>	<u>943</u>	<u>1 075</u>	<u>1 136</u>
Net Income Attributable to:									
Manitoba Hydro	53	176	316	420	595	751	929	1 059	1 120
Non-controlling Interest	4	5	8	10	11	13	14	15	16
* Additional General Consumers Revenue									
Percent Increase	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%	2.00%	2.00%
Cumulative Percent Increase	54.81%	61.08%	67.61%	74.40%	81.47%	88.82%	96.48%	100.41%	104.41%
Financial Ratios									
Equity	13%	14%	15%	16%	19%	21%	25%	29%	33%
EBITDA Interest Coverage	1.77	1.89	2.04	2.12	2.32	2.49	2.72	2.94	3.12
Capital Coverage	1.51	1.64	1.87	1.94	2.18	2.38	2.60	2.54	2.58

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED BALANCE SHEET
75/25 in 2033/34
(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ASSETS										
Plant in Service	13 679	19 062	19 684	20 747	26 168	30 504	31 034	31 670	32 334	32 945
Accumulated Depreciation	(1 301)	(1 731)	(2 178)	(2 616)	(3 125)	(3 705)	(4 328)	(4 942)	(5 607)	(6 212)
Net Plant in Service	12 378	17 332	17 506	18 131	23 043	26 799	26 706	26 727	26 727	26 732
Construction in Progress	9 471	6 745	7 522	8 012	3 836	367	454	418	414	411
Current and Other Assets	1 932	2 225	2 532	2 600	1 876	1 705	1 575	1 624	1 886	1 800
Goodwill and Intangible Assets	541	782	926	1 348	1 302	1 256	1 211	1 167	1 123	1 081
Total Assets before Regulatory Deferral	24 323	27 084	28 486	30 092	30 057	30 126	29 946	29 936	30 151	30 024
Regulatory Deferral Balance	533	647	1 111	1 182	1 246	1 289	1 241	1 192	1 143	1 098
	24 856	27 731	29 598	31 274	31 303	31 415	31 187	31 128	31 294	31 122
LIABILITIES AND EQUITY										
Long-Term Debt	18 151	21 376	22 389	23 394	23 448	24 673	24 338	24 050	23 789	24 631
Current and Other Liabilities	3 643	3 046	3 815	4 358	4 147	3 027	3 183	3 472	3 996	3 000
Provisions	50	49	48	46	45	43	42	41	40	39
Deferred Revenue	465	491	520	542	551	561	571	582	593	603
BPIII Reserve Account	313	303	233	163	93	23	(0)	(0)	(0)	(0)
Retained Earnings	2 884	3 053	3 125	3 259	3 466	3 476	3 346	3 276	3 168	3 140
Accumulated Other Comprehensive Income	(699)	(636)	(580)	(537)	(496)	(438)	(343)	(342)	(341)	(341)
Total Liabilities and Equity before Regulatory Deferral	24 808	27 682	29 549	31 226	31 254	31 366	31 138	31 079	31 245	31 073
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49	49
	24 856	27 731	29 598	31 274	31 303	31 415	31 187	31 128	31 294	31 122
Net Debt	18 465	20 786	22 573	23 664	24 275	24 455	24 411	24 373	24 379	24 312
Total Equity	3 170	3 468	3 604	3 773	3 996	3 709	3 673	3 618	3 524	3 510
Equity Ratio	15%	14%	14%	14%	14%	13%	13%	13%	13%	13%

i. 75/25 in 2035/36; 33/34; 31/32; 26/27; 21/22 (Pages 1 to 30)

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED BALANCE SHEET
75/25 in 2033/34
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
ASSETS									
Plant in Service	33 553	34 299	34 958	35 790	36 566	37 361	38 104	38 907	39 975
Accumulated Depreciation	(6 906)	(7 603)	(8 311)	(9 040)	(9 788)	(10 577)	(11 366)	(12 168)	(12 975)
Net Plant in Service	26 647	26 696	26 647	26 749	26 778	26 785	26 739	26 739	26 999
Construction in Progress	493	454	490	400	374	366	406	461	257
Current and Other Assets	2 234	2 460	2 434	2 154	2 439	2 662	3 385	3 921	4 611
Goodwill and Intangible Assets	1 040	1 001	962	924	885	848	810	773	736
Total Assets before Regulatory Deferral	30 414	30 612	30 533	30 227	30 476	30 660	31 339	31 893	32 603
Regulatory Deferral Balance	1 055	1 014	980	947	916	888	860	832	802
	31 468	31 626	31 513	31 174	31 392	31 548	32 199	32 725	33 405
LIABILITIES AND EQUITY									
Long-Term Debt	24 964	22 566	20 113	21 354	20 923	21 563	20 860	21 279	20 743
Current and Other Liabilities	2 950	5 321	7 336	5 328	5 373	4 128	4 544	3 581	3 667
Provisions	38	37	36	35	34	33	32	31	30
Deferred Revenue	615	624	634	644	654	665	676	687	699
BPIII Reserve Account	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Retained Earnings	3 193	3 369	3 685	4 105	4 700	5 451	6 379	7 438	8 558
Accumulated Other Comprehensive Income	(341)	(341)	(341)	(341)	(341)	(341)	(341)	(341)	(341)
Total Liabilities and Equity before Regulatory Deferral	31 419	31 577	31 464	31 125	31 343	31 499	32 150	32 676	33 356
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49
	31 468	31 626	31 513	31 174	31 392	31 548	32 199	32 725	33 405
Net Debt	24 153	23 892	23 477	22 979	22 299	21 460	20 431	19 335	18 175
Total Equity	3 578	3 760	4 083	4 511	5 114	5 873	6 810	7 879	9 009
Equity Ratio	13%	14%	15%	16%	19%	21%	25%	29%	33%

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED CASH FLOW STATEMENT
75/25 in 2033/34
(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
OPERATING ACTIVITIES										
Cash Receipts from Customers	2 160	2 183	2 188	2 389	2 597	2 757	2 846	2 960	2 929	3 048
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(952)	(966)
Interest Paid	(531)	(635)	(703)	(770)	(852)	(1 101)	(1 166)	(1 171)	(1 168)	(1 180)
Interest Received	5	11	22	26	19	8	6	9	6	10
	742	716	637	759	870	760	751	845	815	912
FINANCING ACTIVITIES										
Proceeds from Long-Term Debt	3 478	3 590	2 360	2 390	1 190	1 570	180	390	950	990
Sinking Fund Withdrawals	0	0	120	318	813	182	52	348	152	249
Sinking Fund Payment	(182)	(222)	(260)	(296)	(353)	(246)	(259)	(267)	(262)	(269)
Retirement of Long-Term Debt	(407)	(1 002)	(349)	(1 293)	(1 366)	(1 141)	(290)	(412)	(715)	(1 178)
Other	(10)	(10)	(11)	(11)	(11)	11	(5)	(5)	(5)	(5)
	2 879	2 356	1 861	1 108	273	376	(321)	54	120	(213)
INVESTING ACTIVITIES										
Property, Plant and Equipment, net of contributions	(3 660)	(3 002)	(2 391)	(1 760)	(1 368)	(898)	(700)	(704)	(732)	(756)
Other	(89)	(57)	(46)	(89)	(109)	(99)	(96)	(96)	(82)	(81)
	(3 749)	(3 059)	(2 438)	(1 850)	(1 477)	(997)	(796)	(800)	(814)	(838)
Net Increase (Decrease) in Cash	(128)	13	60	17	(334)	139	(366)	100	121	(139)
Cash at Beginning of Year	634	506	519	578	595	261	400	34	134	255
Cash at End of Year	506	519	578	595	261	400	34	134	255	116

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED CASH FLOW STATEMENT
75/25 in 2033/34
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
OPERATING ACTIVITIES									
Cash Receipts from Customers	3 160	3 300	3 453	3 606	3 766	3 937	4 117	4 240	4 278
Cash Paid to Suppliers and Employees	(980)	(996)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 087)	(1 096)
Interest Paid	(1 184)	(1 190)	(1 182)	(1 181)	(1 147)	(1 141)	(1 114)	(1 083)	(1 034)
Interest Received	17	26	29	20	13	25	37	50	53
	1 013	1 141	1 288	1 410	1 602	1 777	1 976	2 121	2 201
FINANCING ACTIVITIES									
Proceeds from Long-Term Debt	390	(10)	1 980	3 580	1 950	1 740	760	910	(40)
Sinking Fund Withdrawals	150	60	310	707	0	30	0	10	475
Sinking Fund Payment	(268)	(275)	(280)	(275)	(252)	(258)	(261)	(268)	(272)
Retirement of Long-Term Debt	(150)	(60)	(2 450)	(4 386)	(2 373)	(2 384)	(1 093)	(1 497)	(455)
Other	(5)	(5)	(5)	(5)	(5)	(7)	(4)	(4)	(5)
	117	(290)	(446)	(378)	(680)	(879)	(598)	(849)	(297)
INVESTING ACTIVITIES									
Property, Plant and Equipment, net of contributions	(767)	(798)	(793)	(832)	(840)	(857)	(870)	(948)	(966)
Other	(80)	(74)	(72)	(73)	(72)	(71)	(70)	(68)	(67)
	(847)	(873)	(864)	(905)	(913)	(928)	(940)	(1 016)	(1 033)
Net Increase (Decrease) in Cash	284	(22)	(22)	127	10	(29)	438	256	871
Cash at Beginning of Year	116	399	378	355	483	492	463	901	1 157
Cash at End of Year	399	378	355	483	492	463	901	1 157	2 028

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED OPERATING STATEMENT
75/25 in 2031/32
(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
REVENUES										
General Consumers at approved rates	1 578	1 565	1 551	1 537	1 544	1 542	1 542	1 553	1 567	1 583
additional*	50	144	221	298	383	470	561	661	768	883
BPIII Reserve Account	(117)	10	70	70	70	70	23	0	0	0
Extraprovincial	514	469	420	567	693	779	788	805	667	671
Other	30	31	31	33	33	34	34	35	35	36
	<u>2 055</u>	<u>2 220</u>	<u>2 293</u>	<u>2 504</u>	<u>2 724</u>	<u>2 894</u>	<u>2 949</u>	<u>3 053</u>	<u>3 037</u>	<u>3 172</u>
EXPENSES										
Operating and Administrative	518	501	511	513	524	536	548	559	571	583
Finance Expense	587	676	747	824	899	1 146	1 184	1 183	1 171	1 173
Finance Income	(17)	(21)	(28)	(35)	(34)	(38)	(14)	(13)	(14)	(16)
Depreciation and Amortization	396	471	515	555	597	689	714	726	739	752
Water Rentals and Assessments	130	120	110	113	117	127	128	131	131	131
Fuel and Power Purchased	124	140	158	165	156	140	135	138	127	129
Capital and Other Taxes	132	145	154	161	165	174	175	175	175	175
Other Expenses	116	109	481	94	92	71	64	67	71	76
Corporate Allocation	8	8	8	8	8	8	8	8	8	8
	<u>1 995</u>	<u>2 150</u>	<u>2 657</u>	<u>2 399</u>	<u>2 524</u>	<u>2 854</u>	<u>2 942</u>	<u>2 974</u>	<u>2 979</u>	<u>3 011</u>
Net Income before Net Movement in Reg. Deferral	60	70	(364)	105	200	40	7	79	58	160
Net Movement in Regulatory Deferral	72	114	464	71	64	43	(48)	(50)	(49)	(45)
Net Income	<u>131</u>	<u>184</u>	<u>101</u>	<u>176</u>	<u>264</u>	<u>83</u>	<u>(41)</u>	<u>30</u>	<u>9</u>	<u>115</u>
Net Income Attributable to:										
Manitoba Hydro	140	185	98	171	255	73	(52)	26	7	112
Non-controlling Interest	(8)	(1)	2	5	9	10	11	3	2	3
* Additional General Consumers Revenue										
Percent Increase	4.53%	4.53%	4.53%	4.53%	4.53%	4.53%	4.53%	4.53%	4.53%	4.53%
Cumulative Percent Increase	4.53%	9.27%	14.23%	19.40%	24.82%	30.48%	36.39%	42.57%	49.04%	55.80%
Financial Ratios										
Equity	15%	14%	14%	14%	15%	14%	14%	14%	14%	15%
EBITDA Interest Coverage	1.59	1.68	1.62	1.68	1.77	1.69	1.65	1.73	1.73	1.83
Capital Coverage	1.42	1.42	1.29	1.55	1.84	1.58	1.52	1.52	1.45	1.60

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED OPERATING STATEMENT
75/25 in 2031/32
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
REVENUES									
General Consumers at approved rates	1 599	1 614	1 630	1 647	1 673	1 701	1 729	1 757	1 786
additional*	1 004	1 133	1 270	1 416	1 580	1 672	1 768	1 868	1 972
BPIII Reserve Account	0	0	0	0	0	0	0	0	0
Extraprovincial	662	677	697	709	705	701	696	694	602
Other	36	37	38	38	39	40	40	40	41
	3 302	3 462	3 635	3 811	3 998	4 113	4 232	4 359	4 401
EXPENSES									
Operating and Administrative	595	607	620	633	646	660	674	688	702
Finance Expense	1 169	1 153	1 129	1 120	1 077	1 044	995	936	885
Finance Income	(17)	(21)	(23)	(17)	(17)	(18)	(21)	(24)	(36)
Depreciation and Amortization	765	776	790	805	822	840	857	872	888
Water Rentals and Assessments	132	132	132	133	133	133	134	134	134
Fuel and Power Purchased	131	134	138	147	129	128	134	143	133
Capital and Other Taxes	177	177	178	179	180	181	182	183	190
Other Expenses	79	84	87	87	89	91	92	95	96
Corporate Allocation	8	8	5	3	3	3	3	3	3
	3 037	3 049	3 057	3 090	3 062	3 062	3 050	3 030	2 996
Net Income before Net Movement in Reg. Deferral	265	412	578	721	936	1 051	1 182	1 329	1 405
Net Movement in Regulatory Deferral	(44)	(40)	(35)	(33)	(31)	(28)	(28)	(28)	(30)
Net Income	222	372	543	688	905	1 024	1 154	1 300	1 375
Net Income Attributable to:									
Manitoba Hydro	218	367	536	679	894	1 011	1 140	1 285	1 359
Non-controlling Interest	4	5	8	10	11	13	14	15	16
* Additional General Consumers Revenue									
Percent Increase	4.53%	4.53%	4.53%	4.53%	4.53%	2.00%	2.00%	2.00%	2.00%
Cumulative Percent Increase	62.86%	70.24%	77.96%	86.03%	94.46%	98.35%	102.32%	106.36%	110.49%
Financial Ratios									
Equity	16%	17%	19%	22%	25%	29%	33%	38%	43%
EBITDA Interest Coverage	1.94	2.09	2.28	2.42	2.70	2.88	3.13	3.44	3.71
Capital Coverage	1.75	1.91	2.19	2.29	2.58	2.72	2.88	2.81	2.87

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED BALANCE SHEET
75/25 in 2031/32
(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ASSETS										
Plant in Service	13 679	19 062	19 684	20 747	26 168	30 504	31 034	31 670	32 334	32 945
Accumulated Depreciation	(1 301)	(1 731)	(2 178)	(2 616)	(3 125)	(3 705)	(4 328)	(4 942)	(5 607)	(6 212)
Net Plant in Service	12 378	17 332	17 506	18 131	23 043	26 799	26 706	26 727	26 727	26 732
Construction in Progress	9 471	6 745	7 522	8 012	3 836	367	454	418	414	411
Current and Other Assets	1 938	2 246	2 580	2 683	1 808	1 700	1 646	1 587	1 765	1 818
Goodwill and Intangible Assets	541	782	926	1 348	1 302	1 256	1 211	1 167	1 123	1 081
Total Assets before Regulatory Deferral	24 328	27 105	28 535	30 174	29 988	30 121	30 016	29 899	30 029	30 042
Regulatory Deferral Balance	533	647	1 111	1 182	1 246	1 289	1 241	1 192	1 143	1 098
	24 862	27 752	29 646	31 357	31 234	31 410	31 257	31 091	31 172	31 140
LIABILITIES AND EQUITY										
Long-Term Debt	18 151	21 376	22 389	23 394	23 248	24 480	24 151	23 663	23 202	24 044
Current and Other Liabilities	3 643	3 046	3 816	4 357	4 147	3 028	3 182	3 466	3 991	2 995
Provisions	50	49	48	46	45	43	42	41	40	39
Deferred Revenue	465	491	520	542	551	561	571	582	593	603
BPIII Reserve Account	314	303	233	163	93	23	(0)	(0)	(0)	(0)
Retained Earnings	2 889	3 073	3 171	3 342	3 597	3 670	3 618	3 644	3 651	3 764
Accumulated Other Comprehensive Income	(699)	(636)	(580)	(537)	(496)	(444)	(355)	(354)	(354)	(354)
Total Liabilities and Equity before Regulatory Deferral	24 813	27 703	29 597	31 308	31 186	31 361	31 209	31 042	31 123	31 091
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49	49
	24 862	27 752	29 646	31 357	31 234	31 410	31 257	31 091	31 172	31 140
Net Debt	18 460	20 765	22 524	23 581	24 143	24 266	24 153	24 023	23 913	23 706
Total Equity	3 176	3 489	3 651	3 857	4 127	3 897	3 932	3 974	3 995	4 121
Equity Ratio	15%	14%	14%	14%	15%	14%	14%	14%	14%	15%

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED BALANCE SHEET
75/25 in 2031/32
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
ASSETS									
Plant in Service	33 553	34 299	34 958	35 790	36 566	37 361	38 104	38 907	39 975
Accumulated Depreciation	(6 906)	(7 603)	(8 311)	(9 040)	(9 788)	(10 577)	(11 366)	(12 168)	(12 975)
Net Plant in Service	26 647	26 696	26 647	26 749	26 778	26 785	26 739	26 739	26 999
Construction in Progress	493	454	490	400	374	366	406	461	257
Current and Other Assets	2 214	2 631	2 426	2 198	2 379	2 661	3 381	3 942	4 873
Goodwill and Intangible Assets	1 040	1 001	962	924	885	848	810	773	736
Total Assets before Regulatory Deferral	30 393	30 782	30 525	30 271	30 416	30 659	31 336	31 915	32 866
Regulatory Deferral Balance	1 055	1 014	980	947	916	888	860	832	802
	31 448	31 797	31 505	31 218	31 332	31 547	32 196	32 746	33 667
LIABILITIES AND EQUITY									
Long-Term Debt	24 177	21 779	18 926	19 966	19 136	19 763	18 660	18 879	18 543
Current and Other Liabilities	2 942	5 313	7 330	5 315	5 356	3 924	4 526	3 562	3 450
Provisions	38	37	36	35	34	33	32	31	30
Deferred Revenue	615	624	634	644	654	665	676	687	699
BPIII Reserve Account	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Retained Earnings	3 981	4 348	4 884	5 563	6 456	7 467	8 607	9 892	11 250
Accumulated Other Comprehensive Income	(354)	(354)	(354)	(354)	(354)	(354)	(354)	(354)	(354)
Total Liabilities and Equity before Regulatory Deferral	31 399	31 748	31 456	31 169	31 283	31 498	32 147	32 697	33 619
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49
	31 448	31 797	31 505	31 218	31 332	31 547	32 196	32 746	33 667
Net Debt	23 386	22 935	22 298	21 548	20 572	19 474	18 235	16 913	15 513
Total Equity	4 353	4 726	5 269	5 955	6 857	7 877	9 025	10 319	11 688
Equity Ratio	16%	17%	19%	22%	25%	29%	33%	38%	43%

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED CASH FLOW STATEMENT
75/25 in 2031/32
(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
OPERATING ACTIVITIES										
Cash Receipts from Customers	2 165	2 198	2 212	2 422	2 641	2 812	2 913	3 040	3 024	3 159
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(952)	(966)
Interest Paid	(531)	(635)	(700)	(770)	(848)	(1 092)	(1 157)	(1 157)	(1 148)	(1 150)
Interest Received	5	11	22	26	20	8	5	7	7	9
	747	732	664	793	919	824	826	938	930	1 051
FINANCING ACTIVITIES										
Proceeds from Long-Term Debt	3 478	3 590	2 360	2 390	990	1 570	180	190	750	990
Sinking Fund Withdrawals	0	0	120	318	813	182	50	346	149	245
Sinking Fund Payment	(182)	(222)	(260)	(296)	(353)	(244)	(257)	(264)	(259)	(263)
Retirement of Long-Term Debt	(407)	(1 002)	(349)	(1 293)	(1 366)	(1 141)	(290)	(412)	(715)	(1 178)
Other	(10)	(10)	(11)	(11)	(11)	11	(5)	(5)	(5)	(5)
	2 879	2 356	1 861	1 108	73	378	(321)	(145)	(79)	(211)
INVESTING ACTIVITIES										
Property, Plant and Equipment, net of contributions	(3 660)	(3 002)	(2 391)	(1 760)	(1 368)	(898)	(700)	(704)	(732)	(756)
Other	(89)	(57)	(46)	(89)	(109)	(99)	(96)	(96)	(82)	(81)
	(3 749)	(3 059)	(2 438)	(1 850)	(1 477)	(997)	(796)	(800)	(814)	(838)
Net Increase (Decrease) in Cash	(123)	28	87	51	(485)	204	(291)	(7)	37	3
Cash at Beginning of Year	634	511	540	627	678	193	397	107	100	136
Cash at End of Year	511	540	627	678	193	397	107	100	136	140

i. 75/25 in 2035/36; 33/34; 31/32; 26/27; 21/22 (Pages 1 to 30)

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED CASH FLOW STATEMENT
75/25 in 2031/32
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
OPERATING ACTIVITIES									
Cash Receipts from Customers	3 289	3 448	3 622	3 797	3 983	4 099	4 218	4 344	4 386
Cash Paid to Suppliers and Employees	(980)	(996)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 087)	(1 097)
Interest Paid	(1 149)	(1 149)	(1 132)	(1 118)	(1 068)	(1 043)	(1 003)	(961)	(906)
Interest Received	15	28	32	18	13	24	36	49	58
	<u>1 175</u>	<u>1 332</u>	<u>1 509</u>	<u>1 663</u>	<u>1 898</u>	<u>2 036</u>	<u>2 186</u>	<u>2 346</u>	<u>2 442</u>
FINANCING ACTIVITIES									
Proceeds from Long-Term Debt	190	(10)	1 580	3 380	1 550	1 540	360	710	(40)
Sinking Fund Withdrawals	150	60	310	665	0	30	0	10	475
Sinking Fund Payment	(261)	(266)	(272)	(261)	(238)	(239)	(240)	(244)	(245)
Retirement of Long-Term Debt	(150)	(60)	(2 450)	(4 386)	(2 373)	(2 384)	(906)	(1 497)	(455)
Other	(5)	(5)	(5)	(5)	(5)	(7)	(4)	(4)	(5)
	<u>(76)</u>	<u>(281)</u>	<u>(837)</u>	<u>(607)</u>	<u>(1 066)</u>	<u>(1 060)</u>	<u>(790)</u>	<u>(1 025)</u>	<u>(270)</u>
INVESTING ACTIVITIES									
Property, Plant and Equipment, net of contributions	(767)	(798)	(793)	(832)	(840)	(857)	(870)	(948)	(966)
Other	(80)	(74)	(72)	(73)	(72)	(71)	(70)	(68)	(67)
	<u>(847)</u>	<u>(873)</u>	<u>(864)</u>	<u>(905)</u>	<u>(913)</u>	<u>(928)</u>	<u>(940)</u>	<u>(1 016)</u>	<u>(1 033)</u>
Net Increase (Decrease) in Cash	251	178	(192)	151	(81)	48	457	305	1 139
Cash at Beginning of Year	140	391	568	376	527	446	494	952	1 257
Cash at End of Year	<u>391</u>	<u>568</u>	<u>376</u>	<u>527</u>	<u>446</u>	<u>494</u>	<u>952</u>	<u>1 257</u>	<u>2 396</u>

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED OPERATING STATEMENT
75/25 in 2026/27
(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
REVENUES										
General Consumers at approved rates	1 578	1 565	1 551	1 537	1 544	1 542	1 542	1 553	1 567	1 583
additional*	73	213	328	448	582	722	872	1 038	1 220	1 419
BPIII Reserve Account	(119)	9	71	71	71	71	24	0	0	0
Extraprovincial	514	469	420	567	693	779	788	805	667	671
Other	30	31	31	33	33	34	34	35	35	36
	<u>2 076</u>	<u>2 287</u>	<u>2 402</u>	<u>2 655</u>	<u>2 924</u>	<u>3 147</u>	<u>3 259</u>	<u>3 430</u>	<u>3 489</u>	<u>3 708</u>
EXPENSES										
Operating and Administrative	518	501	511	513	524	536	548	559	571	583
Finance Expense	587	674	742	814	878	1 114	1 141	1 125	1 093	1 057
Finance Income	(17)	(21)	(29)	(35)	(33)	(38)	(16)	(19)	(22)	(20)
Depreciation and Amortization	396	471	515	555	597	689	714	726	739	752
Water Rentals and Assessments	130	120	110	113	117	127	128	131	131	131
Fuel and Power Purchased	124	140	158	165	156	140	135	138	127	129
Capital and Other Taxes	132	145	154	161	165	174	175	175	175	176
Other Expenses	116	109	481	94	92	71	64	67	71	76
Corporate Allocation	8	8	8	8	8	8	8	8	8	8
	<u>1 995</u>	<u>2 147</u>	<u>2 652</u>	<u>2 389</u>	<u>2 504</u>	<u>2 822</u>	<u>2 896</u>	<u>2 910</u>	<u>2 893</u>	<u>2 892</u>
Net Income before Net Movement in Reg. Deferral	81	139	(251)	266	420	325	363	520	596	816
Net Movement in Regulatory Deferral	72	114	464	71	64	43	(48)	(50)	(49)	(45)
Net Income	<u>153</u>	<u>253</u>	<u>214</u>	<u>337</u>	<u>483</u>	<u>367</u>	<u>315</u>	<u>471</u>	<u>547</u>	<u>771</u>
Net Income Attributable to:										
Manitoba Hydro	161	254	211	332	475	357	304	468	545	768
Non-controlling Interest	(8)	(1)	2	5	9	10	11	3	2	3
* Additional General Consumers Revenue										
Percent Increase	6.61%	6.61%	6.61%	6.61%	6.61%	6.61%	6.61%	6.61%	6.61%	6.61%
Cumulative Percent Increase	6.61%	13.66%	21.18%	29.19%	37.73%	46.84%	56.55%	66.90%	77.93%	89.70%
Financial Ratios										
Equity	15%	15%	15%	15%	17%	17%	18%	20%	22%	25%
EBITDA Interest Coverage	1.61	1.75	1.73	1.83	1.98	1.96	1.98	2.16	2.28	2.54
Capital Coverage	1.47	1.55	1.50	1.86	2.27	2.13	2.17	2.23	2.29	2.58

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED OPERATING STATEMENT
75/25 in 2026/27
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
REVENUES									
General Consumers at approved rates	1 599	1 614	1 630	1 647	1 673	1 701	1 729	1 757	1 786
additional*	1 494	1 571	1 651	1 734	1 831	1 932	2 037	2 147	2 261
BPIII Reserve Account	0	0	0	0	0	0	0	0	0
Extraprovincial	662	677	697	709	705	701	696	694	602
Other	36	37	38	38	39	40	40	40	41
	<u>3 792</u>	<u>3 899</u>	<u>4 016</u>	<u>4 129</u>	<u>4 248</u>	<u>4 373</u>	<u>4 501</u>	<u>4 638</u>	<u>4 690</u>
EXPENSES									
Operating and Administrative	595	607	620	633	646	660	674	688	702
Finance Expense	1 038	1 021	996	881	801	730	655	574	514
Finance Income	(33)	(57)	(74)	(22)	(23)	(19)	(25)	(34)	(63)
Depreciation and Amortization	765	776	790	805	822	840	857	872	888
Water Rentals and Assessments	132	132	132	133	133	133	134	134	134
Fuel and Power Purchased	131	134	138	147	129	128	134	143	133
Capital and Other Taxes	177	178	178	179	180	181	183	184	190
Other Expenses	79	84	87	87	89	91	92	95	96
Corporate Allocation	8	8	5	3	3	3	3	3	3
	<u>2 891</u>	<u>2 883</u>	<u>2 873</u>	<u>2 846</u>	<u>2 781</u>	<u>2 748</u>	<u>2 705</u>	<u>2 658</u>	<u>2 598</u>
Net Income before Net Movement in Reg. Deferral	901	1 016	1 143	1 283	1 468	1 625	1 796	1 979	2 092
Net Movement in Regulatory Deferral	(44)	(40)	(35)	(33)	(31)	(28)	(28)	(28)	(30)
Net Income	<u>857</u>	<u>976</u>	<u>1 109</u>	<u>1 250</u>	<u>1 437</u>	<u>1 598</u>	<u>1 768</u>	<u>1 951</u>	<u>2 062</u>
Net Income Attributable to:									
Manitoba Hydro	853	971	1 101	1 241	1 426	1 585	1 754	1 936	2 046
Non-controlling Interest	4	5	8	10	11	13	14	15	16
* Additional General Consumers Revenue									
Percent Increase	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Cumulative Percent Increase	93.49%	97.36%	101.31%	105.34%	109.44%	113.63%	117.91%	122.26%	126.71%
Financial Ratios									
Equity	28%	32%	36%	41%	46%	52%	58%	66%	73%
EBITDA Interest Coverage	2.68	2.88	3.12	3.45	3.96	4.48	5.20	6.20	7.42
Capital Coverage	2.69	2.78	3.01	3.04	3.31	3.49	3.69	3.58	3.67

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED BALANCE SHEET
75/25 in 2026/27
(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ASSETS										
Plant in Service	13 679	19 062	19 684	20 747	26 168	30 504	31 034	31 670	32 334	32 945
Accumulated Depreciation	(1 301)	(1 731)	(2 178)	(2 616)	(3 125)	(3 705)	(4 328)	(4 942)	(5 607)	(6 212)
Net Plant in Service	12 378	17 332	17 506	18 131	23 043	26 799	26 706	26 727	26 727	26 732
Construction in Progress	9 471	6 745	7 522	8 012	3 836	367	454	418	414	411
Current and Other Assets	1 961	2 138	2 583	2 645	1 785	1 761	1 863	2 042	1 954	2 259
Goodwill and Intangible Assets	541	782	926	1 348	1 302	1 256	1 211	1 167	1 123	1 081
Total Assets before Regulatory Deferral	24 351	26 996	28 538	30 136	29 965	30 182	30 233	30 354	30 218	30 483
Regulatory Deferral Balance	533	647	1 111	1 182	1 246	1 289	1 241	1 192	1 143	1 098
	24 885	27 643	29 649	31 319	31 212	31 471	31 474	31 545	31 361	31 581
LIABILITIES AND EQUITY										
Long-Term Debt	18 151	21 176	22 189	22 994	22 648	23 687	23 171	22 483	21 222	21 664
Current and Other Liabilities	3 643	3 044	3 813	4 352	4 138	3 019	3 173	3 454	3 975	2 975
Provisions	50	49	48	46	45	43	42	41	40	39
Deferred Revenue	465	491	520	542	551	561	571	582	593	603
BPIII Reserve Account	315	306	235	165	94	24	(0)	(0)	(0)	(0)
Retained Earnings	2 910	3 164	3 375	3 707	4 182	4 539	4 843	5 311	5 856	6 624
Accumulated Other Comprehensive Income	(699)	(636)	(580)	(537)	(496)	(451)	(375)	(374)	(374)	(374)
Total Liabilities and Equity before Regulatory Deferral	24 836	27 595	29 600	31 270	31 163	31 422	31 426	31 496	31 312	31 532
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49	49
	24 885	27 643	29 649	31 319	31 212	31 471	31 474	31 545	31 361	31 581
Net Debt	18 436	20 673	22 321	23 220	23 566	23 412	22 956	22 388	21 744	20 886
Total Equity	3 199	3 583	3 857	4 223	4 713	4 760	5 138	5 620	6 179	6 962
Equity Ratio	15%	15%	15%	15%	17%	17%	18%	20%	22%	25%

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED BALANCE SHEET
75/25 in 2026/27
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
ASSETS									
Plant in Service	33 553	34 299	34 958	35 790	36 566	37 361	38 104	38 907	39 975
Accumulated Depreciation	(6 906)	(7 603)	(8 311)	(9 040)	(9 788)	(10 577)	(11 366)	(12 168)	(12 975)
Net Plant in Service	26 647	26 696	26 647	26 749	26 778	26 785	26 739	26 739	26 999
Construction in Progress	493	454	490	400	374	366	406	461	257
Current and Other Assets	3 087	4 108	3 065	2 186	2 302	2 555	3 680	4 279	6 098
Goodwill and Intangible Assets	1 040	1 001	962	924	885	848	810	773	736
Total Assets before Regulatory Deferral	31 267	32 259	31 165	30 259	30 339	30 553	31 635	32 252	34 090
Regulatory Deferral Balance	1 055	1 014	980	947	916	888	860	832	802
	32 321	33 274	32 144	31 206	31 255	31 442	32 495	33 083	34 892
LIABILITIES AND EQUITY									
Long-Term Debt	21 596	19 199	15 146	14 786	13 555	13 570	12 260	11 879	11 743
Current and Other Liabilities	2 919	5 290	7 104	5 276	5 121	3 698	4 298	3 322	3 209
Provisions	38	37	36	35	34	33	32	31	30
Deferred Revenue	615	624	634	644	654	665	676	687	699
BPIII Reserve Account	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Retained Earnings	7 478	8 448	9 549	10 790	12 216	13 800	15 554	17 490	19 536
Accumulated Other Comprehensive Income	(374)	(374)	(374)	(374)	(374)	(374)	(374)	(374)	(374)
Total Liabilities and Equity before Regulatory Deferral	32 272	33 225	32 096	31 158	31 206	31 393	32 446	33 035	34 843
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49
	32 321	33 274	32 144	31 206	31 255	31 442	32 495	33 083	34 892
Net Debt	19 933	18 877	17 678	16 380	14 869	13 198	11 342	9 376	7 288
Total Equity	7 830	8 806	9 915	11 163	12 597	14 190	15 952	17 897	19 953
Equity Ratio	28%	32%	36%	41%	46%	52%	58%	66%	73%

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED CASH FLOW STATEMENT
75/25 in 2026/27
(In Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
OPERATING ACTIVITIES										
Cash Receipts from Customers	2 188	2 266	2 320	2 572	2 841	3 064	3 224	3 418	3 476	3 695
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(952)	(966)
Interest Paid	(531)	(635)	(696)	(762)	(831)	(1 060)	(1 114)	(1 102)	(1 074)	(1 039)
Interest Received	5	11	22	26	19	8	8	13	15	13
	771	800	776	951	1 135	1 107	1 183	1 375	1 465	1 703
FINANCING ACTIVITIES										
Proceeds from Long-Term Debt	3 478	3 390	2 360	2 190	790	1 370	(20)	(10)	(50)	590
Sinking Fund Withdrawals	0	0	120	318	813	182	44	337	138	232
Sinking Fund Payment	(182)	(222)	(260)	(296)	(353)	(238)	(248)	(253)	(245)	(242)
Retirement of Long-Term Debt	(407)	(1 002)	(349)	(1 293)	(1 366)	(1 141)	(290)	(412)	(715)	(1 178)
Other	(10)	(10)	(11)	(11)	(11)	11	(5)	(5)	(5)	(5)
	2 879	2 156	1 861	908	(127)	184	(519)	(342)	(877)	(603)
INVESTING ACTIVITIES										
Property, Plant and Equipment, net of contributions	(3 660)	(3 002)	(2 391)	(1 760)	(1 368)	(898)	(700)	(704)	(732)	(756)
Other	(89)	(57)	(46)	(89)	(109)	(99)	(96)	(96)	(82)	(81)
	(3 749)	(3 059)	(2 438)	(1 850)	(1 477)	(997)	(796)	(800)	(814)	(838)
Net Increase (Decrease) in Cash	(99)	(103)	199	10	(469)	294	(132)	233	(227)	262
Cash at Beginning of Year	634	534	431	630	639	170	464	332	565	339
Cash at End of Year	534	431	630	639	170	464	332	565	339	601

ELECTRIC OPERATIONS (MH16 UPDATE)
PROJECTED CASH FLOW STATEMENT
75/25 in 2026/27
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
OPERATING ACTIVITIES									
Cash Receipts from Customers	3 778	3 886	4 002	4 115	4 234	4 359	4 487	4 623	4 676
Cash Paid to Suppliers and Employees	(980)	(996)	(1 013)	(1 035)	(1 030)	(1 043)	(1 064)	(1 087)	(1 097)
Interest Paid	(1 021)	(1 015)	(998)	(893)	(789)	(729)	(655)	(597)	(527)
Interest Received	30	61	80	24	18	22	35	51	79
	<u>1 808</u>	<u>1 935</u>	<u>2 072</u>	<u>2 211</u>	<u>2 433</u>	<u>2 609</u>	<u>2 804</u>	<u>2 991</u>	<u>3 130</u>
FINANCING ACTIVITIES									
Proceeds from Long-Term Debt	(10)	(10)	180	1 980	950	740	(40)	(90)	(40)
Sinking Fund Withdrawals	150	60	310	520	0	30	0	10	275
Sinking Fund Payment	(237)	(239)	(243)	(218)	(186)	(180)	(171)	(170)	(163)
Retirement of Long-Term Debt	(150)	(60)	(2 450)	(4 186)	(2 373)	(2 185)	(719)	(1 304)	(255)
Other	(5)	(5)	(5)	(5)	(5)	(7)	(4)	(4)	(5)
	<u>(252)</u>	<u>(254)</u>	<u>(2 208)</u>	<u>(1 909)</u>	<u>(1 614)</u>	<u>(1 601)</u>	<u>(934)</u>	<u>(1 559)</u>	<u>(188)</u>
INVESTING ACTIVITIES									
Property, Plant and Equipment, net of contributions	(767)	(798)	(793)	(832)	(840)	(857)	(870)	(948)	(966)
Other	(80)	(74)	(72)	(73)	(72)	(71)	(70)	(68)	(67)
	<u>(847)</u>	<u>(873)</u>	<u>(864)</u>	<u>(905)</u>	<u>(913)</u>	<u>(928)</u>	<u>(940)</u>	<u>(1 016)</u>	<u>(1 033)</u>
Net Increase (Decrease) in Cash	709	809	(1 001)	(602)	(94)	79	930	416	1 909
Cash at Beginning of Year	601	1 309	2 118	1 117	515	421	500	1 430	1 847
Cash at End of Year	<u>1 309</u>	<u>2 118</u>	<u>1 117</u>	<u>515</u>	<u>421</u>	<u>500</u>	<u>1 430</u>	<u>1 847</u>	<u>3 755</u>

REFERENCE:

PUB MFR 51 Updated, PUB MFR 73 Updated and Appendix 3.4

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

Please provide the calculation in attachment 1 & 2 for each of the scenarios provided in MFR 73 Update, and include an updated appendix 3.4 based on MH16 update.

RATIONALE FOR QUESTION:**RESPONSE:**

Consistent with PUB MFR 51 Updated, the following schedules (included in Attachment 1) provide (for each of the scenarios from PUB MFR 73 Updated based on the MH16 Update) the following:

- 1) the cash flow from electric operations, forecast electric base capital spending, and net cash flow available to finance each Major Generation & Transmission Project and the electric capital coverage ratio; and,
- 2) the details of the cash flow from operations to capital expenditures ratio.

Attachment 2 provides an updated Appendix 3.4 reflecting the MH16 Update with Interim rate increase followed by MH15 rate increases (3.95% 2019-2029, 2%).

i. 75/25 in 2035/36; 33/34; 31/32; 26/27; 21/22 (pages 2 to 11)

<i>For the year ended March 31</i>	PUB MFR 73 (Updated)								
	2018	2019	2020	75/25 in 2035/36	2022	2023	2024	2025	2026
1 Cash Flow from Operations	738.1	704.0	618.2	733.8	837.2	717.0	697.5	775.7	734.8
2 Business Operations Capital Spending	525.8	516.8	516.0	511.2	499.4	520.7	543.7	615.5	640.5
3 Excess Cash Flow after Business Operations Capital Spending (1-2)	212.3	187.2	102.2	222.6	337.7	196.3	153.8	160.2	94.4
4 Capital Coverage Ratio (1/2)	1.40	1.36	1.20	1.44	1.68	1.38	1.28	1.26	1.15
5 Major New Generation & Transmission	2 483.6	2 122.3	1 270.2	1 064.6	742.5	364.4	74.5	4.5	3.5
6 Financing Required to Fund MNG&T	2 271.3	1 935.2	1 167.9	842.0	404.8	168.1	-	-	-

<i>For the year ended March 31</i>	PUB MFR 73 (Updated)									
	2027	2028	2029	2030	75/25 in 2035/36	2032	2033	2034	2035	2036
1 Cash Flow from Operations	816.0	897.1	1 007.7	1 128.0	1 231.0	1 394.0	1 536.9	1 702.8	1 883.4	1 999.4
2 Business Operations Capital Spending	659.0	670.7	697.3	688.0	726.9	734.5	748.2	759.9	835.0	851.7
3 Excess Cash Flow after Business Operations Capital Spending (1-2)	157.0	226.4	310.4	440.0	504.1	659.5	788.7	942.9	1 048.4	1 147.7
4 Capital Coverage Ratio (1/2)	1.24	1.34	1.45	1.64	1.69	1.90	2.05	2.24	2.26	2.35
5 Major New Generation & Transmission	4.7	-	-	-	-	-	-	-	0.5	1.1
6 Financing Required to Fund MNG&T	-	-	-	-	-	-	-	-	-	-

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES
PUB MFR 73 (Updated)
75/25 in 2035/36
(Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Cash Receipts from Customers	2 156	2 171	2 170	2 364	2 565	2 716	2 797	2 902	2 860	2 968	3 068	3 195	3 333	3 470	3 613	3 764	3 923	4 094	4 185
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(903)	(935)	(953)	(952)	(966)	(980)	(995)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 086)	(1 096)
Interest Paid	(531)	(635)	(704)	(771)	(853)	(1 102)	(1 170)	(1 181)	(1 179)	(1 195)	(1 205)	(1 217)	(1 218)	(1 223)	(1 201)	(1 207)	(1 186)	(1 168)	(1 137)
Add Back Total CEF16 Update Capitalized Interest	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Gross Interest	(890)	(955)	(1 022)	(1 104)	(1 143)	(1 157)	(1 190)	(1 200)	(1 197)	(1 215)	(1 225)	(1 240)	(1 240)	(1 246)	(1 220)	(1 225)	(1 204)	(1 189)	(1 160)
Deduct Capitalized Interest on Major Projects*	162	227	297	315	274	36	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Received	5	11	22	26	19	6	6	8	6	10	14	25	26	19	12	23	28	44	47
CASH FLOW FROM OPERATIONS (Restated)	541	611	597	716	821	698	678	757	717	796	877	984	1 106	1 208	1 375	1 519	1 684	1 862	1 976
Electric PP&E from Cash Flow Statement	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Capitalized Interest Included in PP&E Above	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
CEF16 Update Cash Flows including Deferreds	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
Deduct Major Projects Capex**	(2 612)	(1 973)	(1 384)	(753)	(426)	(205)	(58)	(2)	(1)	(1)	-	-	-	-	-	-	-	-	-
CAPITAL EXPENDITURES	688	709	689	674	652	638	623	683	712	736	747	775	771	809	821	839	851	927	943
CFO to CAPEX RATIO	0.79	0.86	0.87	1.06	1.26	1.09	1.09	1.11	1.01	1.08	1.17	1.27	1.44	1.49	1.67	1.81	1.98	2.01	2.10
Surplus Available to Retire Debt / (Deficiency)	(147)	(98)	(92)	41	169	60	55	74	4	61	130	209	335	399	553	680	833	935	1 033

* Keeyask, MMTP and GNTL

** Bipole III, Keeyask, MMTP and GNTL

<i>For the year ended March 31</i>	PUB MFR 73 (Updated)								
	75/25 in 2033/34								
	2018	2019	2020	2021	2022	2023	2024	2025	2026
1 Cash Flow from Operations	742.1	715.7	636.8	758.8	870.2	760.2	750.9	845.3	815.2
2 Business Operations Capital Spending	525.8	516.8	516.0	511.2	499.4	520.7	543.7	615.5	640.5
3 Excess Cash Flow after Business Operations Capital Spending (1-2)	216.3	198.9	120.8	247.6	370.7	239.5	207.2	229.7	174.8
4 Capital Coverage Ratio (1/2)	1.41	1.38	1.23	1.48	1.74	1.46	1.38	1.37	1.27
5 Major New Generation & Transmission	2 483.6	2 122.3	1 270.2	1 064.6	742.5	364.4	74.5	4.5	3.5
6 Financing Required to Fund MNG&T	2 267.3	1 923.4	1 149.4	817.1	371.8	124.9	-	-	-

<i>For the year ended March 31</i>	PUB MFR 73 (Updated)									
	75/25 in 2033/34									
	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
1 Cash Flow from Operations	911.7	1 013.5	1 140.6	1 288.0	1 410.4	1 602.2	1 777.4	1 976.1	2 120.7	2 201.2
2 Business Operations Capital Spending	659.0	670.7	697.3	688.0	726.9	734.5	748.2	759.9	835.0	851.7
3 Excess Cash Flow after Business Operations Capital Spending (1-2)	252.7	342.7	443.2	600.0	683.4	867.7	1 029.1	1 216.2	1 285.7	1 349.5
4 Capital Coverage Ratio (1/2)	1.38	1.51	1.64	1.87	1.94	2.18	2.38	2.60	2.54	2.58
5 Major New Generation & Transmission	4.7	-	-	-	-	-	-	-	0.5	1.1
6 Financing Required to Fund MNG&T	-	-	-	-	-	-	-	-	-	-

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES
PUB MFR 73 (Updated)
75/25 in 2033/34
(Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Cash Receipts from Customers	2 160	2 183	2 188	2 389	2 597	2 757	2 846	2 960	2 929	3 048	3 160	3 300	3 453	3 606	3 766	3 937	4 117	4 240	4 278
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(952)	(966)	(980)	(996)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 087)	(1 096)
Interest Paid	(531)	(635)	(703)	(770)	(852)	(1 101)	(1 166)	(1 171)	(1 168)	(1 180)	(1 184)	(1 190)	(1 182)	(1 181)	(1 147)	(1 141)	(1 114)	(1 083)	(1 034)
Add Back Total CEF16 Update Capitalized Interest	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Gross Interest	(890)	(955)	(1 022)	(1 103)	(1 143)	(1 156)	(1 185)	(1 189)	(1 186)	(1 200)	(1 204)	(1 214)	(1 204)	(1 203)	(1 166)	(1 160)	(1 133)	(1 104)	(1 057)
Deduct Capitalized Interest on Major Projects*	162	227	297	315	274	36	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Received	5	11	22	26	19	8	6	9	6	10	17	26	29	20	13	25	37	50	53
CASH FLOW FROM OPERATIONS (Restated)	545	623	615	741	854	741	732	827	797	892	993	1 117	1 266	1 388	1 583	1 759	1 958	2 099	2 178
Electric PP&E from Cash Flow Statement	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Capitalized Interest Included in PP&E Above	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
CEF16 Update Cash Flows including Deferreds	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
Deduct Major Projects Capex**	(2 612)	(1 973)	(1 384)	(753)	(426)	(205)	(58)	(2)	(1)	(1)	-	-	-	-	-	-	-	-	-
CAPITAL EXPENDITURES	688	709	689	674	652	638	623	683	712	736	747	775	771	809	821	839	851	927	943
CFO to CAPEX RATIO	0.79	0.88	0.89	1.10	1.31	1.16	1.17	1.21	1.12	1.21	1.33	1.44	1.64	1.72	1.93	2.10	2.30	2.27	2.31
Surplus Available to Retire Debt / (Deficiency)	(143)	(86)	(73)	66	202	103	109	143	85	156	247	342	495	579	762	921	1 106	1 173	1 235

* Keeyask, MMTP and GNTL

** Bipole III, Keeyask, MMTP and GNTL

<i>For the year ended March 31</i>	PUB MFR 73 (Updated) 75/25 in 2031/32								
	2018	2019	2020	2021	2022	2023	2024	2025	2026
1 Cash Flow from Operations	747.4	731.5	664.3	792.7	919.4	823.5	826.5	937.7	930.4
2 Business Operations Capital Spending	525.8	516.8	516.0	511.2	499.4	520.7	543.7	615.5	640.5
3 Excess Cash Flow after Business Operations Capital Spending (1-2)	221.7	214.7	148.3	281.5	419.9	302.8	282.7	322.2	289.9
4 Capital Coverage Ratio (1/2)	1.42	1.42	1.29	1.55	1.84	1.58	1.52	1.52	1.45
5 Major New Generation & Transmission	2 483.6	2 122.3	1 270.2	1 064.6	742.5	364.4	74.5	4.5	3.5
6 Financing Required to Fund MNG&T	2 262.0	1 907.7	1 121.8	783.2	322.6	61.6	-	-	-

<i>For the year ended March 31</i>	PUB MFR 73 (Updated) 75/25 in 2031/32									
	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
1 Cash Flow from Operations	1 051.5	1 175.0	1 331.5	1 509.4	1 662.5	1 898.0	2 036.4	2 186.5	2 345.7	2 442.4
2 Business Operations Capital Spending	659.0	670.7	697.3	688.0	726.9	734.5	748.2	759.9	835.0	851.7
3 Excess Cash Flow after Business Operations Capital Spending (1-2)	392.5	504.2	634.2	821.4	935.6	1 163.5	1 288.1	1 426.6	1 510.7	1 590.8
4 Capital Coverage Ratio (1/2)	1.60	1.75	1.91	2.19	2.29	2.58	2.72	2.88	2.81	2.87
5 Major New Generation & Transmission	4.7	-	-	-	-	-	-	-	0.5	1.1
6 Financing Required to Fund MNG&T	-	-	-	-	-	-	-	-	-	-

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES
PUB MFR 73 (Updated)
75/25 in 2031/32
(Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Cash Receipts from Customers	2 165	2 198	2 212	2 422	2 641	2 812	2 913	3 040	3 024	3 159	3 289	3 448	3 622	3 797	3 983	4 099	4 218	4 344	4 386
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(952)	(966)	(980)	(996)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 087)	(1 097)
Interest Paid	(531)	(635)	(700)	(770)	(848)	(1 092)	(1 157)	(1 157)	(1 148)	(1 150)	(1 149)	(1 149)	(1 132)	(1 118)	(1 068)	(1 043)	(1 003)	(961)	(906)
Add Back Total CEF16 Update Capitalized Interest	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Gross Interest	(890)	(955)	(1 018)	(1 103)	(1 138)	(1 147)	(1 176)	(1 175)	(1 166)	(1 170)	(1 169)	(1 173)	(1 154)	(1 140)	(1 087)	(1 061)	(1 022)	(982)	(929)
Deduct Capitalized Interest on Major Projects*	162	227	297	315	274	36	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Received	5	11	22	26	20	8	5	7	7	9	15	28	32	18	13	24	36	49	58
CASH FLOW FROM OPERATIONS (Restated)	550	639	643	774	903	804	807	919	912	1 032	1 155	1 308	1 487	1 640	1 879	2 018	2 168	2 324	2 419
Electric PP&E from Cash Flow Statement	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Capitalized Interest Included in PP&E Above	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
CEF16 Update Cash Flows including Deferreds	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
Deduct Major Projects Capex**	(2 612)	(1 973)	(1 384)	(753)	(426)	(205)	(58)	(2)	(1)	(1)	-	-	-	-	-	-	-	-	-
CAPITAL EXPENDITURES	688	709	689	674	652	638	623	683	712	736	747	775	771	809	821	839	851	927	943
CFO to CAPEX RATIO	0.80	0.90	0.93	1.15	1.39	1.26	1.30	1.35	1.28	1.40	1.55	1.69	1.93	2.03	2.29	2.41	2.55	2.51	2.57
Surplus Available to Retire Debt / (Deficiency)	(138)	(71)	(46)	100	252	166	184	236	200	296	408	533	717	831	1 058	1 180	1 317	1 398	1 476

* Keeyask, MMTP and GNTL

** Bipole III, Keeyask, MMTP and GNTL

<i>For the year ended March 31</i>	PUB MFR 73 (Updated) 75/25 in 2026/27								
	2018	2019	2020	2021	2022	2023	2024	2025	2026
1 Cash Flow from Operations	770.6	800.0	775.6	951.4	1 134.9	1 107.2	1 182.6	1 375.3	1 464.8
2 Business Operations Capital Spending	525.8	516.8	516.0	511.2	499.4	520.7	543.7	615.5	640.5
3 Excess Cash Flow after Business Operations Capital Spending (1-2)	244.8	283.1	259.6	440.2	635.5	586.5	638.9	759.8	824.3
4 Capital Coverage Ratio (1/2)	1.47	1.55	1.50	1.86	2.27	2.13	2.17	2.23	2.29
5 Major New Generation & Transmission	2 483.6	2 122.3	1 270.2	1 064.6	742.5	364.4	74.5	4.5	3.5
6 Financing Required to Fund MNG&T	2 238.9	1 839.2	1 010.5	624.5	107.0	-	-	-	-

<i>For the year ended March 31</i>	PUB MFR 73 (Updated) 75/25 in 2026/27									
	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
1 Cash Flow from Operations	1 703.2	1 807.6	1 935.4	2 071.6	2 211.3	2 432.7	2 608.6	2 803.6	2 990.5	3 129.8
2 Business Operations Capital Spending	659.0	670.7	697.3	688.0	726.9	734.5	748.2	759.9	835.0	851.7
3 Excess Cash Flow after Business Operations Capital Spending (1-2)	1 044.3	1 136.8	1 238.1	1 383.6	1 484.4	1 698.2	1 860.4	2 043.7	2 155.6	2 278.2
4 Capital Coverage Ratio (1/2)	2.58	2.69	2.78	3.01	3.04	3.31	3.49	3.69	3.58	3.67
5 Major New Generation & Transmission	4.7	-	-	-	-	-	-	-	0.5	1.1
6 Financing Required to Fund MNG&T	-	-	-	-	-	-	-	-	-	-

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES
PUB MFR 73 (Updated)
75/25 in 2026/27
(Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Cash Receipts from Customers	2 188	2 266	2 320	2 572	2 841	3 064	3 224	3 418	3 476	3 695	3 778	3 886	4 002	4 115	4 234	4 359	4 487	4 623	4 676
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(952)	(966)	(980)	(996)	(1 013)	(1 035)	(1 030)	(1 043)	(1 064)	(1 087)	(1 097)
Interest Paid	(531)	(635)	(696)	(762)	(831)	(1 060)	(1 114)	(1 102)	(1 074)	(1 039)	(1 021)	(1 015)	(998)	(893)	(789)	(729)	(655)	(597)	(527)
Add Back Total CEF16 Update Capitalized Interest	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Gross Interest	(890)	(955)	(1 015)	(1 095)	(1 121)	(1 116)	(1 133)	(1 121)	(1 092)	(1 058)	(1 041)	(1 039)	(1 020)	(915)	(808)	(747)	(674)	(618)	(551)
Deduct Capitalized Interest on Major Projects*	162	227	297	315	274	36	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Received	5	11	22	26	19	8	8	13	15	13	30	61	80	24	18	22	35	51	79
CASH FLOW FROM OPERATIONS (Restated)	573	707	754	933	1 119	1 088	1 163	1 357	1 447	1 684	1 787	1 912	2 050	2 189	2 414	2 590	2 785	2 969	3 106
Electric PP&E from Cash Flow Statement	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Capitalized Interest Included in PP&E Above	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
CEF16 Update Cash Flows including Deferreds	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
Deduct Major Projects Capex**	(2 612)	(1 973)	(1 384)	(753)	(426)	(205)	(58)	(2)	(1)	(1)	-	-	-	-	-	-	-	-	-
CAPITAL EXPENDITURES	688	709	689	674	652	638	623	683	712	736	747	775	771	809	821	839	851	927	943
CFO to CAPEX RATIO	0.83	1.00	1.09	1.38	1.72	1.71	1.87	1.99	2.03	2.29	2.39	2.47	2.66	2.70	2.94	3.09	3.27	3.20	3.29
Surplus Available to Retire Debt / (Deficiency)	(115)	(2)	65	259	467	450	540	674	734	948	1 041	1 137	1 279	1 380	1 592	1 752	1 934	2 043	2 163

* Keeyask, MMTP and GNTL

** Bipole III, Keeyask, MMTP and GNTL

ELECTRIC OPERATIONS
PROJECTED OPERATING STATEMENT
MH16 Update with Interim and MH15 Rate Increases
(In Millions of Dollars)

For the year ended March 31

	ACTUAL	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	2017										
REVENUES											
Domestic Revenue at approved rates	1 515	1 578	1 565	1 551	1 537	1 544	1 542	1 542	1 553	1 567	1 583
additional*	-	37	116	181	247	319	392	469	552	641	735
BPIII Reserve Account	(96)	(151)	3	79	79	79	79	26	-	-	-
Extraprovincial	460	514	469	420	567	693	779	788	805	667	671
Other	28	30	31	31	33	33	34	34	35	35	36
	1 907	2 008	2 184	2 263	2 463	2 670	2 826	2 859	2 944	2 909	3 024
EXPENSES											
Operating and Administrative	536	518	501	511	513	524	536	548	559	571	583
Finance Expense	608	587	677	749	829	905	1 156	1 202	1 204	1 201	1 214
Finance Income	(17)	(17)	(21)	(28)	(35)	(33)	(37)	(15)	(12)	(14)	(16)
Depreciation and Amortization	375	396	471	515	555	597	689	714	726	739	752
Water Rentals and Assessments	131	130	120	110	113	117	127	128	131	131	131
Fuel and Power Purchased	132	124	140	158	165	156	140	135	138	127	129
Capital and Other Taxes	119	132	145	154	161	165	174	174	175	175	175
Other Expenses	60	116	109	481	94	92	71	64	67	71	76
Corporate Allocation	8	8	8	8	8	8	8	8	8	8	8
	1 952	1 995	2 150	2 659	2 404	2 531	2 865	2 959	2 996	3 009	3 052
Net Income before Net Movement in Reg. Deferral	(46)	13	33	(396)	59	139	(39)	(99)	(52)	(100)	(28)
Net Movement in Regulatory Deferral	66	72	114	464	71	64	43	(48)	(50)	(49)	(45)
Non-recurring Gain	20	-	-	-	-	-	-	-	-	-	-
Net Income	41	85	147	69	130	202	3	(147)	(101)	(148)	(73)
Net Income Attributable to:											
Manitoba Hydro before Non-recurring Item	33	93	148	66	125	194	(6)	(158)	(105)	(151)	(76)
Non-recurring Gain	20	-	-	-	-	-	-	-	-	-	-
Manitoba Hydro	53	93	148	66	125	194	(6)	(158)	(105)	(151)	(76)
Non-controlling Interest	(12)	(8)	(1)	2	5	9	10	11	3	2	3
	41	85	147	69	130	202	3	(147)	(101)	(148)	(73)
* Additional Domestic Revenue											
Percent Increase		3.36%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%
Cumulative Percent Increase		3.36%	7.44%	11.69%	16.10%	20.68%	25.45%	30.41%	35.56%	40.91%	46.48%
Financial Ratios											
Equity	16%	15%	14%	14%	14%	14%	13%	13%	12%	12%	12%
EBITDA Interest Coverage	1.51	1.54	1.64	1.59	1.64	1.72	1.62	1.55	1.61	1.58	1.65
Capital Coverage	1.53	1.40	1.36	1.20	1.45	1.70	1.41	1.33	1.31	1.21	1.31

ELECTRIC OPERATIONS
PROJECTED OPERATING STATEMENT
MH16 Update with Interim and MH15 Rate Increases
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
REVENUES									
Domestic Revenue at approved rates	1 599	1 614	1 630	1 647	1 673	1 701	1 729	1 757	1 786
additional*	835	940	1 001	1 065	1 137	1 213	1 291	1 374	1 460
BPIII Reserve Account	-	-	-	-	-	-	-	-	-
Extraprovincial	662	677	697	709	705	701	696	694	602
Other	36	37	38	38	39	40	40	40	41
	<u>3 133</u>	<u>3 269</u>	<u>3 366</u>	<u>3 460</u>	<u>3 555</u>	<u>3 654</u>	<u>3 756</u>	<u>3 865</u>	<u>3 889</u>
EXPENSES									
Operating and Administrative	595	607	620	633	646	660	674	688	702
Finance Expense	1 219	1 206	1 194	1 215	1 200	1 197	1 183	1 155	1 128
Finance Income	(17)	(16)	(16)	(15)	(17)	(17)	(21)	(22)	(23)
Depreciation and Amortization	765	776	790	805	822	840	857	872	888
Water Rentals and Assessments	132	132	132	133	133	133	134	134	134
Fuel and Power Purchased	131	134	138	147	129	128	134	143	133
Capital and Other Taxes	176	177	178	179	180	181	182	183	189
Other Expenses	79	84	87	87	89	91	92	95	96
Corporate Allocation	8	8	5	3	3	3	3	3	3
	<u>3 087</u>	<u>3 108</u>	<u>3 128</u>	<u>3 186</u>	<u>3 185</u>	<u>3 216</u>	<u>3 237</u>	<u>3 251</u>	<u>3 250</u>
Net Income before Net Movement in Reg. Deferral	46	161	238	273	370	438	519	614	639
Net Movement in Regulatory Deferral	(44)	(40)	(35)	(33)	(31)	(28)	(28)	(28)	(30)
Non-recurring Gain	-	-	-	-	-	-	-	-	-
Net Income	<u>2</u>	<u>121</u>	<u>203</u>	<u>241</u>	<u>339</u>	<u>410</u>	<u>490</u>	<u>585</u>	<u>609</u>
Net Income Attributable to:									
Manitoba Hydro before Non-recurring Item	(2)	115	195	231	328	397	476	570	593
Non-recurring Gain	-	-	-	-	-	-	-	-	-
Manitoba Hydro	<u>(2)</u>	<u>115</u>	<u>195</u>	<u>231</u>	<u>328</u>	<u>397</u>	<u>476</u>	<u>570</u>	<u>593</u>
Non-controlling Interest	4	5	8	10	11	13	14	15	16
	<u>2</u>	<u>121</u>	<u>203</u>	<u>241</u>	<u>339</u>	<u>410</u>	<u>490</u>	<u>585</u>	<u>609</u>
* Additional Domestic Revenue									
Percent Increase	3.95%	3.95%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Cumulative Percent Increase	52.26%	58.28%	61.44%	64.67%	67.97%	71.33%	74.75%	78.25%	81.81%
Financial Ratios									
Equity	12%	12%	13%	14%	15%	17%	19%	21%	23%
EBITDA Interest Coverage	1.72	1.83	1.92	1.94	2.05	2.13	2.23	2.35	2.42
Capital Coverage	1.43	1.55	1.70	1.68	1.82	1.90	2.01	1.96	1.97

**ELECTRIC OPERATIONS
PROJECTED BALANCE SHEET**
MH16 Update with Interim and MH15 Rate Increases
(In Millions of Dollars)

For the year ended March 31

	ACTUAL										
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ASSETS											
Plant in Service	13 065	13 679	19 062	19 684	20 747	26 168	30 504	31 034	31 670	32 334	32 945
Accumulated Depreciation	(972)	(1 301)	(1 731)	(2 178)	(2 616)	(3 125)	(3 705)	(4 328)	(4 942)	(5 607)	(6 212)
Net Plant in Service	12 093	12 378	17 332	17 506	18 131	23 043	26 799	26 706	26 727	26 727	26 732
Construction in Progress	7 079	9 471	6 745	7 522	8 012	3 836	367	454	418	414	411
Current and Other Assets	1 773	1 915	2 205	2 496	2 547	1 803	1 597	1 648	1 659	1 879	1 743
Goodwill and Intangible Assets	327	541	782	926	1 348	1 302	1 256	1 211	1 167	1 123	1 081
Total Assets before Regulatory Deferral	21 272	24 305	27 063	28 450	30 039	29 983	30 018	30 019	29 971	30 143	29 968
Regulatory Deferral Balance	462	533	647	1 111	1 182	1 246	1 289	1 241	1 192	1 143	1 098
	21 733	24 839	27 710	29 562	31 221	31 229	31 307	31 260	31 162	31 286	31 066
LIABILITIES AND EQUITY											
Long-Term Debt	15 725	18 141	21 376	22 389	23 394	23 450	24 668	24 547	24 259	23 998	24 840
Current and Other Liabilities	3 204	3 643	3 047	3 816	4 360	4 151	3 033	3 192	3 476	4 001	3 005
Provisions	70	50	49	48	46	45	43	42	41	40	39
Deferred Revenue	450	465	491	520	542	551	561	571	582	593	603
BPIII Reserve Account	196	347	344	265	185	106	26	(0)	(0)	(0)	(0)
Retained Earnings	2 749	2 842	2 990	3 056	3 181	3 375	3 368	3 210	3 106	2 955	2 879
Accumulated Other Comprehensive Income	(709)	(699)	(636)	(580)	(537)	(497)	(443)	(351)	(350)	(349)	(349)
Total Liabilities and Equity before Regulatory Deferral	21 684	24 790	27 662	29 513	31 173	31 180	31 258	31 211	31 113	31 237	31 017
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49	49	49
	21 733	24 839	27 710	29 562	31 221	31 229	31 307	31 260	31 162	31 286	31 066
Net Debt	15 427	18 473	20 806	22 609	23 717	24 349	24 557	24 547	24 547	24 595	24 577
Total Equity	2 856	3 163	3 447	3 567	3 718	3 916	3 600	3 529	3 439	3 302	3 240
Equity Ratio	16%	15%	14%	14%	14%	14%	13%	13%	12%	12%	12%

**ELECTRIC OPERATIONS
PROJECTED BALANCE SHEET**
MH16 Update with Interim and MH15 Rate Increases
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
ASSETS									
Plant in Service	33 553	34 299	34 958	35 790	36 566	37 361	38 104	38 907	39 975
Accumulated Depreciation	(6 906)	(7 603)	(8 311)	(9 040)	(9 788)	(10 577)	(11 366)	(12 168)	(12 975)
Net Plant in Service	26 647	26 696	26 647	26 749	26 778	26 785	26 739	26 739	26 999
Construction in Progress	493	454	490	400	374	366	406	461	257
Current and Other Assets	2 123	2 289	2 140	2 071	2 492	2 358	3 030	3 483	4 446
Goodwill and Intangible Assets	1 040	1 001	962	924	885	848	810	773	736
Total Assets before Regulatory Deferral	30 303	30 440	30 240	30 144	30 530	30 355	30 985	31 456	32 439
Regulatory Deferral Balance	1 055	1 014	980	947	916	888	860	832	802
	31 357	31 454	31 220	31 091	31 446	31 244	31 845	32 287	33 240
LIABILITIES AND EQUITY									
Long-Term Debt	25 172	22 795	20 302	21 962	21 926	22 563	22 280	22 859	23 343
Current and Other Liabilities	2 956	5 307	7 361	5 332	5 386	4 140	4 539	3 821	3 687
Provisions	38	37	36	35	34	33	32	31	30
Deferred Revenue	615	624	634	644	654	665	676	687	699
BPIII Reserve Account	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Retained Earnings	2 877	2 992	3 187	3 418	3 746	4 143	4 619	5 189	5 783
Accumulated Other Comprehensive Income	(349)	(349)	(349)	(349)	(349)	(349)	(349)	(349)	(349)
Total Liabilities and Equity before Regulatory Deferral	31 308	31 406	31 171	31 042	31 397	31 195	31 796	32 238	33 192
Regulatory Deferral Balance	49	49	49	49	49	49	49	49	49
	31 357	31 454	31 220	31 091	31 446	31 244	31 845	32 287	33 240
Net Debt	24 472	24 273	23 979	23 671	23 254	22 767	22 185	21 572	20 940
Total Equity	3 253	3 374	3 577	3 816	4 152	4 557	5 042	5 621	6 224
Equity Ratio	12%	12%	13%	14%	15%	17%	19%	21%	23%

ELECTRIC OPERATIONS
PROJECTED CASH FLOW STATEMENT
 MH16 Update with Interim and MH15 Rate Increases
 (In Millions of Dollars)

For the year ended March 31

	ACTUAL										
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
OPERATING ACTIVITIES											
Cash Receipts from Customers	1 901	2 152	2 170	2 173	2 371	2 577	2 734	2 821	2 931	2 897	3 011
Cash Paid to Suppliers and Employees	(555)	(892)	(843)	(870)	(885)	(894)	(903)	(935)	(953)	(952)	(966)
Interest Paid	(553)	(531)	(635)	(704)	(771)	(853)	(1 102)	(1 170)	(1 178)	(1 178)	(1 191)
Interest Received	17	5	11	22	26	19	7	6	6	6	9
	<u>810</u>	<u>734</u>	<u>703</u>	<u>621</u>	<u>742</u>	<u>850</u>	<u>736</u>	<u>722</u>	<u>807</u>	<u>773</u>	<u>863</u>
FINANCING ACTIVITIES											
Proceeds from Long-Term Debt	2 166	3 468	3 600	2 360	2 390	1 190	1 560	390	390	950	990
Sinking Fund Withdrawals	146	0	0	120	318	813	182	52	348	153	250
Sinking Fund Payment	(146)	(182)	(222)	(260)	(296)	(353)	(246)	(259)	(268)	(264)	(271)
Retirement of Long-Term Debt	(320)	(407)	(1 002)	(349)	(1 293)	(1 366)	(1 141)	(290)	(412)	(715)	(1 178)
Other	(5)	(10)	(10)	(11)	(11)	(11)	11	(5)	(5)	(5)	(5)
	<u>1 841</u>	<u>2 869</u>	<u>2 366</u>	<u>1 861</u>	<u>1 108</u>	<u>273</u>	<u>366</u>	<u>(111)</u>	<u>53</u>	<u>119</u>	<u>(213)</u>
INVESTING ACTIVITIES											
Property, Plant and Equipment, net of contributions	(2 925)	(3 660)	(3 002)	(2 391)	(1 760)	(1 368)	(898)	(700)	(704)	(732)	(756)
Other	(35)	(89)	(57)	(46)	(89)	(109)	(99)	(96)	(96)	(82)	(81)
	<u>(2 960)</u>	<u>(3 749)</u>	<u>(3 059)</u>	<u>(2 438)</u>	<u>(1 850)</u>	<u>(1 477)</u>	<u>(997)</u>	<u>(796)</u>	<u>(800)</u>	<u>(814)</u>	<u>(838)</u>
Net Increase (Decrease) in Cash	(309)	(145)	10	44	(0)	(354)	105	(185)	60	78	(188)
Cash at Beginning of Year	943	634	488	498	543	542	188	292	107	167	245
Cash at End of Year	<u>634</u>	<u>488</u>	<u>498</u>	<u>543</u>	<u>542</u>	<u>188</u>	<u>292</u>	<u>107</u>	<u>167</u>	<u>245</u>	<u>57</u>

ELECTRIC OPERATIONS
PROJECTED CASH FLOW STATEMENT
MH16 Update with Interim and MH15 Rate Increases
(In Millions of Dollars)

For the year ended March 31

	2028	2029	2030	2031	2032	2033	2034	2035	2036
OPERATING ACTIVITIES									
Cash Receipts from Customers	3 120	3 255	3 352	3 446	3 540	3 640	3 741	3 851	3 874
Cash Paid to Suppliers and Employees	(980)	(995)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 086)	(1 096)
Interest Paid	(1 195)	(1 203)	(1 198)	(1 205)	(1 184)	(1 195)	(1 178)	(1 167)	(1 148)
Interest Received	15	23	24	15	13	23	28	40	44
	959	1 080	1 166	1 221	1 339	1 425	1 529	1 637	1 675
FINANCING ACTIVITIES									
Proceeds from Long-Term Debt	390	(10)	1 970	3 990	2 350	1 740	1 160	1 300	970
Sinking Fund Withdrawals	150	60	502	520	0	230	43	10	275
Sinking Fund Payment	(270)	(277)	(283)	(270)	(258)	(268)	(265)	(273)	(282)
Retirement of Long-Term Debt	(150)	(60)	(2 440)	(4 396)	(2 373)	(2 390)	(1 096)	(1 487)	(665)
Other	(5)	(5)	(5)	(5)	(5)	(7)	(4)	(4)	(5)
	115	(292)	(256)	(161)	(286)	(695)	(162)	(454)	294
INVESTING ACTIVITIES									
Property, Plant and Equipment, net of contributions	(767)	(798)	(793)	(832)	(840)	(857)	(870)	(948)	(966)
Other	(80)	(74)	(72)	(73)	(72)	(71)	(70)	(68)	(67)
	(847)	(873)	(864)	(905)	(913)	(928)	(940)	(1 016)	(1 033)
Net Increase (Decrease) in Cash	226	(85)	46	155	140	(197)	428	168	935
Cash at Beginning of Year	57	283	199	245	400	540	342	770	938
Cash at End of Year	283	199	245	400	540	342	770	938	1 873

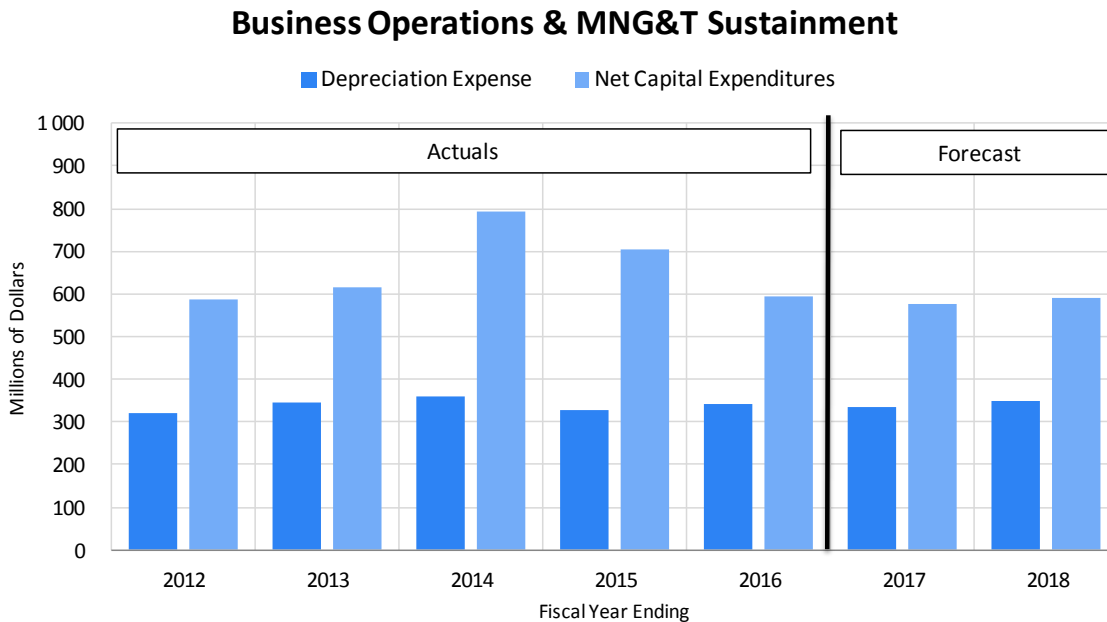
24

2.2 **WITHOUT THE PROPOSED RATE INCREASES, MANITOBA HYDRO’S CASH FLOW FROM OPERATIONS IS INSUFFICIENT TO FUND ITS ONGOING BUSINESS REQUIREMENTS**

Revenues at approved rates plus extraprovincial revenues are materially less than the current and forecast cash requirements of Manitoba Hydro, even after excluding the cash requirements for construction of the major capital projects.

As shown in **Figure 2.11** below, capital requirements to maintain normal operation and growth of the system (excluding major projects such as Keeyask and Bipole III) are well in excess of what is presently being recovered from ratepayers through the recovery in rates of depreciation expense. Depreciation expense is reflective of historical costs which, given the age and long life of the underlying assets, is not indicative of the actual ongoing costs of maintaining and replacing the system.

Figure 2.11 Business Operations and Major New Generation & Transmission Capital Sustainment Requirements



Compounding the above, actual sustainment capital needs of the operations have historically been understated in debt service and capital coverage metrics by ascribing “Major New Generation and Transmission” status to certain projects due to their individual size. However, most of these projects are essentially for system renewal or reliability in that they are replacing failing or at-capacity infrastructure or supporting

1 ongoing operations and are not, once finished, contributing to any material increase in
2 revenue.

3
4 **Figure 2.12** below lists those projects that are classified as Major New Generation &
5 Transmission but are related to system renewal or reliability and therefore should be
6 considered in the calculation of debt service and capital coverage metrics.

7
8 **Figure 2.12 Major New Generation & Transmission Projects Related to Sustainment**

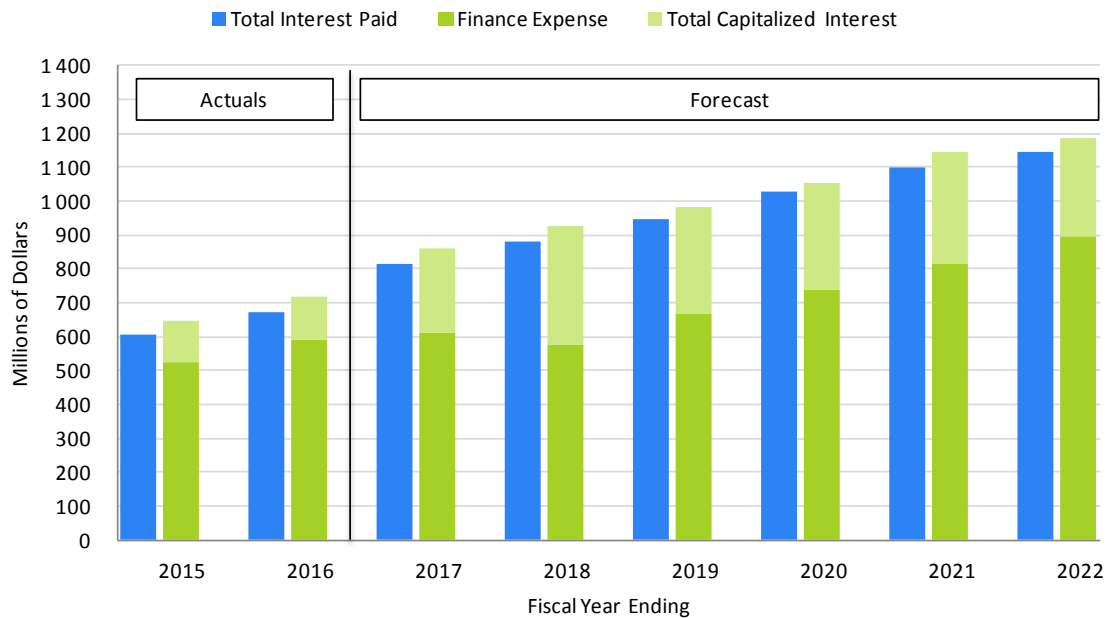
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	Actuals				Forecast		
	2012	2013	2014	2015	2016	2017	2018
	Millions						
Business Operations Capital	463	429	470	525	521	529	526
Business Operations Capital							
Pointe du Bois Spillway Replacement	25	90	237	119	34	7	5
Riel 230/500kV Station	53	84	74	29	1	1	0
Gillam Redevelopment & Expansion Program	(0)	0	0	12	13	15	37
Kettle Improvements & Upgrades	22	3	2	6	20	19	13
Pointe du Bois - Transmission	16	10	11	12	4	4	0
Grand Rapids Fish Hatchery Upgrade & Expansion	0	0	1	0	0	3	12
Herblet Lake - The Pas 230 kV Transmission	8	0	0	0	0	0	0
MNG&T Sustainment/Capital Projects Total	124	188	325	178	74	49	66
Business Operations Capital Total	586	617	794	703	595	577	592

10
11
12 Manitoba Hydro notes that the capitalization of interest effectively delays the
13 recognition of increased carrying costs associated with new plant. Capitalized interest
14 on funds borrowed to finance reliability and sustainment projects like Bipole III is
15 deferred and effectively excluded from the determination of revenue requirement and
16 the calculation of net income. However, the cash needed to finance interest costs (along
17 with additional operating and maintenance expenditures on the associated asset) is
18 immediate and perpetual.

19
20 The blue bars shown in **Figure 2.13** below represent the interest to be paid by Manitoba
21 Hydro and the dark green bars represent Finance Expense that is included in the
22 determination of Revenue Requirement and recoverable through rates. The difference
23 between the interest paid (which is an immediate cash outlay by the Corporation) and
24 Finance Expense (which is recoverable through rates) directly reduces the cash available
25 for Manitoba Hydro to fund its core operations.

1 **Figure 2.13 Interest Paid Compared to Finance Expense**



2
3 The following **Figure 2.14** provides a breakdown of capitalized interest related to
4 revenue generating projects such as Keyask, Manitoba-Minnesota Transmission Project
5 (“MMTP”) and the Great Northern Transmission Line (“GNTL”) compared to projects
6 undertaken for system renewal or reliability purposes (“Other” projects as shown in the
7 chart below). Between 2016/17 and 2018/19, the majority of interest capitalized is
8 related to “other” projects such as Bipole III that have essentially no expectation of
9 revenue increase or cost efficiency to mitigate these costs.

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without generating incremental cash flow.
interest capitalized on Bipole III, which is effectively contributing to net income but
For example, **Figure 2.15** illustrates the difference between interest incurred and

cash and the Finance Expense recognized on the income statement.
resulted in a large and growing difference between actual gross interest costs paid in
As the Corporation continues through a phase of unprecedented investment, this has

borrowing thereby improving net income in the short term.
Hydro is capitalizing more interest than it is actually paying on the incremental
considerably lower as a result of the decline in interest rates. As a result, Manitoba
debt portfolio. The actual cost of the new borrowings to finance capital investments is
during their construction phase at the weighted average rate of the Corporation's entire
Manitoba Hydro capitalizes interest on borrowed funds used for capital investments

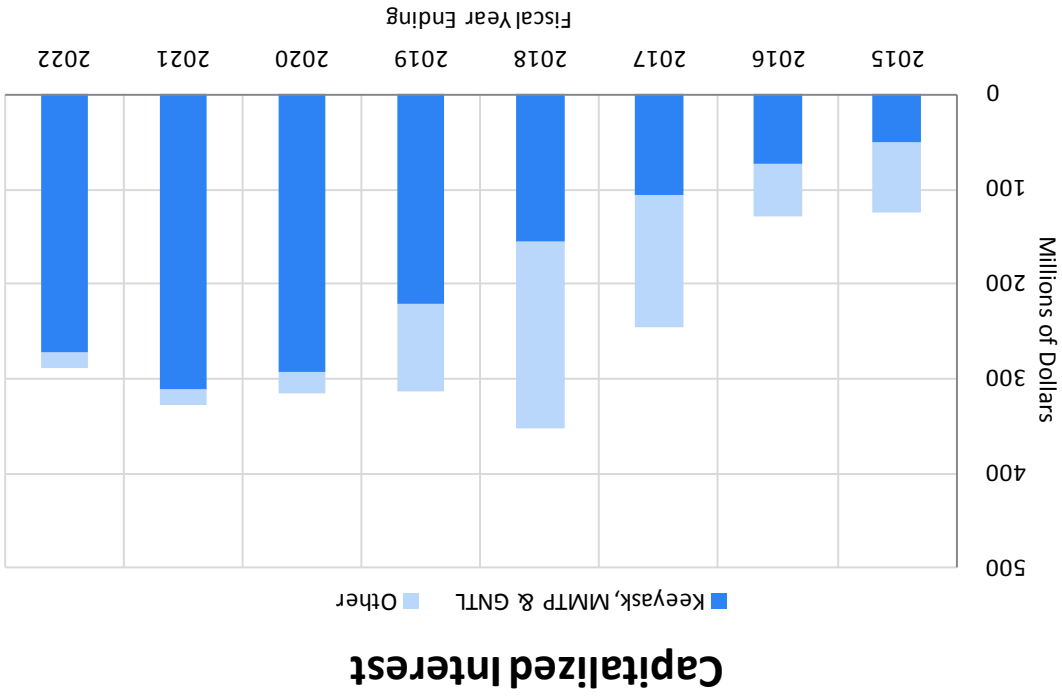


Figure 2.14 Capitalized Interest for Revenue Generating Projects

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Figure 2.15 Interest Incurred and Interest Capitalized - Bipole III

Bipole III Interest Incurred & Interest Capitalized	Actuals	Forecast	
	2016	2017	2018
	millions		
Cost of Incremental Borrowing at New Borrowing Costs	36	66	121
Amounts Capitalized at Weighted-Average Rates	52	98	174
Contribution to Loss/(Income)	(15)	(32)	(54)

Manitoba Hydro’s rates need to reflect its ongoing and growing need to meet the cash interest obligations on debt borrowed to fund major non-expansionary projects such as Bipole III before those assets come into service to ensure the Corporation is not adding to the deficit funding of its continuing operation. This will allow rates to escalate in a stable and predictable fashion such that rates rise to the level that will be required to support operations after this period of significant investment. The PUB recognized this issue in part when it directed that Manitoba Hydro place revenues attributed to certain rate increases into a Bipole III deferral account. Manitoba Hydro notes that the quantum of such deferrals is substantially less than the anticipated incremental revenue requirement impact of this asset when it comes into service. For example, in 2017/18 Manitoba Hydro estimates it will collect \$119 million that will be allocated to the Bipole III deferral account. However, in the first half of 2018/19, Bipole III will enter service thus adding approximately \$337 million (i.e. almost triple) to operating expenses (interest expense, depreciation and incremental O&A).

Figure 2.16 illustrates the significant difference between net income under International Financial Reporting Standards (IFRS) and a perspective on the actual cash deficit of the Corporation’s ongoing operations taking into account the factors noted above for MH16.

1 **Figure 2.16 Cash Flow Deficiency (0% Rate Increases)**

Cash Flow from Operations to CapEx

<i>For the year ended March 31</i>	Actuals	Forecast					
	2016	2017	2018	2019	2020	2021	2022
Net Income Attributable to MH	37	34	29	(15)	(74)	(99)	(117)
Cash Receipts from Customers *	1 856	2 007	2 043	2 013	2 028	2 150	2 268
Cash Paid to Suppliers and Employees *	(736)	(876)	(917)	(881)	(880)	(903)	(908)
Gross Interest *	(542)	(569)	(529)	(634)	(712)	(772)	(856)
Add: Total Capitalized Interest	(129)	(245)	(353)	(313)	(315)	(329)	(289)
Less: Capitalized Interest related to Keeyask, MMTP & GNTL	73	107	156	221	293	310	273
Interest Received *	23	7	5	12	21	17	15
Adjusted Cash Flow from Operations **	545	431	404	417	435	473	503
CEF16 Expenditures ***	712	664	668	685	669	654	632
Cash Flow Deficiency	(167)	(232)	(264)	(268)	(234)	(181)	(128)

* Found on Cash Flow Statement

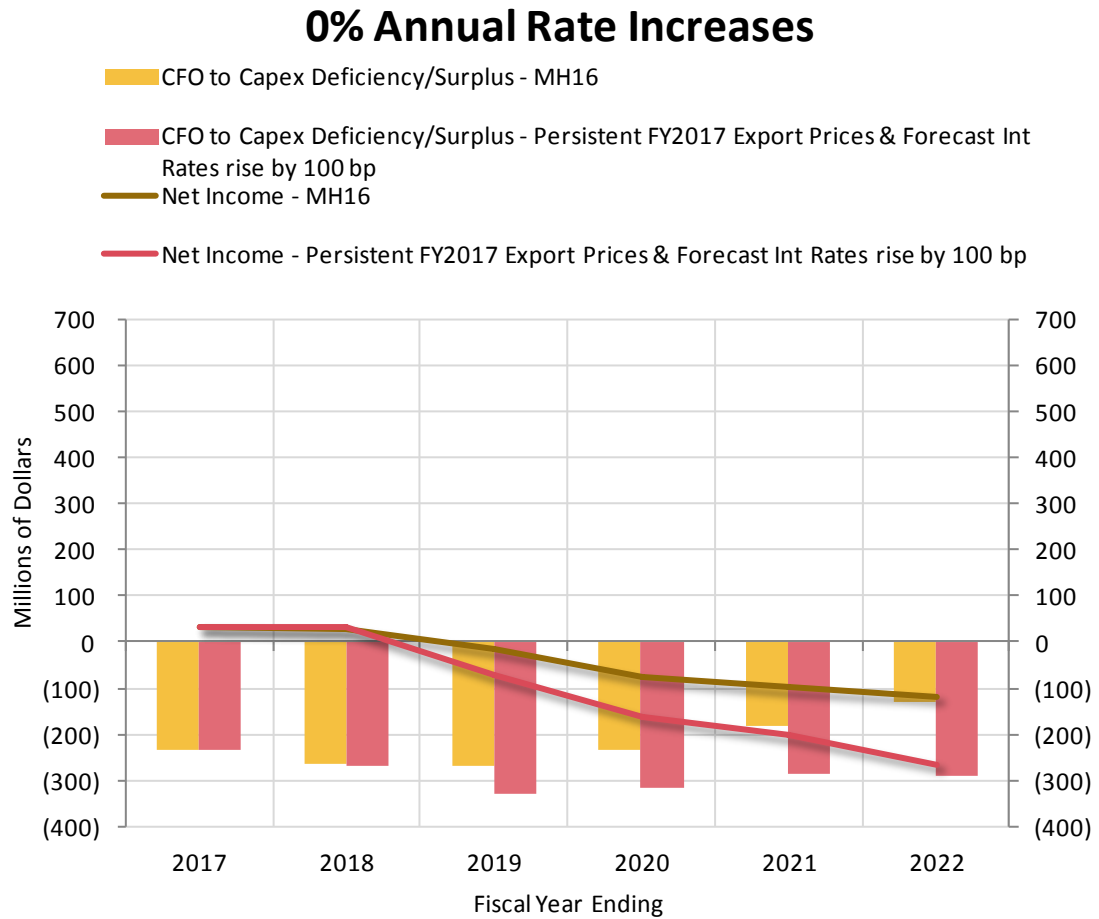
** CFO - Internally generated funds less portion of capitalized interest related to (Keeyask, MMTP & GNTL)

*** Total gross capital and deferred expenditures excluding Keeyask, Bipole III, MMTP & GNTL

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As shown in **Figure 2.17** below, without the proposed and indicative rate increases, Manitoba Hydro is \$1.1 billion cash flow negative on its core operations for the next five years (denoted by the yellow bars), even after considering the significant cost reductions currently underway, and ignoring the cash flow impacts (including interest) associated with \$5.8 billion of expenditures on Keeyask, MMTP and GNTL over this period and \$3.0 billion (excluding interest) to complete Bipole III. Should interest rates rise by 100 basis points in 2017/18 and export prices remain consistent with levels seen since the financial crisis through to 2016/17, the pink bars show that cash flows would be further negative by an additional \$400 million to 2021/22. **Figure 2.17** also contrasts the difference between annual net income and cash flow to fund core operations in the early years of the forecast. This difference is due to the capitalized interest on funds borrowed to finance reliability and sustainment projects and highlights the need for the proposed rate increases in the test years.

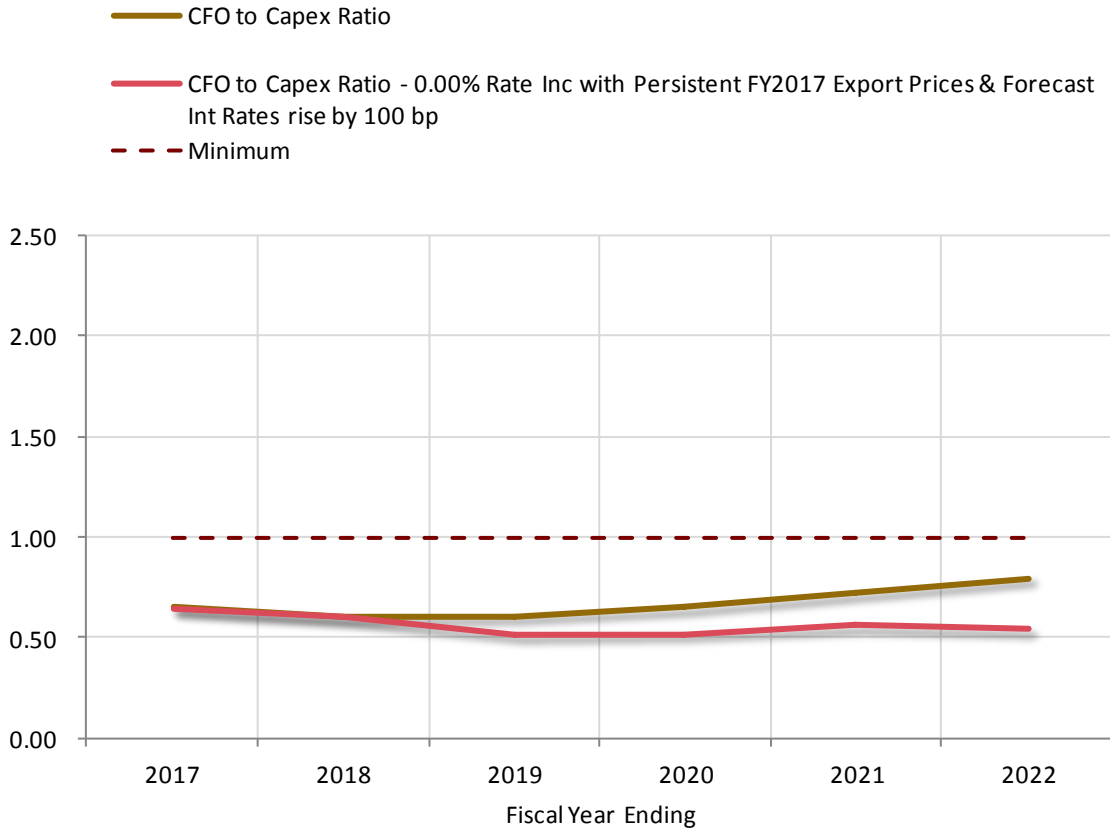
1 **Figure 2.17 Cash Flow from Operations without Additional Rate Increases**



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3 The CFO to CapEx ratio in **Figure 2.18** shows that without the proposed rate increases,
4 cash flows are projected to cover only one half to two-thirds of the capital expenditure
5 requirements through to 2021/22.
6

1 **Figure 2.18 Cash Flow from Operations to CapEx Ratio without Additional Rate**
2 **Increases**

0% Annual Rate Increases

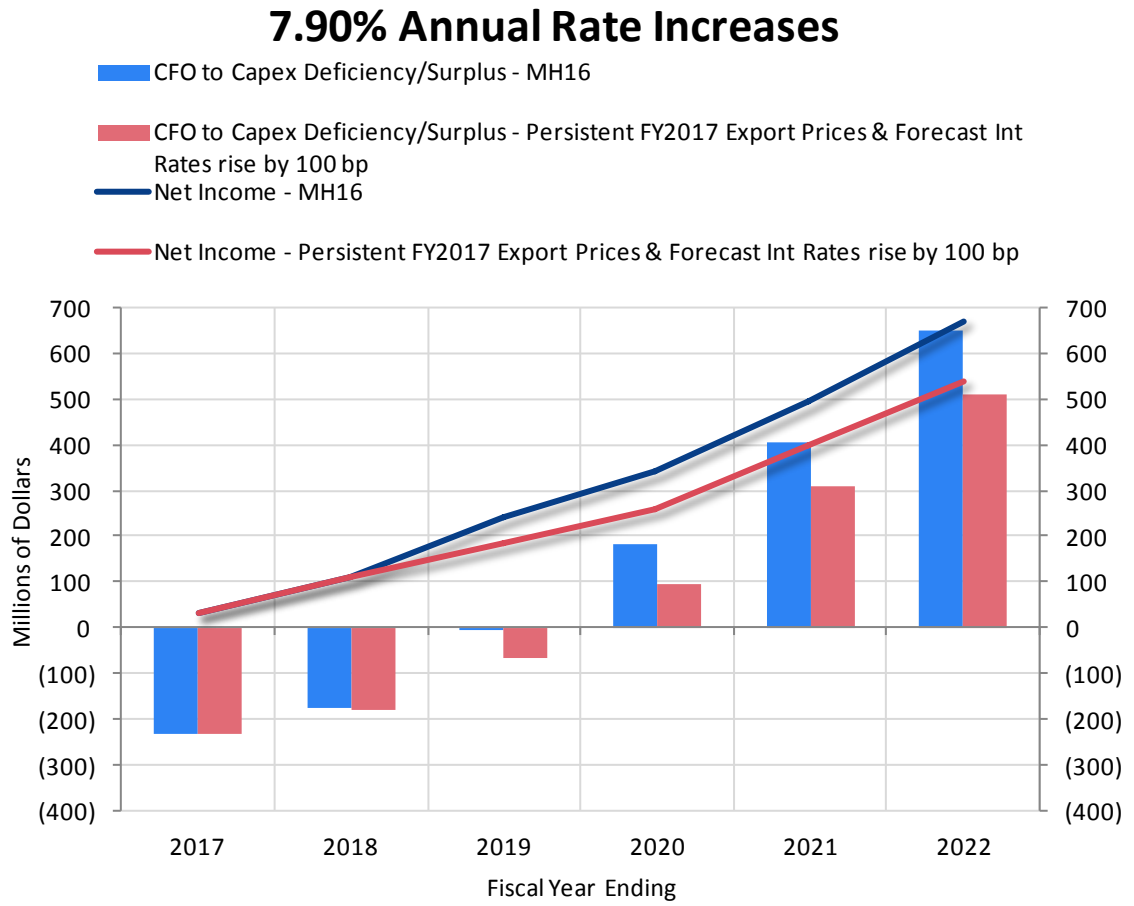


3
4 As shown in **Figures 2.19 and 2.20** below, the proposed rate increases do not fully
5 obviate the Corporation’s deficit funding of its ongoing operations in 2017/18 and
6 2018/19, however, over three years (2017/18-2019/20) the Corporation is cumulatively
7 cash breakeven. **Manitoba Hydro believes this represents a reasonable balance between**
8 **necessary but reasonable rate increases and the inherent risks in deficit funding the**
9 **ongoing business during a period of vulnerability caused by significant, debt-funded**
10 **capital programs underway.**

11

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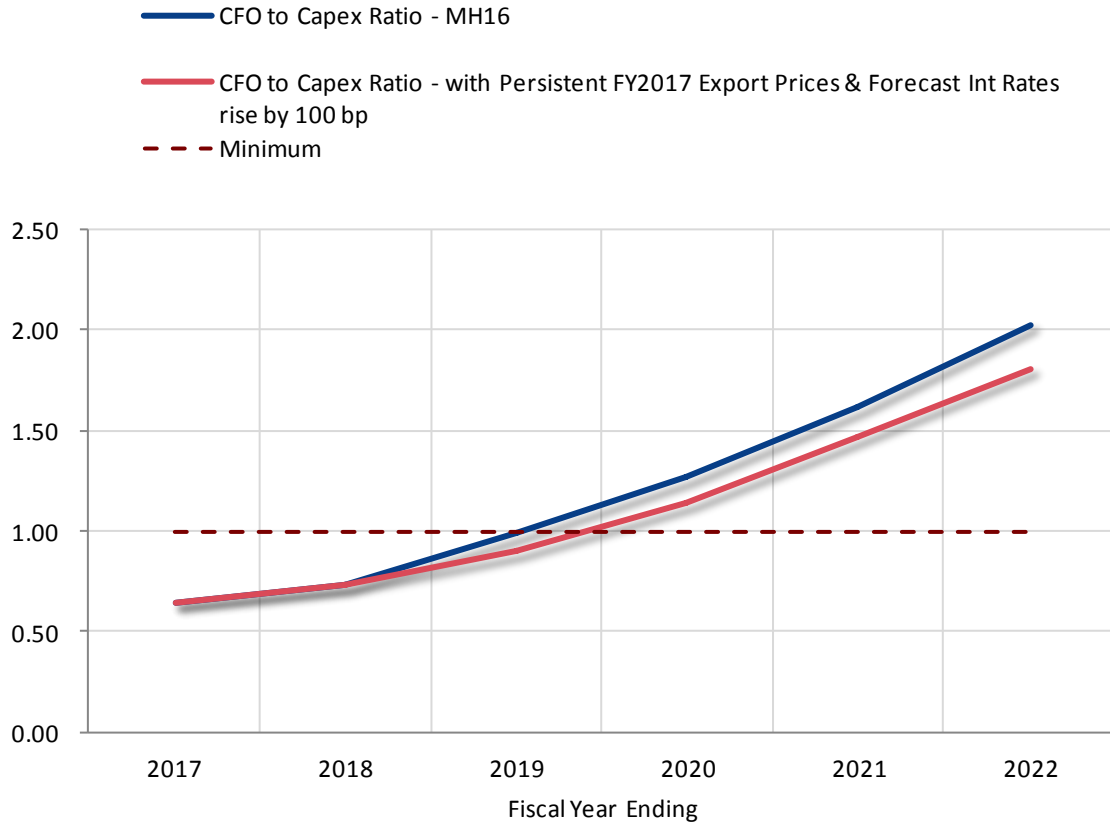
Figure 2.19 Cash Flow from Operations with 7.90% Annual Rate Increases



2

1 **Figure 2.20 Cash Flow from Operations to CapEx Ratio with 7.90% Annual Rate**
 2 **Increases**

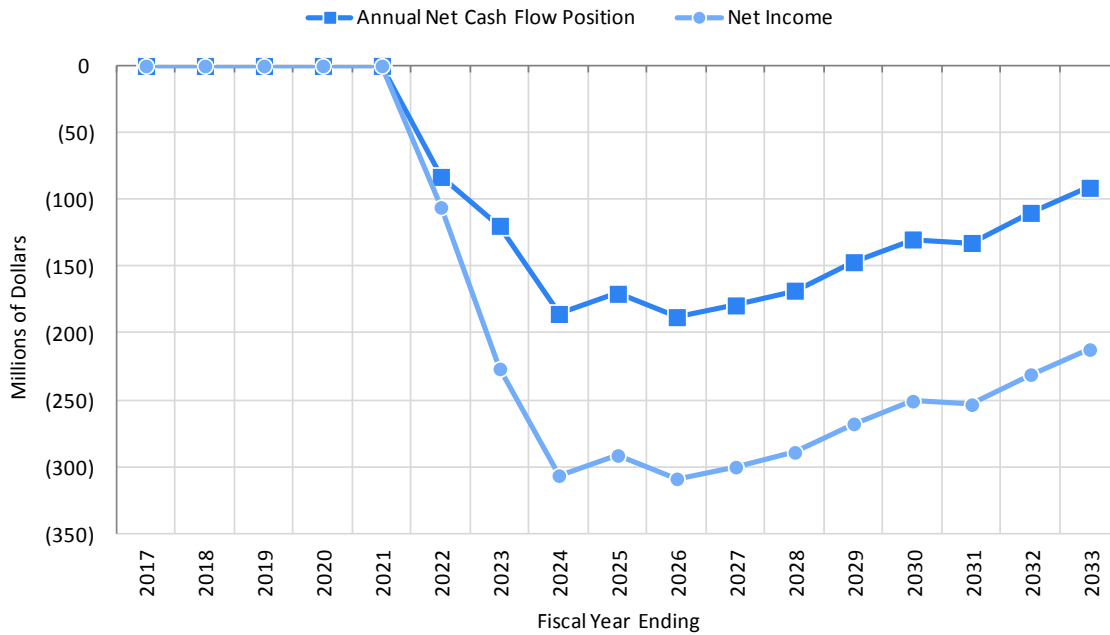
7.90% Annual Rate Increases



3
 4 In addition, 2021/22-2023/24 will see the first unit in-service and final commissioning of
 5 the Keeyask Generating Station. As shown in **Figure 2.21** below, Keeyask is anticipated
 6 to be cash flow negative and contribute a net loss to Manitoba Hydro until at least the
 7 mid to late 2030s when the bulk of its capacity shifts to satisfying domestic needs.

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1 **Figure 2.21 Keeyask Net Cash Flow and Net Income**



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Therefore, at the end of the 5-year forecast period, electricity rates need to have increased to a position where the Keeyask impact can be absorbed while returning rate increases to inflationary levels and still providing for anticipated sustainment capital needs that will only increase as major elements of the system continues to age. In the shorter term, rates also need to increase to fund the cash interest obligations and in anticipation of higher carrying costs (depreciation and incremental O&A) as Bipole III finishes construction and commissioning in the next 18 months.

1 **2.3 MANITOBA HYDRO MUST BE SELF-SUPPORTING AS EVIDENCED BY TARGETING A**
2 **MINIMUM EQUITY RATIO OF 25% IN A REASONABLE PERIOD OF TIME**

3
4 It is generally accepted that Manitoba Hydro's domestic ratepayers ultimately bear the
5 cost of operating, maintaining and renewing the system. Given the credit support
6 provided to Manitoba Hydro by the Province of Manitoba, it is also fundamental that
7 Manitoba Hydro be self-supporting in the eyes of credit rating agencies and lenders.

8
9 Absent this, the taxpayers of Manitoba, who guarantee Manitoba Hydro's debt, are
10 faced with an unacceptable risk of having the Province's cost of borrowing impaired and
11 implicitly or explicitly having to subsidize the continued financial viability of the
12 electricity system. As is, Manitoba Hydro enjoys a cost of financing that is significantly
13 lower than what it could obtain without the Provincial Guarantee, while the quantum of
14 borrowing required would likely be unattainable given the Corporation's current credit
15 profile.

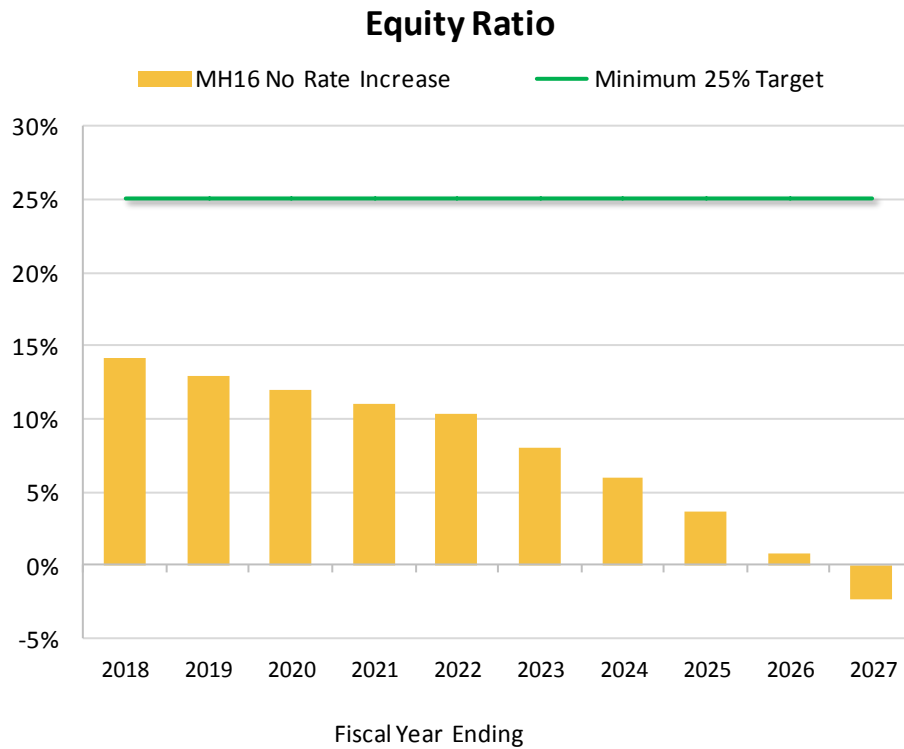
16
17 The equity ratio along with an EBITDA coverage ratio and a Capital Coverage ratio are
18 conventional measures of financial health and credit-worthiness. Positive cash flow
19 from operations inclusive of servicing debt is also relevant to a determination of self-
20 supporting status.

21
22 The EBITDA and Capital Coverage ratios have some potential limitations. As noted in
23 **Figure 2.11**, depreciation has historically been significantly below capital re-investment
24 needs and therefore, an EBITDA Coverage ratio can overstate the margin the
25 corporation has to meet its sustainment expenditures. Further, the Capital Coverage
26 ratio omits capitalized interest which, as discussed in Section 2.2, can create a
27 misleading impression of financial health.

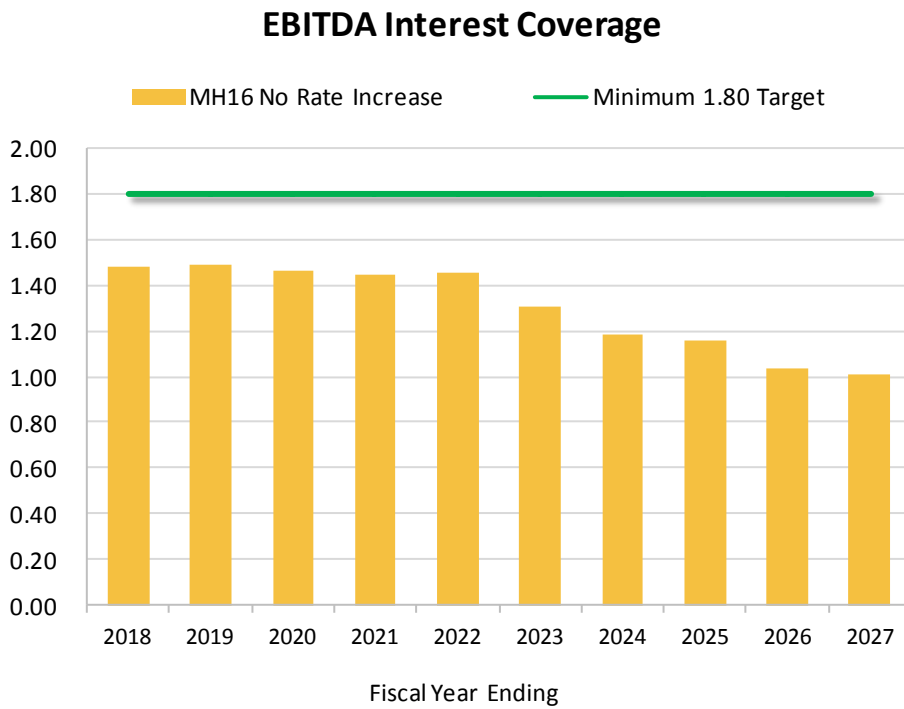
28
29 As shown in the **Figures** below, the Corporation's financial metrics are below Manitoba
30 Hydro's targets and, without rate increases, will deteriorate even further. As noted in
31 Section 2.1 above, MH16 reflects an outlook for lower domestic load growth, lower
32 export prices and higher capital costs than previous forecasts, and without the proposed
33 rate increases, Manitoba Hydro's financial condition is precarious.

34

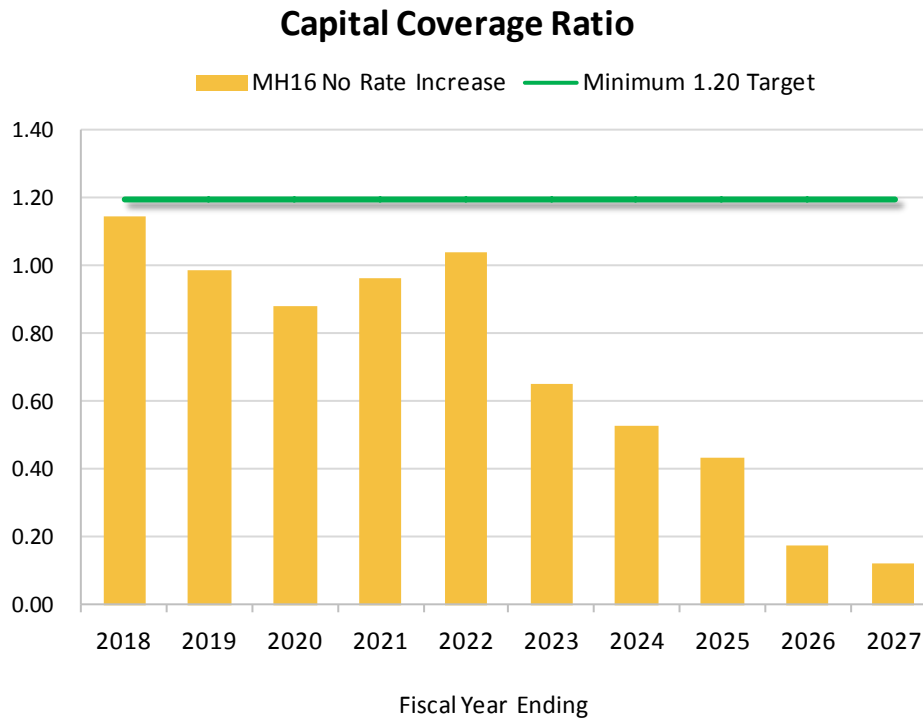
1 **Figure 2.22 Equity Ratio at Approved Rates**



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 3 **Figure 2.23 EBITDA Interest Coverage at Approved Rates**



1 **Figure 2.24 Capital Coverage Ratio at Approved Rates**

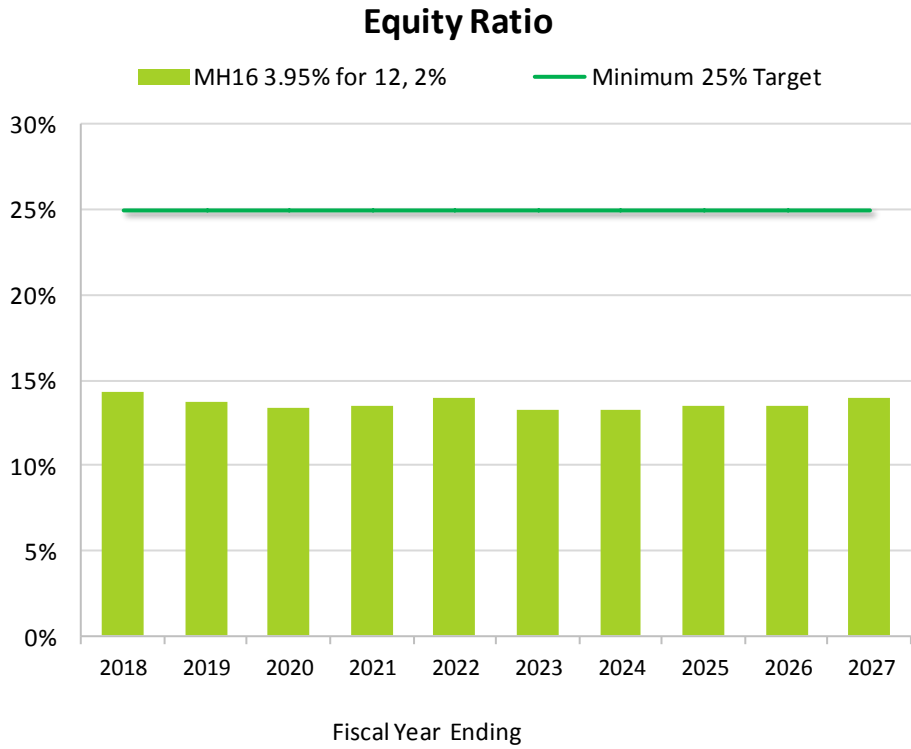


2
 3 If Manitoba Hydro were to include the previously forecast rate trajectory of 3.95%
 4 increases until 2028/29 in its current forecast, the Corporation's equity ratio under
 5 MH16 (including substantially more aggressive cost reductions and interest rates than
 6 under past forecasts) does not return to the minimum target of 25% until 2035/36
 7 which compares to 2031/32 under MH15, notwithstanding a substantial decrease in
 8 borrowing costs and operating expenses. In Manitoba Hydro's view, a financial plan
 9 that returns the Corporation to a 25% equity level over almost 20 years is not credible as
 10 a commitment to being a self-supporting entity.

11
 12 Further, as noted in Section 2.2 above, a practical view of Manitoba Hydro's recent and
 13 forecast cash flows shows that without rate increases, the Corporation is borrowing to
 14 fund its core operations including interest charges. This, as a practice, is unsustainable
 15 and also a direct challenge to the argument Manitoba Hydro is self-supporting.

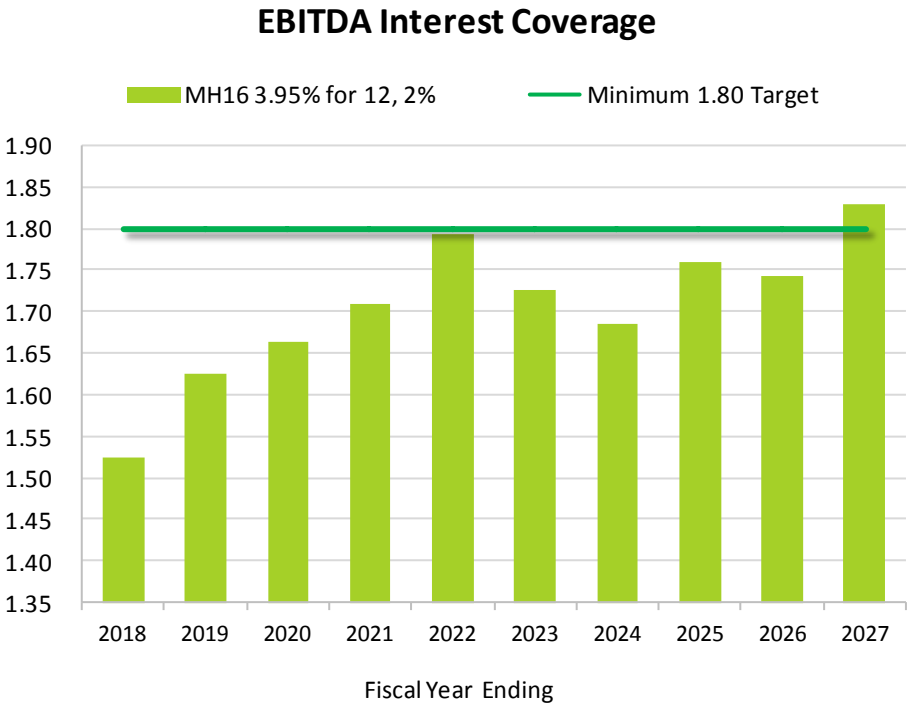
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1 **Figure 2.25 Equity Ratio under MH16 assuming 3.95% Even Annual Rate Increases**



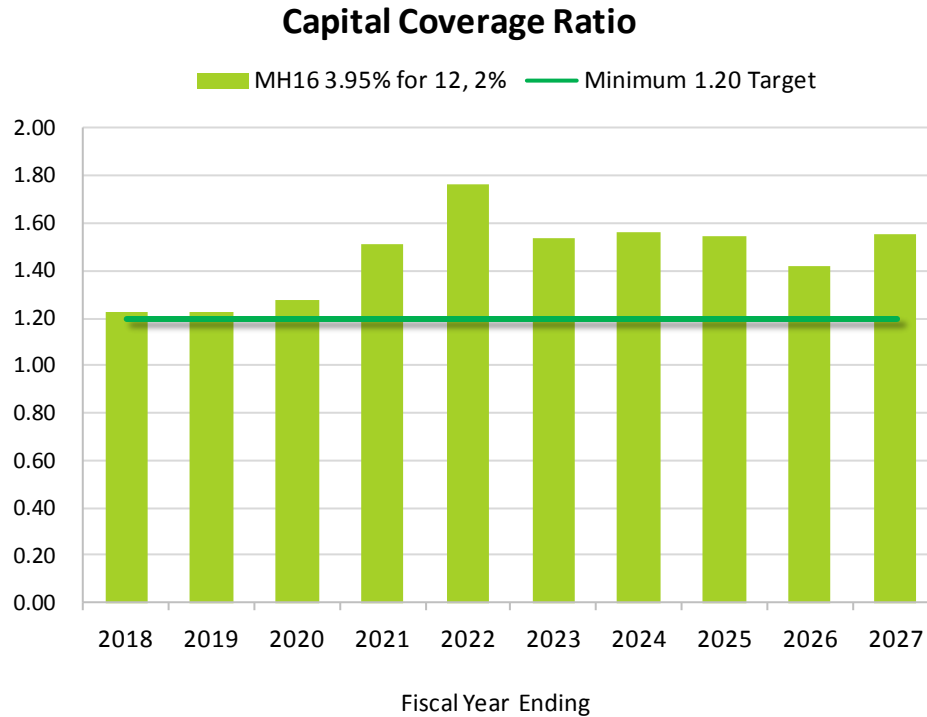
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1 **Figure 2.26 EBITDA Interest Coverage under MH16 assuming 3.95% Even Annual Rate**
2 **Increases**



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4

1 **Figure 2.27 Capital Coverage Ratio under MH16 assuming 3.95% Even Annual Rate**
2 **Increases**



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4
5 An adequate equity position is important to Manitoba Hydro and is of value to its
6 ratepayers. Equity is the means by which Manitoba Hydro is able to absorb the
7 occurrence of concurrent, multi-year and/or extraordinary events or material negative
8 deviations from forecast without having to look to ratepayers for emergency relief.

25

Capital Expenditures-Depreciation MFR 4

A schedule that indicates the amount of cash flow from electric operations, forecast electric base capital spending and net cash flow available to finance each Major Generation & Transmission Projects in each of the forecast years and the (electric) capital coverage ratio for the last fiscal year and through the 20 year forecast period in a similar format to PUB/MH 1-22 (c) from the 2012 GRA.

Please see the following table for the cash flow from electric operations, electric base capital spending, as well as the net financing requirements for Major New Generation & Transmission Projects and sustaining capital expenditures for 2014/15 through 2034/35.

It should be noted that the attached schedule is for illustrative purposes only and the allocations of cash flow from operations are notional. Manitoba Hydro does not allocate cash flow from operations or proceeds from debt for specific uses in practice.

<i>For the year ended March 31</i>	<i>Actuals</i>	<i>Forecast</i>									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1 Cash Flow from Operations	649.0	567.1	598.6	661.8	575.7	582.9	645.9	733.9	833.9	907.7	996.6
2 Sustaining Capital Spending	558.9	577.0	609.6	547.3	547.4	547.5	572.6	554.7	559.3	571.0	621.1
3 Excess Cash Flow after Sustaining Capital Spending (1-2)	90.1	(9.9)	(11.0)	114.4	28.3	35.3	73.3	179.2	274.6	336.7	375.6
4 Capital Coverage Ratio (1/2)	1.16	0.98	0.98	1.21	1.05	1.06	1.13	1.32	1.49	1.59	1.60
5 Major New Generation & Transmission	1341.7	2012.8	2746.5	2376.2	1460.5	895.3	460.7	325.1	151.6	109.0	109.1
6 Financing Required to Fund MNG&T	1251.7	2022.7	2757.5	2261.7	1432.3	860.0	387.4	145.9	0.0	0.0	0.0

<i>For the year ended March 31</i>	<i>Forecast</i>									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1 Cash Flow from Operations	1007.1	1136.6	1237.1	1370.0	1465.8	1548.9	1671.0	1762.5	1865.9	1986.6
2 Sustaining Capital Spending	624.5	637.3	648.6	674.7	661.1	703.5	710.5	719.6	734.9	809.6
3 Excess Cash Flow after Sustaining Capital Spending (1-2)	382.6	499.4	588.5	695.3	804.7	845.5	960.4	1042.9	1131.0	1177.1
4 Capital Coverage Ratio (1/2)	1.61	1.78	1.91	2.03	2.22	2.20	2.35	2.45	2.54	2.45
5 Major New Generation & Transmission	114.9	129.7	122.1	117.5	107.6	114.9	120.0	133.9	187.5	279.0
6 Financing Required to Fund MNG&T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1 ongoing operations and are not, once finished, contributing to any material increase in
2 revenue.

3
4 **Figure 2.12** below lists those projects that are classified as Major New Generation &
5 Transmission but are related to system renewal or reliability and therefore should be
6 considered in the calculation of debt service and capital coverage metrics.

7
8 **Figure 2.12 Major New Generation & Transmission Projects Related to Sustainment**

9

	Actuals				Forecast		
	2012	2013	2014	2015	2016	2017	2018
	Millions						
Business Operations Capital	463	429	470	525	521	529	526
Business Operations Capital							
Pointe du Bois Spillway Replacement	25	90	237	119	34	7	5
Riel 230/500kV Station	53	84	74	29	1	1	0
Gillam Redevelopment & Expansion Program	(0)	0	0	12	13	15	37
Kettle Improvements & Upgrades	22	3	2	6	20	19	13
Pointe du Bois - Transmission	16	10	11	12	4	4	0
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Herblet Lake-The Pas 230kV Transmission	8	0	0	0	0	0	0
MNG&T Sustainment/Capital Projects Total	124	188	325	178	74	49	66
Business Operations Capital Total	586	617	794	703	595	577	592

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12 Manitoba Hydro notes that the capitalization of interest effectively delays the
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14 on funds borrowed to finance reliability and sustainment projects like Bipole III is
15 deferred and effectively excluded from the determination of revenue requirement and
16 the calculation of net income. However, the cash needed to finance interest costs (along
17 with additional operating and maintenance expenditures on the associated asset) is
18 immediate and perpetual.

19
20 The blue bars shown in **Figure 2.13** below represent the interest to be paid by Manitoba
21 Hydro and the dark green bars represent Finance Expense that is included in the
22 determination of Revenue Requirement and recoverable through rates. The difference
23 between the interest paid (which is an immediate cash outlay by the Corporation) and
24 Finance Expense (which is recoverable through rates) directly reduces the cash available
25 for Manitoba Hydro to fund its core operations.

REFERENCE:

Appendix 3.5 Pgs. 4, Chart 1, Pg. 17 Chart 13 Debt off ramping - Cash Flow; Appendix 4.1 Figure 3-5

PREAMBLE TO IR (IF ANY):

MH states its debt management retirement strategy is predicated on:

Manitoba Hydro will smooth the maturity schedule by layering new borrowings from peak years into available maturity buckets and to set up the debt portfolio for future debt retirement off-ramping.

This reduction in forecasted term to maturity is subject to change if operating cost reductions, export price increases, PUB rate increases do not end up yielding the cash flow required to enable the new terming strategy. Chart 13 illustrates free cash flow for debt retirement.

QUESTION:

- a) Please provide a table indicating the determination of free cash flow including consideration of all capital expenditures for each for the 20 year forecast MH16 Update. Provide a cash flow to capex ratio table and graph on this basis.
- b) Please provide the same analysis in (a) based on rate increases of 3.95% for 20 years.

RATIONALE FOR QUESTION:

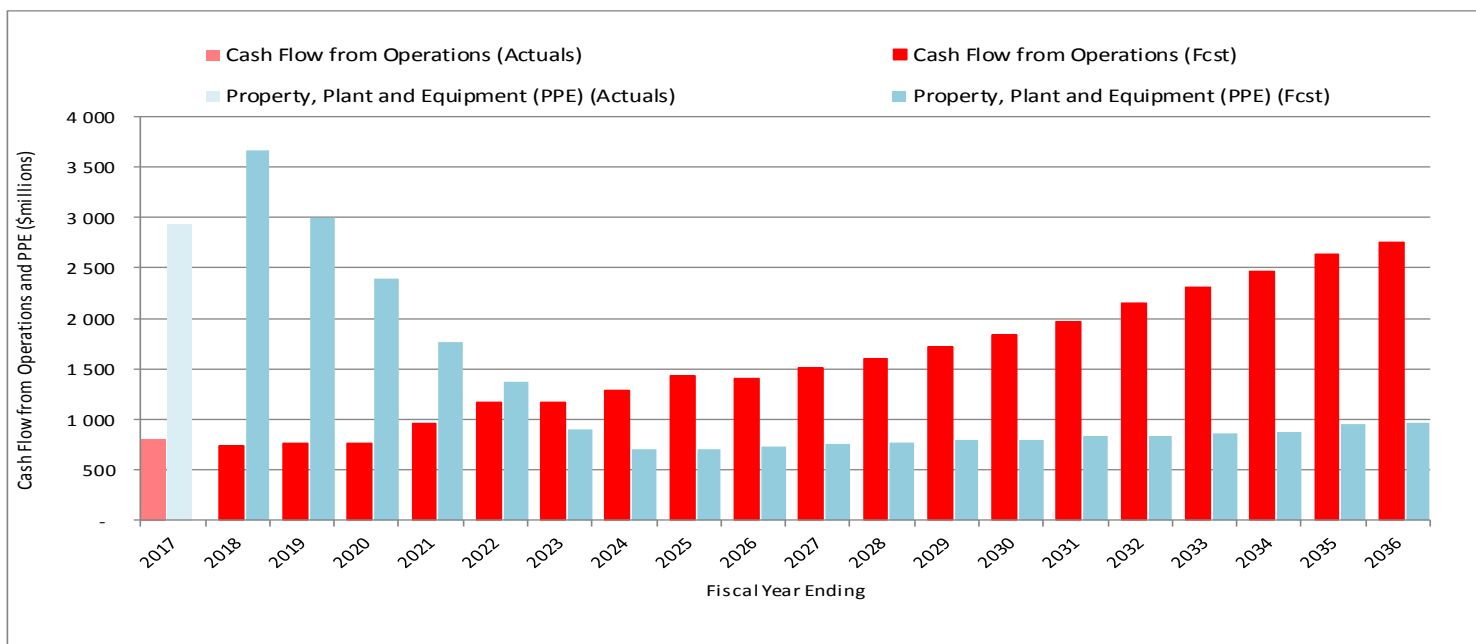
RESPONSE:

a) Figure 1 below contains a table and graph that illustrate the values for Cash Flow from Operations and Property, Plant and Equipment (PPE), net of contribution from the MH16 Update with Interim scenario.

Figure 1

	Actuals		Forecast ----->								
	2 0 1 7	2 0 1 8	2 0 1 9	2 0 2 0	2 0 2 1	2 0 2 2	2 0 2 3	2 0 2 4	2 0 2 5	2 0 2 6	2 0 2 7
Cash Flow from Operations	810	734	767	759	961	1 169	1 171	1 287	1 437	1 408	1 512
Property, Plant and Equipment (PPE)	2 925	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756

	2 0 2 8	2 0 2 9	2 0 3 0	2 0 3 1	2 0 3 2	2 0 3 3	2 0 3 4	2 0 3 5	2 0 3 6
Cash Flow from Operations	1 604	1 720	1 843	1 972	2 155	2 307	2 473	2 637	2 752
Property, Plant and Equipment (PPE)	767	798	793	832	840	857	870	948	966



Figures 2 & 3 below contain the table and graph, calculated on the same basis as Figure 3-5 from KPMG's report on the Manitoba Hydro Financial Target Review (Appendix 4.1), **to illustrate the cash flow to capex ratio for the MH16 Update with Interim scenario.**

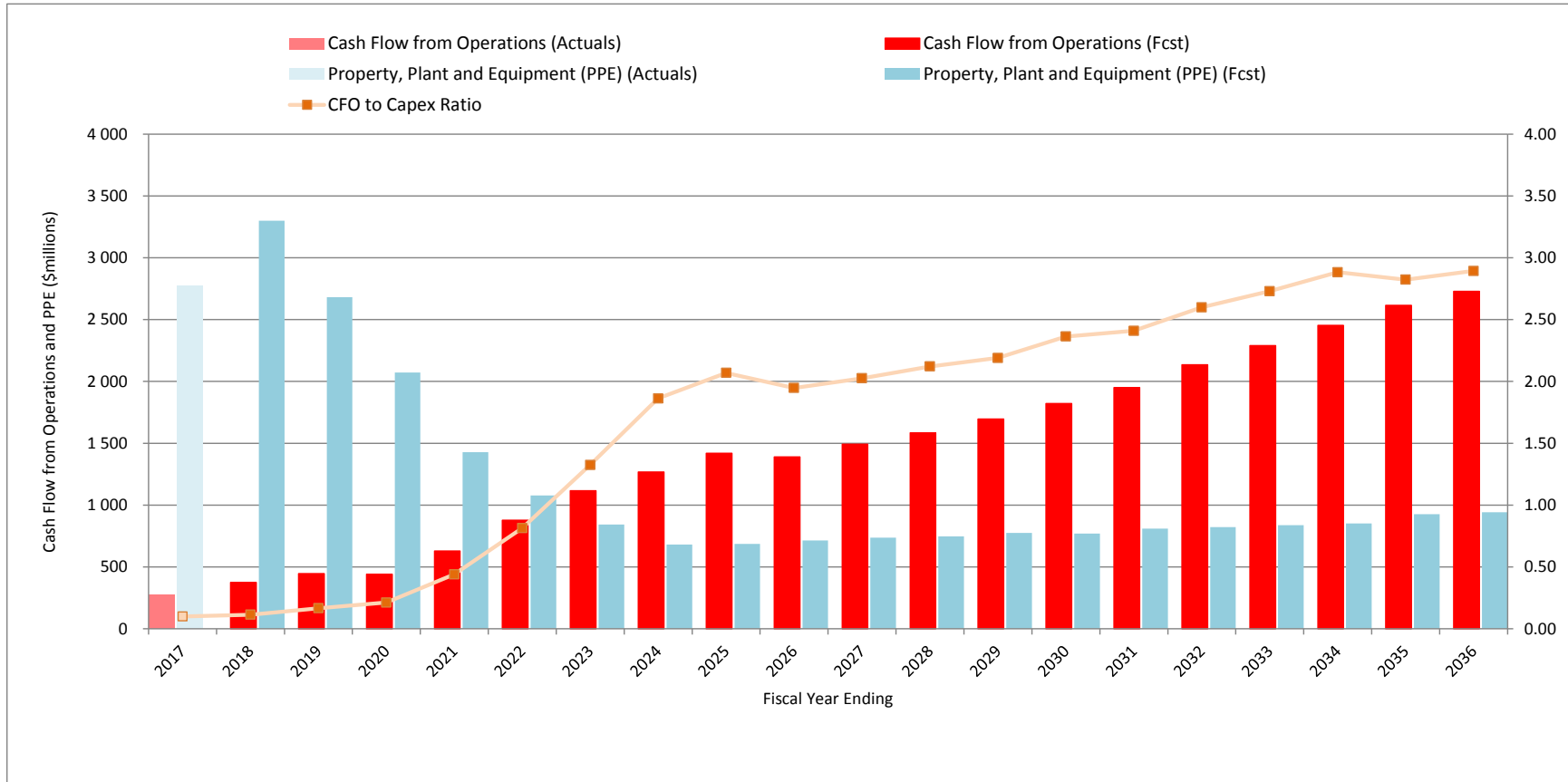
Figure 2

Cash Flow from Operations to CapEx

For the year ended March 31	Actuals	Forecast																		
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Net Income Attributable to MH	53	93	211	205	349	518	434	411	530	489	577	650	755	873	989	1 147	1 280	1 423	1 579	1 668
Cash Receipts from Customers *	1 997	2 152	2 233	2 307	2 582	2 877	3 130	3 325	3 474	3 414	3 500	3 578	3 679	3 789	3 896	4 007	4 123	4 243	4 370	4 413
Cash Paid to Suppliers and Employees **	(933)	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(953)	(966)	(980)	(996)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 087)	(1 097)
Interest Paid	(553)	(531)	(635)	(700)	(762)	(834)	(1 063)	(1 112)	(1 101)	(1 072)	(1 037)	(1 019)	(1 014)	(997)	(908)	(837)	(795)	(742)	(696)	(632)
Add: Total Capitalized Interest	(250)	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Interest Received	17	5	12	22	26	20	8	10	17	20	14	26	51	63	20	15	22	36	49	67
Adjusted Cash Flow from Operations	278	375	447	441	628	878	1 116	1 268	1 419	1 390	1 492	1 584	1 696	1 821	1 950	2 135	2 289	2 454	2 616	2 728
CEF16 Expenditures *	3 021	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Total Capitalized Interest	(250)	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Cash Flows in CEF16 including Deferrals***	2 770	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
CFO to Capex Ratio	0.10	0.11	0.17	0.21	0.44	0.81	1.32	1.86	2.07	1.95	2.03	2.12	2.19	2.36	2.41	2.60	2.73	2.88	2.82	2.89
Cash Flow Deficiency	(2 493)	(2 925)	(2 235)	(1 632)	(799)	(200)	274	587	733	676	755	837	922	1 051	1 141	1 314	1 450	1 603	1 689	1 785

* Per Cash Flow Statement restated for Bipole III deferred revenue reclassified from contributions which were net against PP&E (CEF16 Expenditures)
 ** Adjusted for payables associated with Bipole III and Keeyask
 *** CFO - Internally generated funds less portion of capitalized interest related to (Keeyask, MMTP & GNTL)
 **** Total gross capital and deferred expenditures excluding Keeyask, Bipole III, MMTP & GNTL; Bipole III deferred revenue reclassified from PP&E to Cash Flows from Operating Activities

Figure 3

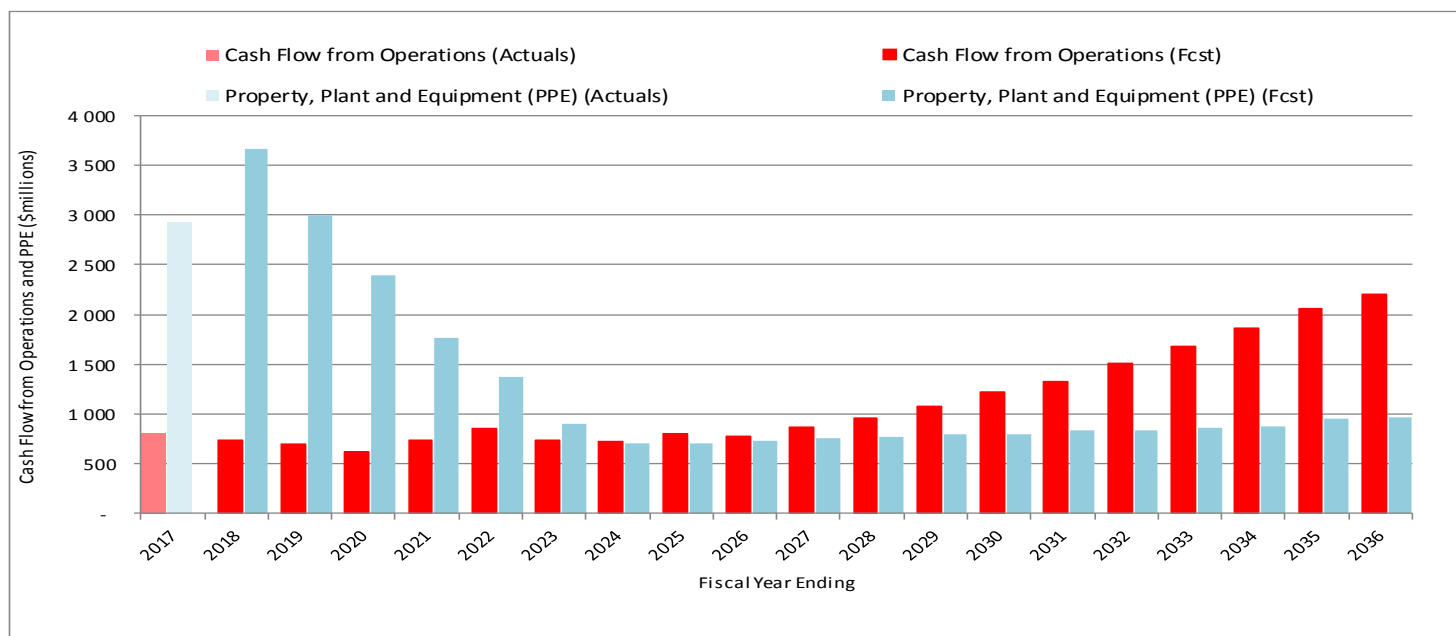


b) Figure 4 below contains a table and graph to illustrate the Cash Flow from Operations and Property, Plant and Equipment (PPE), net of contribution from the MH16 Update with Interim, adjusted for 3.95% for 20 years beginning in fiscal 2019.

Figure 4

	Actuals	Forecast ----->									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Cash Flow from Operations	810	734	703	621	742	850	736	722	807	773	863
Property, Plant and Equipment (PPE)	2 925	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756

	2028	2029	2030	2031	2032	2033	2034	2035	2036
Cash Flow from Operations	959	1 080	1 217	1 326	1 514	1 677	1 859	2 065	2 211
Property, Plant and Equipment (PPE)	767	798	793	832	840	857	870	948	966



Figures 5 & 6 below contains a table and graph of the cash flow to capex ratio for the MH16 Update with Interim scenario, adjusted for 3.95% for 20 years beginning in fiscal 2019.

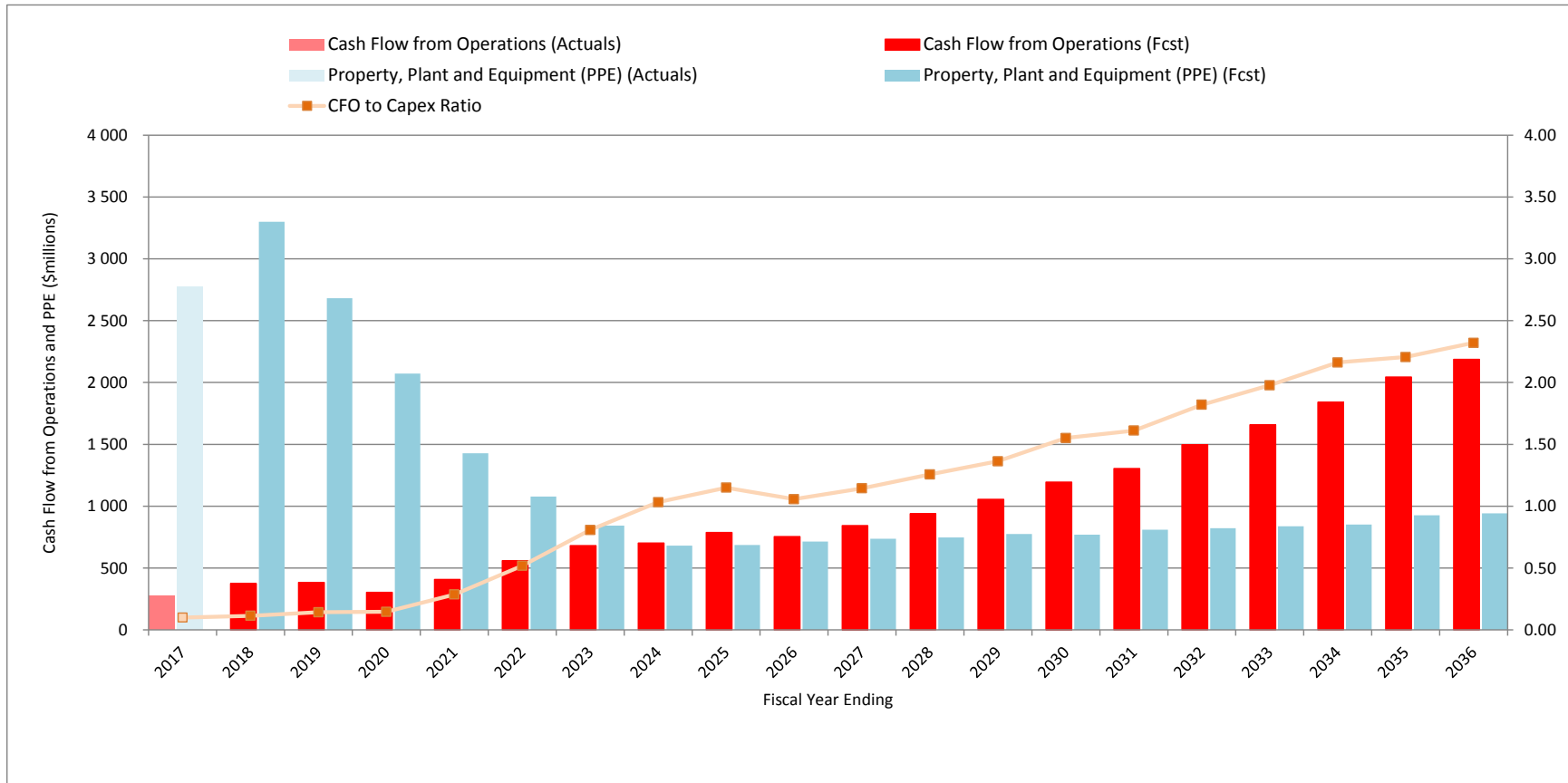
Figure 5

Cash Flow from Operations to CapEx

For the year ended March 31	Actuals	Forecast																		
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Net Income Attributable to MH	53	93	148	66	125	194	(6)	(158)	(105)	(151)	(76)	(2)	115	246	340	503	649	814	1 002	1 131
Cash Receipts from Customers *	1 997	2 152	2 170	2 173	2 371	2 577	2 734	2 821	2 931	2 897	3 011	3 120	3 255	3 403	3 550	3 704	3 869	4 041	4 227	4 334
Cash Paid to Suppliers and Employees **	(933)	(892)	(843)	(870)	(885)	(894)	(903)	(935)	(953)	(952)	(966)	(980)	(995)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 086)	(1 096)
Interest Paid	(553)	(531)	(635)	(704)	(771)	(853)	(1 102)	(1 170)	(1 178)	(1 178)	(1 191)	(1 195)	(1 203)	(1 198)	(1 204)	(1 174)	(1 173)	(1 146)	(1 116)	(1 075)
Add: Total Capitalized Interest	(250)	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Interest Received	17	5	11	22	26	19	7	6	6	6	9	15	23	25	15	14	24	27	40	48
Adjusted Cash Flow from Operations	278	375	383	303	409	559	680	703	788	755	843	939	1 056	1 195	1 304	1 495	1 659	1 840	2 044	2 187
CEF16 Expenditures *	3 021	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Total Capitalized Interest	(250)	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Cash Flows in CEF16 including Deferrals***	2 770	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
CFO to Capex Ratio	0.10	0.11	0.14	0.15	0.29	0.52	0.81	1.03	1.15	1.06	1.14	1.26	1.36	1.55	1.61	1.82	1.98	2.16	2.21	2.32
Cash Flow Deficiency	(2 493)	(2 925)	(2 299)	(1 770)	(1 019)	(518)	(162)	22	103	41	107	192	281	425	495	674	820	989	1 117	1 245

* Per Cash Flow Statement restated for Bipole III deferred revenue reclassified from contributions which were net against PP&E (CEF16 Expenditures)
 ** Adjusted for payables associated with Bipole III and Keeyask
 *** CFO - Internally generated funds less portion of capitalized interest related to (Keeyask, MMTP & GNTL)
 **** Total gross capital and deferred expenditures excluding Keeyask, Bipole III, MMTP & GNTL; Bipole III deferred revenue reclassified from PP&E to Cash Flows from Operating Activities

Figure 6



REFERENCE:

PUB/MH 1-23, Figure 2

PUB/MH 1-26, Figure 2.16

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) With respect to PUB/MH 1-23, Figure 2, there appears to be a misalignment of the asterisk used in the Figure and the footnotes provided below. Please provide a corrected version.
- b) Please explain the difference in the treatment of BP III deferred revenues in Figure 2 and Figure 2.16 versus that in the IFF financial statements as noted in the footnotes (* and ****)
- c) Does the treatment of BP III deferred revenues vary as between the initial Figure 2.16 (Tab 2, page 20) and PUB/MH 1-26? If so, why?

RATIONALE FOR QUESTION:

To clarify the basis for the cash flow calculation.

RESPONSE:

- a) The following Figure 2 and Figure 5 from PUB/MH I-23a-b have been revised to provide the correct footnotes.

Figure 2

Cash Flow from Operations to CapEx

	Actuals	Forecast																		
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
<i>For the year ended March 31</i>																				
Net Income Attributable to MH	53	93	211	205	349	518	434	411	530	489	577	650	755	873	989	1 147	1 280	1 423	1 579	1 668
Cash Receipts from Customers	1 901	2 152	2 233	2 307	2 582	2 877	3 130	3 325	3 474	3 414	3 500	3 578	3 679	3 789	3 896	4 007	4 123	4 243	4 370	4 413
Add: Bipole III Deferred Revenue *	96																			
Cash Paid to Suppliers and Employees	(555)	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(953)	(966)	(980)	(996)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 087)	(1 097)
Interest Paid	(553)	(531)	(635)	(700)	(762)	(834)	(1 063)	(1 112)	(1 101)	(1 072)	(1 037)	(1 019)	(1 014)	(997)	(908)	(837)	(795)	(742)	(696)	(632)
Add: Total Capitalized Interest	(250)	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Interest Received	17	5	12	22	26	20	8	10	17	20	14	26	51	63	20	15	22	36	49	67
Adjusted Cash Flow from Operations	656	375	447	441	628	878	1 116	1 268	1 419	1 390	1 492	1 584	1 696	1 821	1 950	2 135	2 289	2 454	2 616	2 728
CEF16 Expenditures	2 925	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Total Capitalized Interest	(250)	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Add: Bipole III Deferred Revenue *	96																			
Cash Flows in CEF16 including Deferrals**	2 770	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
CFO to Capex Ratio	0.24	0.11	0.17	0.21	0.44	0.81	1.32	1.86	2.07	1.95	2.03	2.12	2.19	2.36	2.41	2.60	2.73	2.88	2.82	2.89
Cash Flow Deficiency	(2 115)	(2 925)	(2 235)	(1 632)	(799)	(200)	274	587	733	676	755	837	922	1 051	1 141	1 314	1 450	1 603	1 689	1 785

* Per Cash Flow Statement restated for Bipole III deferred revenue reclassified from contributions which were net against PP&E (CEF16 Expenditures)
 ** Total Gross capital and deferred expenditures

Figure 5

Cash Flow from Operations to CapEx

	Actuals	Forecast																		
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
<i>For the year ended March 31</i>																				
Net Income Attributable to MH	53	93	148	66	125	194	(6)	(158)	(105)	(151)	(76)	(2)	115	246	340	503	649	814	1 002	1 131
Cash Receipts from Customers	1 901	2 152	2 170	2 173	2 371	2 577	2 734	2 821	2 931	2 897	3 011	3 120	3 255	3 403	3 550	3 704	3 869	4 041	4 227	4 334
Add: Bipole III Deferred Revenue *	96																			
Cash Paid to Suppliers and Employees	(555)	(892)	(843)	(870)	(885)	(894)	(903)	(935)	(953)	(952)	(966)	(980)	(995)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 086)	(1 096)
Interest Paid	(553)	(531)	(635)	(704)	(771)	(853)	(1 102)	(1 170)	(1 178)	(1 178)	(1 191)	(1 195)	(1 203)	(1 198)	(1 204)	(1 174)	(1 173)	(1 146)	(1 116)	(1 075)
Add: Total Capitalized Interest	(250)	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Interest Received	17	5	11	22	26	19	7	6	6	6	9	15	23	25	15	14	24	27	40	48
Adjusted Cash Flow from Operations	656	375	383	303	409	559	680	703	788	755	843	939	1 056	1 195	1 304	1 495	1 659	1 840	2 044	2 187
CEF16 Expenditures	2 925	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Total Capitalized Interest	(250)	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Add: Bipole III Deferred Revenue *	96																			
Cash Flows in CEF16 including Deferrals**	2 770	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
CFO to Capex Ratio	0.24	0.11	0.14	0.15	0.29	0.52	0.81	1.03	1.15	1.06	1.14	1.26	1.36	1.55	1.61	1.82	1.98	2.16	2.21	2.32
Cash Flow Deficiency	(2 115)	(2 925)	(2 299)	(1 770)	(1 019)	(518)	(162)	22	103	41	107	192	281	425	495	674	820	989	1 117	1 245

* Per Cash Flow Statement restated for Bipole III deferred revenue reclassified from contributions which were net against PP&E (CEF16 Expenditures)

** Total Gross capital and deferred expenditures

- b) Figure 2 (see revision above from PUB/MH I-23) and Figure 2.16 from PUB/MH I-26 (Revised) reclassify the 2016/17 Bipole III deferred revenues reflected as a contribution from customers in PP&E in the 2016/17 Annual Report and the 2016/17 actuals in MH16 Update with Interim, to Cash Receipts from Customers to be consistent with the forecast presentation. The MH16 Update with Interim cash flow statement forecast presentation (i.e. from 2018/19 and on) includes the projected Bipole III deferred revenues in Cash Receipts from Customers.
- c) The initial Figure 2.16 (Tab 2, page 20) did not reclassify the 2016/17 Bipole III deferred revenues from PP&E to Cash Receipts from Customers resulting in a different presentation in PUB/MH I-26. Manitoba Hydro provided a revised Figure 2.16 in Coalition/MH I-65a to include this reclassification of the 2016/17 Bipole III deferred revenues.

REFERENCE:

PUB MFR 51; Appendix 4.2

PREAMBLE TO IR (IF ANY):

The Corporation stated in its 2015 Financial Target Review (Appendix 4.2, p. iii) that “the current capital coverage ratio with a minimum target of 1.20 (except major new generation and transmission) be retained as it is an effective measure of the ability of the Corporation to generate sufficient cash to sustain its operations”

QUESTION:

Please indicate what other Utilities utilize a CFO to CAPEX ratio as derived by MH and for what external purposes.

RATIONALE FOR QUESTION:**RESPONSE:**

The cash flow to capex ratio is a key ratio commonly used by credit rating agencies (such as DBRS, S&P and Moody’s), financial analysts and investors as an indicator of the ability of a utility to generate sufficient cash flows from its long term assets. Not all utilities specifically publish a cash flow to capital expenditure ratio but that should not imply that certain financial ratios or financial analysis are not important to or monitored by the utility.

NB Power published a cash flow from operating activities to capital expenditures ratio of 0.91 in its 2016/17 Annual Report. The report did not comment explicitly on the use of the ratio, but the ratio along with other key financial ratios reported, provide an indication to management and stakeholders of NB Power’s progress towards their stated goal of reducing debt (NB Power 10-Year Plan 2018-2027, page 5) and achieving a mandated 80/20 debt to equity ratio (NB Power 10-Year Plan 2018-2027, page 3).

Similar to other utilities, Manitoba Hydro monitors a number of financial performance metrics, including the cash flow to capex ratio, not included in its annual or projected reports.

Any given credit ratio, financial statement or financial metric may have limitations depending on the current circumstances of the Corporation being analyzed. As noted in PUB/MH I-26 and Coalition/MH I-69, any conclusions relating to Manitoba Hydro's cash flow, domestic rate sufficiency or financial condition drawn solely from one metric or line item in a financial statement is susceptible to important gaps in understanding. CFO to Capex offers a much more comprehensive view of the ongoing burdens being charged to current revenues and is therefore a much superior barometer of Manitoba Hydro's current and forecast financial circumstances.

REFERENCE:

Tab 2 Page 16 of 61

PREAMBLE TO IR (IF ANY):

Manitoba Hydro proposes to include certain Major New Generation and Transmission projects from its calculation of CFO to Capex ratio; these projects are excluded from the calculation of the capital coverage ratio.

QUESTION:

Please provide additional explanation for why Manitoba Hydro is proposing to include certain Major New Generation and Transmission projects in its CFO to Capex ratio, considering these projects:

- a) Add new generation capacity (e.g. Kelsey re-running)
- b) Increase reliability over and above the original system design (e.g. Riel sectionalization)
- c) Are a licensing condition of new generation capacity (e.g. Grand Rapids Fish Hatchery)
- d) Facilitate new generation construction and operation and were justified on that basis (e.g. Gillam Redevelopment)
- e) Are still listed in CEF16 as Major New Generation and Transmission (e.g. Kettle Upgrades, Pointe du Bois Transmission)

RATIONALE FOR QUESTION:**RESPONSE:**

As indicated in the response to PUB/MH I-36, Manitoba Hydro excludes Keeyask, MMTP, GNTL and Bipole III on the basis of their significant incremental revenue generating potential or the non-recurring nature of the projects. All other expenditures are, in their essence, expenditures to sustain or extend the life of existing assets (such as Kelsey, Kettle or Pointe du Bois) or provide benefit or support to the fleet of generation assets and are included in the denominator of the ratio. Some may provide a modest element of increased generation, but the main impetus of these projects was to extend the life of components of

the generating station and the resultant increased generation is not comparable with the magnitude of that of Keeyask. All other capital is classified as sustaining the system in order to provide the same level of service or to grow the transmission and distribution system as domestic needs warrant and as such should be funded with internally generated cash resources.

REFERENCE:

Tab 2, Page 29

PREAMBLE TO IR (IF ANY):

Manitoba Hydro notes that “In Manitoba Hydro’s view, a financial plan that returns the Corporation to a 25% equity level over almost 20 years is not credible as a commitment to being a self-supporting entity.”

The PUB, in the report on NFAT (page 28-19), noted as follows:

“Manitoba Hydro’s financial targets determine how rates are set. Targets include a self-imposed 75/25 debt-to-equity ratio. Manitoba Hydro’s financial forecasts are premised on rates being increased sufficiently to allow the debt-to-equity ratio to recover to the target level over a 20-year time period, followed by lesser rate increases thereafter. During the NFAT Review, Manitoba Hydro also provided alternate suggested rate methodologies that would increase rates more gradually, with the result of pushing back the date at which financial targets will fully recover.

A doubling of rates will have a significant effect on all ratepayers. This includes not just residential customers, but also commercial and industrial ratepayers, the latter of which are sensitive to price increases as it can affect their competitive position. The Panel supports a relaxation of Manitoba Hydro’s 75/25 debt-to-equity ratio to smooth out rate increases and the Panel concludes that Manitoba Hydro would still be left with sufficient retained earnings if the equity level was decreased.” (emphasis added).

QUESTION:

- c) Please provide a calculation of CFO:Capex, by year, for the NFAT Preferred Development Plan that Manitoba Hydro recommended which MIPUG understands is Plan 14 Base Level DSM (MH Exhibit 104-12-4 starting at pdf page 1). Show all values underlying the calculation.

- d) If Manitoba Hydro does not agree that part (c) represents the best REF-REF-REF baseline scenario for what Hydro recommended at the final Preferred Development Plan in NFAT, please provide a reference for the scenario that MH sees as the best representation of the Preferred Development Plan, and also provide the CFO:Capex for that scenario. Show all values underlying the calculation.
- e) Please provide a calculation of CFO:Capex, by year, for the NFAT baseline scenario for what the PUB recommended in their NFAT Report (which MIPUG understands is best represented by Plan 5 DSM 2 - MH Exhibit 104-12-4 starting at pdf page 37). Show all values underlying the calculation.
- f) If Manitoba Hydro does not agree that part (e) represents the best REF-REF-REF baseline scenario for what the Board recommended in NFAT, please provide a reference for the scenario that MH sees as the best baseline and also provide the CFO:Capex for that scenario. Show all values underlying the calculation.

RATIONALE FOR QUESTION:**RESPONSE:**

- c) Consistent with the CFO to Capex calculation as provided in PUB MFR 51 Updated, the CFO to Capex ratio for the NFAT Plan 14 Base Level DSM (MH Exhibit 104-12-4 starting at pdf page 1) can be found below.

It should be noted that the cash flows projected in these development plan scenarios are a reflection of the projected annual rate increases incorporated in the projected financial statements. For each of the development plans submitted in Manitoba Hydro's 2013 NFAT Application, the projected annual rate increases were determined mechanistically for the purposes of making fair and objective comparisons between the plans (NFAT Transcript page 2767).

It was noted at NFAT Transcript page 2768 that the mechanistic approach to rate setting could result in rate increases that were volatile and that "actual rate increases would vary from those [projected at NFAT], and will depend on many other factors...not just the choice of development plan [but also] due to changing water flows, weather and costs to maintain the system, and economic variables (NFAT Transcript page 2769).

Manitoba Hydro further noted at NFAT Transcript page 2776 that the annual rate increases projected for comparative purposes could be higher than even 3.95% in order to mitigate several years of financial losses. As a result, caution should be used in reliance on the cash flows provided below.

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES
PDP (14) - BASE DSM MAIN SUBMISSION RATE METHODOLOGY
(Millions of Dollars)

For the year ended March 31

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cash Receipts from Customers	1 692	1 819	1 861	1 919	2 039	2 170	2 274	2 413	2 796	3 013	3 153	3 283
Cash Paid to Suppliers and Employees	(782)	(810)	(857)	(904)	(940)	(983)	(1 013)	(1 042)	(1 126)	(1 163)	(1 191)	(1 220)
Interest Paid	(467)	(483)	(512)	(543)	(599)	(695)	(814)	(814)	(1 082)	(1 182)	(1 160)	(1 161)
Add Back Total CEF Capitalized Interest	(104)	(108)	(159)	(249)	(319)	(341)	(333)	(415)	(261)	(234)	(310)	(385)
Gross Interest	(571)	(592)	(671)	(792)	(918)	(1 036)	(1 146)	(1 229)	(1 343)	(1 416)	(1 470)	(1 546)
Deduct Capitalized Interest on Major Projects*	84	64	69	104	157	227	321	403	248	220	293	361
Interest Received	28	17	24	25	30	37	40	38	35	32	18	20
CASH FLOW FROM OPERATIONS (Restated)	451	499	427	353	367	414	476	583	609	686	802	898
Electric PP&E from Cash Flow Statement	1 311	1 955	2 280	2 197	2 154	2 139	2 075	2 143	1 726	1 927	1 804	1 804
Less: Capitalized Interest Included in PP&E Above	(104)	(108)	(159)	(249)	(319)	(341)	(333)	(415)	(261)	(234)	(310)	(385)
CEF Cash Flows including Deferrers	1 207	1 847	2 120	1 948	1 835	1 798	1 743	1 728	1 465	1 693	1 494	1 419
Deduct Major Projects Capex**	(417)	(912)	(1 342)	(1 346)	(1 327)	(1 348)	(1 254)	(1 301)	(981)	(1 125)	(866)	(778)
CAPITAL EXPENDITURES	791	934	778	602	507	449	489	426	484	568	627	641
CFO to CAPEX RATIO	0.57	0.53	0.55	0.59	0.72	0.92	0.97	1.37	1.26	1.21	1.28	1.40
Surplus Available to Retire Debt / (Deficiency)	(340)	(436)	(351)	(249)	(141)	(35)	(13)	156	125	118	175	256

* Includes Incremental Development Plan Capital excluding BP111

** Includes Incremental Development Plan Capital including BP111

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES
PDP (14) - BASE DSM MAIN SUBMISSION RATE METHODOLOGY
(Millions of Dollars)

For the year ended March 31

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Cash Receipts from Customers	3 405	3 476	3 808	4 227	4 504	4 681	4 870	5 085	4 234	4 264	4 316	4 339
Cash Paid to Suppliers and Employees	(1 255)	(1 274)	(1 305)	(1 321)	(1 362)	(1 384)	(1 400)	(1 427)	(1 452)	(1 477)	(1 501)	(1 514)
Interest Paid	(1 162)	(1 141)	(1 268)	(1 551)	(1 761)	(1 737)	(1 758)	(1 666)	(1 635)	(1 617)	(1 601)	(1 593)
Add Back Total CEF Capitalized Interest	(458)	(545)	(501)	(259)	(65)	(80)	(35)	(27)	(38)	(36)	(11)	(15)
Gross Interest	(1 621)	(1 686)	(1 769)	(1 810)	(1 826)	(1 817)	(1 793)	(1 693)	(1 674)	(1 653)	(1 612)	(1 607)
Deduct Capitalized Interest on Major Projects*	430	518	467	223	5	-	-	-	-	-	-	-
Interest Received	29	34	44	61	79	88	101	81	100	74	67	67
CASH FLOW FROM OPERATIONS (Restated)	989	1 068	1 245	1 379	1 401	1 568	1 777	2 046	1 209	1 207	1 269	1 285
Electric PP&E from Cash Flow Statement	1 762	2 402	1 769	1 264	1 100	1 018	959	822	798	829	830	869
Less: Capitalized Interest Included in PP&E Above	(458)	(545)	(501)	(259)	(65)	(80)	(35)	(27)	(38)	(36)	(11)	(15)
CEF Cash Flows including Deferrals	1 304	1 857	1 268	1 005	1 035	937	924	795	759	793	819	854
Deduct Major Projects Capex**	(659)	(1 181)	(613)	(200)	1	-	-	-	-	-	-	-
CAPITAL EXPENDITURES	644	676	656	805	1 035	937	924	795	759	793	819	854
CFO to CAPEX RATIO	1.53	1.58	1.90	1.71	1.35	1.67	1.92	2.57	1.59	1.52	1.55	1.50
Surplus Available to Retire Debt / (Deficiency)	345	392	589	574	366	631	853	1 251	450	415	450	431

* Includes Incremental Development Plan Capital excluding BP111

** Includes Incremental Development Plan Capital including BP111

- d) Plan 14 Base Level DSM (MH Exhibit 104-12-4 starting at pdf page 1) represents the best REF-REF-REF baseline scenario for what Hydro submitted as the Preferred Development Plan in NFAT. It should be noted, however, over the NFAT process timeline, the capital costs of Keeyask and Conawapa increased and the forecasts for load and export prices deteriorated significantly, consequently impacting the economics of Conawapa. As a result, Manitoba Hydro's view of the Preferred Development Plan evolved over the NFAT process to protect Conawapa as an option with a future final decision date and supported the Plan 5 provided in part e) below. Manitoba Hydro, however, did not formally modify its application with respect to Conawapa.
- e) Consistent with the CFO to Capex calculation as provided in PUB MFR 51 Updated, the CFO to Capex ratio for the NFAT Plan 5 DSM 2 - MH Exhibit 104-12-4 starting at pdf page 37) can be found below.

Please also see the note in part c) above with respect to the rate increase assumptions underlying the cash flows below and reliance on them.

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES
KEYYASK - GAS (5) - DSM LEVEL 2 MAIN SUBMISSION RATE METHODOLOGY
 (Millions of Dollars)

For the year ended March 31

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cash Receipts from Customers	1 692	1 819	1 854	1 906	2 017	2 142	2 240	2 368	2 735	2 938	3 060	3 172
Cash Paid to Suppliers and Employees	(782)	(810)	(857)	(904)	(939)	(980)	(1 005)	(1 027)	(1 104)	(1 133)	(1 154)	(1 174)
Interest Paid	(467)	(483)	(527)	(570)	(633)	(733)	(866)	(878)	(1 154)	(1 265)	(1 235)	(1 235)
Add Back Total CEF Capitalized Interest	(104)	(108)	(145)	(225)	(290)	(305)	(275)	(312)	(103)	(14)	(18)	(24)
Gross Interest	(571)	(592)	(672)	(795)	(923)	(1 037)	(1 141)	(1 189)	(1 257)	(1 278)	(1 253)	(1 258)
Deduct Capitalized Interest on Major Projects*	84	64	56	81	128	190	264	299	89	-	-	-
Interest Received	28	17	24	25	30	37	40	38	35	32	18	18
CASH FLOW FROM OPERATIONS (Restated)	451	498	405	313	312	352	397	489	498	558	671	758
Electric PP&E from Cash Flow Statement	1 311	1 964	2 279	2 189	2 132	2 050	1 547	1 190	1 019	673	672	692
Less: Capitalized Interest Included in PP&E Above	(104)	(108)	(145)	(225)	(290)	(305)	(275)	(312)	(103)	(14)	(18)	(24)
CEF Cash Flows including Deferreds	1 207	1 855	2 134	1 964	1 842	1 746	1 272	878	916	659	654	668
Deduct Major Projects Capex**	(417)	(912)	(1 314)	(1 313)	(1 239)	(1 239)	(721)	(405)	(397)	(65)	(0)	-
CAPITAL EXPENDITURES	791	943	820	651	603	507	551	474	520	594	654	668
CFO to CAPEX RATIO	0.57	0.53	0.49	0.48	0.52	0.69	0.72	1.03	0.96	0.94	1.03	1.13
Surplus Available to Retire Debt / (Deficiency)	(340)	(445)	(415)	(338)	(291)	(155)	(153)	15	(22)	(36)	17	90

* Includes Incremental Development Plan Capital excluding BP III

** Includes Incremental Development Plan Capital including BP III

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES
KEYYASK - GAS (5) - DSM LEVEL 2 MAIN SUBMISSION RATE METHODOLOGY
(Millions of Dollars)

For the year ended March 31

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Cash Receipts from Customers	3 276	3 320	3 494	3 599	3 732	3 872	4 045	4 196	3 439	3 473	3 574	3 606
Cash Paid to Suppliers and Employees	(1 202)	(1 208)	(1 236)	(1 251)	(1 278)	(1 299)	(1 307)	(1 354)	(1 382)	(1 415)	(1 446)	(1 452)
Interest Paid	(1 242)	(1 244)	(1 224)	(1 231)	(1 209)	(1 174)	(1 198)	(1 125)	(1 111)	(1 111)	(1 146)	(1 163)
Add Back Total CEF Capitalized Interest	(28)	(27)	(34)	(37)	(60)	(83)	(46)	(29)	(38)	(36)	(11)	(15)
Gross Interest	(1 270)	(1 271)	(1 258)	(1 268)	(1 269)	(1 257)	(1 243)	(1 155)	(1 149)	(1 148)	(1 157)	(1 177)
Deduct Capitalized Interest on Major Projects*	-	-	-	-	0	3	10	2	-	-	-	-
Interest Received	27	30	40	53	66	69	77	51	64	67	70	68
CASH FLOW FROM OPERATIONS (Restated)	831	871	1 040	1 133	1 250	1 388	1 581	1 740	973	977	1 040	1 044
Electric PP&E from Cash Flow Statement	702	732	719	872	1 104	1 128	1 129	853	805	837	838	877
Less: Capitalized Interest Included in PP&E Above	(28)	(27)	(34)	(37)	(60)	(83)	(46)	(29)	(38)	(36)	(11)	(15)
CEF Cash Flows including Deferrals	673	705	685	836	1 044	1 044	1 083	824	767	800	827	863
Deduct Major Projects Capex**	-	-	-	-	(0)	(100)	(152)	(22)	-	-	-	-
CAPITAL EXPENDITURES	673	705	685	836	1 044	944	931	802	767	800	827	863
CFO to CAPEX RATIO	1.23	1.24	1.52	1.36	1.20	1.47	1.70	2.17	1.27	1.22	1.26	1.21
Surplus Available to Retire Debt / (Deficiency)	157	166	354	297	207	444	650	938	206	177	213	181

* Includes Incremental Development Plan Capital excluding BP111

** Includes Incremental Development Plan Capital including BP111

- f) The PUB did not specifically recommend one of Manitoba Hydro's development plans in its Need For And Alternatives To (NFAT) Review Final Report. However, based on a comparison of the PUB's recommendations with Manitoba Hydro's Plan 5 DSM 2 - MH Exhibit 104-12-4 (starting at pdf page 37), Plan 5 closely resembles the PUB's recommendations.

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REFERENCE:

PUB/MH I-37

PREAMBLE TO IR (IF ANY):

“The cash flow to capex ratio is a key ratio commonly used by credit rating agencies (such as DBRS, S&P and Moody’s), financial analysts and investors as an indicator of the ability of a utility to generate sufficient cash flows from its long-term assets”. Credit rating agencies use Cash flow to Capex as derived from financial statements prepared in accordance with accepted accounting principles. A cash flow to capex ratio is provided in response to PUB/MH I-23.

QUESTION:

- a) Please explain how the credit rating agencies calculate the cash flow to capex ratio and compare and contrast with what is being presented by Manitoba Hydro.

RATIONALE FOR QUESTION:**RESPONSE:**

- a) The Manitoba Hydro rating report provided by DBRS on November 25, 2016 includes a (cash flow-dividends)/capex calculation on page 10 of the report. It is Manitoba Hydro’s understanding that DBRS utilizes data readily available in MHEB’s annual report. Using fiscal year 2016 as an example, the ratio is calculated as follows:

DBRS - (Cash flow-dividends)/capex

	<u>2016</u>
Cash receipts from customers	2,298
Cash paid to suppliers and employees	(950)
Interest received	23
Interest paid	<u>(580)</u>
Cash flow from operations	791
Property, plant and equipment, net of contributions	2,372
Contributions received	<u>(92)</u>
Capital expenditure	2,280
Cash flow from operations	791
Capital expenditure	<u>2,280</u>
(Cash flow-dividends)/capex	0.35

Manitoba Hydro’s calculation of Cash Flow from Operations to Capex Ratio from PUB/MH I-23 and DBRS’s calculation of (cash flow-dividends)/capex differ in that DBRS adjusts the capital expenditures for contributions received and does not remove capitalized interest from the figure. DBRS does not add back capitalized interest to interest paid.

S&P last provided a Manitoba Hydro rating report in 2013. The 2013 report included a net cash flow/capex calculation. The ratio calculations included in the report were provided to Manitoba Hydro to review for accuracy. It is Manitoba Hydro’s understanding that S&P utilizes data readily available in MHEB’s annual report. The calculation methodology provided in 2013 has been rolled forward to 2016 to be show the calculation for net cash flow/capex:

S&P - Net cash flow/capex (%)

	<u>2016</u>
Revenues	2,258
Cost of gas sold	(181)
Water rentals and assessments	(126)
Fuel and power purchased	(117)
Operating and administrative	(614)
Capital and other taxes	<u>(123)</u>
EBITDA	1,097
Pension adjustments:	
Interest on obligation	61
Administrative fees	3
Expected return on plan assets	<u>(44)</u>
Adjusted EBITDA	1,117
Finance expense	620
Investment income	23
Capitalized interest	177
Pension adjustments:	
Interest on obligation	61
Imputed return on plan assets (calculated by S&P)	<u>(42)</u>
Adjusted interest expense	839
Adjusted EBITDA	1,117
Interest income	23
Adjusted interest expense	<u>(839)</u>
Adjusted funds from operations	301
Dividends paid	<u>-</u>
Adjusted net cash flow	301
Capital expenditures	2,372
Capitalized interest	<u>(177)</u>
Adjusted capital expenditures	2,195
Adjusted net cash flow	301
Adjusted capital expenditures	<u>2,195</u>
Net cash flow/capex (%)	13.7%

Manitoba Hydro's calculation of Cash Flow from Operations to Capex Ratio from PUB/MH I-23 and S&P's calculation of Net cash flow/capex differ in that S&P includes pension

adjustments in their calculation of net cash flow. S&P's calculation produces a very similar result as compared to Manitoba Hydro's calculation.

Moody's does not show a calculation for a cash flow to capex ratio in their rating reports on Manitoba Hydro.

REFERENCE:

PUB/MH I-37

PREAMBLE TO IR (IF ANY):

“The cash flow to capex ratio is a key ratio commonly used by credit rating agencies (such as DBRS, S&P and Moody’s), financial analysts and investors as an indicator of the ability of a utility to generate sufficient cash flows from its long-term assets”. Credit rating agencies use Cash flow to Capex as derived from financial statements prepared in accordance with accepted accounting principles. A cash flow to capex ratio is provided in response to PUB/MH I-23.

QUESTION:

- b) Please explain how evaluating Manitoba Hydro’s ability to generate sufficient cash flows from its long-term assets is enhanced if it includes CWIP assets (capitalized interest not in service) in the analysis.

RATIONALE FOR QUESTION:**RESPONSE:**

The Bipole III Reliability Project, once in service, is expected to generate incremental revenue of approximately 5% of its incremental cash borrowing and cash operating costs. The Keeyask Generating Station, once in service, is expected to generate incremental revenue of approximately 60% of its incremental cash borrowing and cash operating costs. To ignore the current ongoing and future debt servicing costs of such significant projects in any evaluation of cash flow sufficiency will almost certainly result in continued deficit funding of the ongoing business operations not having adequately adjusted customer rates to reflect the material present and pending cash burden on the Corporation.

REFERENCE:

Appendix 3.5 Pgs. 7, Appendix 3.6MH16 Update

PREAMBLE TO IR (IF ANY):

MH states Internally generated cash flow has been positive and relatively steady averaging over 600 million per year. Nonetheless, pro forma for the in service of Bipole III Manitoba Hydro's current operations are cash negative. Bipole III comes into service in 2019. The cash flow statement indicates cash flow from operations of \$635 million in that year based on 3.95% assumed rate increase.

QUESTION:

Please explain how MH's operations on a Proforma basis for Bipole 3 are cash negative?

RATIONALE FOR QUESTION:**RESPONSE:**

Manitoba Hydro believes the Reference and Preamble to be referring to Appendix 3.7 (MH16 Update – 3.95% in 2017/18 scenario) wherein the \$635 million noted is Interest Paid. Cash flow from operations in this scenario in 2019 is \$776 million presuming a 3.95% interim rate increase at August 1, 2017 (vs. 3.36% per Order 80/17) and a 7.90% increase effective April 1, 2018.

Cash flow from operating activities does not include any outflow whatsoever on account of any capital, deferred or other expenditures required to operate and sustain the system and the business. Moreover, Cash flow from operating activities presented in the projected cash flow statement does not fully reflect the total cash outflow related to interest payments associated with funds borrowed to fund investments required to secure the continued reliable supply of energy to Manitoba customers. As highlighted in Tab 2, Section 2.4.3, the Bipole III Reliability Project is a necessary and essentially non-revenue generative investment to ensure continuity of supply. As such, any complete analysis of Manitoba

Hydro's financial results and condition must incorporate the impact of the additional costs of building and operating this asset both through the construction phase and after it enters service in August 2018. Interest paid and capitalized to such projects for income statement purposes must be added back to fully reflect the cash outflow related to interest payments.

Further, the statement that Manitoba Hydro's current operations are cash negative refers to net cash flow after capital expenditures. The following schedule restates Figure 2.16 (Tab 2, page 20) to show the net cash flow based on MH16 Update with Interim and MH15 Rate Increases. As can be seen, Manitoba Hydro's operations and capital investments are cash flow negative under the 3.95% rate alternative scenario in 2017/18, 2018/19 and 2019/20. Notwithstanding the \$132 million contribution from almost unprecedented water conditions in 2017/18 and 2018/19 (as noted on Page 20 of the Supplement to Tab 3) and the \$334 million contribution from increased rate revenue inclusive of Order 80/17 (Appendix 3.8), Manitoba Hydro is still forecast to be operating at a cumulative cash flow deficiency of \$339 million over the next three years.

Figure 2.16 Cash Flow Deficiency - MH16 Updated with Interim and MH15 Rate Increases

Cash Flow from Operations to CapEx

<i>For the year ended March 31</i>	Actuals	Forecast				
	2017	2018	2019	2020	2021	2022
Net Income Attributable to MH	53	93	148	66	125	194
Cash Receipts from Customers *	1,997	2,152	2,170	2,173	2,371	2,577
Cash Paid to Suppliers and Employees **	(933)	(892)	(843)	(870)	(885)	(894)
Interest Paid	(553)	(531)	(635)	(704)	(771)	(853)
Add: Total Capitalized Interest	(250)	(360)	(320)	(319)	(333)	(290)
Less: Capitalized Interest related to Keeyask, MMTP & GNTL	110	162	227	297	315	274
Interest Received	17	5	11	22	26	19
Adjusted Cash Flow from Operations ***	387	537	611	600	723	834
CEF16 Expenditures ****	654	688	709	689	674	652
Cash Flow Deficiency	(267)	(151)	(99)	(89)	49	182

* per Cash Flow Statement restated for Bipole III deferred revenue reclassified from contributions which were net against PP&E (CEF16 Expenditures)

** Adjusted for payables associated with Bipole III and Keeyask

*** CFO - Internally generated funds less portion of capitalized interest related to (Keeyask, MMTP & GNTL)

**** Total gross capital and deferred expenditures excluding Keeyask, Bipole III, MMTP & GNTL; Bipole III deferred revenue reclassified from PP&E to Cash Flows from Operating Activities

However, the question as framed suggests it is only the impact of Bipole III that leads to Manitoba Hydro deficit-funding its ongoing operations on a current and forecast basis. As Section 2.2 of Tab 2 of the Application makes clear, the Bipole III project is not the only contributor to Manitoba Hydro's current and, without the proposed rate increases, unmitigated forecast cash flow deficiency.

A major additional contributor is that with minimal net income, Manitoba Hydro is not recovering from its ratepayers through depreciation expense anywhere near the ongoing, cash investments needed to maintain the existing system along with other significant, recurring annual expenditures that are capitalized and amortized (therefore are deferred in their net income impact) and are essential to operating the business.

The following table summarizes this reality:
(in millions)

	Actual			Forecast		
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Depreciation and Amortization Expense*	\$ 350	\$ 364	\$ 372	\$ 392	\$ 404	\$ 415
Business Operations Capital**	\$ 525	\$ 521	\$ 530	\$ 526	\$ 517	\$ 516
Initial Deficiency	\$ (174)	\$ (157)	\$ (158)	\$ (134)	\$ (113)	\$ (101)
Sustaining Expenditures Categorized as MNG&T	\$ 178	\$ 74	\$ 49	\$ 66	\$ 53	\$ 39
Adjusted Deficiency for Capital Only	\$ (352)	\$ (231)	\$ (206)	\$ (200)	\$ (166)	\$ (139)

*From Statement of Income, adjusted to exclude depreciation on Bipole III (MFR 20)

**As used in Capital Coverage Ratio calculation

The above table makes clear that ratepayers have not been funding the true ongoing costs of operating the system and the business. Depreciation and Amortization Expense has been a poor proxy for the ongoing cash requirements of system operation and renewal. This is due to Depreciation and Amortization being determined basis historical costs while renewal must be paid in present dollars. With significant portions of the generating fleet dating to the 1970s and significant portions of the transmission and distribution network installed in the 1950s or earlier, historical cost bears almost no relation to the expenditures demanded to maintain a modern integrated energy system.

Any analysis of financial health narrowly limited to “net income”, “finance expense” and even “cash provided by operating activities” is susceptible to important gaps in understanding and could create a false sense of confidence in the overall financial condition of the Corporation or sufficiency of domestic rate revenue.

REFERENCE:

PUB/MH I-34

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

Please restate each of the scenario analyses whereby Bipole III is included within the adjustment “Deduct Capitalized Interest on Major Projects” to calculate Cash Flow from Operations. All else within the calculation of CFO to Capex should remain the same.

RATIONALE FOR QUESTION:**RESPONSE:**

The details of the cash flow from operations to capital expenditures ratio have been updated for MH16 Update with Interim and as well, inclusion of Bipole III in “Deduct Capitalized Interest on Major Projects”.

i. 75/25 in 2035/36; 33/34; 31/32; 26/27; 21/22 (pages 2 to 6)

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES
PUB/MH II-18
75/25 in 2035/36
(Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Cash Receipts from Customers	2 152	2 166	2 165	2 360	2 562	2 713	2 795	2 900	2 859	2 967	3 068	3 196	3 335	3 473	3 617	3 770	3 930	4 102	4 194
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(903)	(935)	(953)	(952)	(966)	(980)	(995)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 086)	(1 096)
Interest Paid	(531)	(635)	(704)	(774)	(853)	(1 106)	(1 170)	(1 181)	(1 179)	(1 196)	(1 206)	(1 217)	(1 219)	(1 225)	(1 204)	(1 210)	(1 184)	(1 157)	(1 129)
Add Back Total CEF16 Update Capitalized Interest	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Gross Interest	(890)	(955)	(1 022)	(1 107)	(1 143)	(1 161)	(1 189)	(1 200)	(1 197)	(1 215)	(1 226)	(1 241)	(1 241)	(1 247)	(1 223)	(1 228)	(1 202)	(1 178)	(1 153)
Deduct Capitalized Interest on Major Projects*	337	299	297	315	274	36	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Received	5	11	22	26	19	7	5	7	6	9	14	24	25	15	13	25	27	38	44
CASH FLOW FROM OPERATIONS (Restated)	712	679	592	709	817	692	675	755	716	795	876	984	1 107	1 206	1 377	1 523	1 691	1 875	1 989
Electric PP&E from Cash Flow Statement	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Capitalized Interest Included in PP&E Above	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
CEF 16 Update Cash Flows including Deferrers	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
Deduct Major Projects Capex*	(2 612)	(1 973)	(1 384)	(753)	(426)	(205)	(58)	(2)	(1)	(1)	-	-	-	-	-	-	-	-	-
CAPITAL EXPENDITURES	688	709	689	674	652	638	623	683	712	736	747	775	771	809	821	839	851	927	943
CFO to CAPEX RATIO	1.03	0.96	0.86	1.05	1.25	1.09	1.08	1.10	1.01	1.08	1.17	1.27	1.44	1.49	1.68	1.82	1.99	2.02	2.11
Surplus Available to Retire Debt / (Deficiency)	23	(31)	(96)	34	166	54	53	72	4	59	129	209	336	397	556	685	840	949	1 047

* Bipole III, Keeyask, MMTP and GNTL

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES
PUB/MH II-18
75/25 in 2033/34
(Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Cash Receipts from Customers	2 152	2 173	2 179	2 381	2 591	2 752	2 843	2 958	2 929	3 049	3 164	3 306	3 461	3 617	3 781	3 955	4 138	4 262	4 301
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(952)	(966)	(980)	(995)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 086)	(1 096)
Interest Paid	(531)	(635)	(704)	(771)	(852)	(1 101)	(1 166)	(1 176)	(1 165)	(1 176)	(1 184)	(1 191)	(1 182)	(1 186)	(1 147)	(1 141)	(1 105)	(1 073)	(1 024)
Add Back Total CEF16 Update Capitalized Interest	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Gross Interest	(890)	(955)	(1 022)	(1 104)	(1 143)	(1 157)	(1 186)	(1 194)	(1 183)	(1 196)	(1 205)	(1 215)	(1 204)	(1 208)	(1 166)	(1 159)	(1 123)	(1 094)	(1 048)
Deduct Capitalized Interest on Major Projects*	337	299	297	315	274	36	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Received	5	11	22	26	19	7	4	7	7	9	15	25	28	18	14	24	27	42	45
CASH FLOW FROM OPERATIONS (Restated)	712	685	606	733	848	735	726	818	801	896	995	1 120	1 273	1 392	1 599	1 776	1 979	2 124	2 202
Electric PP&E from Cash Flow Statement	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Capitalized Interest Included in PP&E Above	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
CEF16 Update Cash Flows including Deferrers	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
Deduct Major Projects Capex*	(2 612)	(1 973)	(1 384)	(753)	(426)	(205)	(58)	(2)	(1)	(1)	-	-	-	-	-	-	-	-	-
CAPITAL EXPENDITURES	688	709	689	674	652	638	623	683	712	736	747	775	771	809	821	839	851	927	943
CFO to CAPEX RATIO	1.03	0.97	0.88	1.09	1.30	1.15	1.17	1.20	1.12	1.22	1.33	1.45	1.65	1.72	1.95	2.12	2.32	2.29	2.34
Surplus Available to Retire Debt / (Deficiency)	23	(24)	(83)	59	196	97	103	135	89	161	248	346	503	583	777	938	1 128	1 197	1 260

* Bipole III, Keeyask, MMTP and GNTL

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES

PUB/MH II-18
75/25 in 2031/32
(Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Cash Receipts from Customers	2 152	2 182	2 198	2 410	2 632	2 805	2 909	3 040	3 027	3 166	3 300	3 465	3 643	3 825	4 018	4 135	4 255	4 383	4 426
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(952)	(966)	(980)	(996)	(1 012)	(1 035)	(1 030)	(1 043)	(1 063)	(1 087)	(1 097)
Interest Paid	(531)	(635)	(704)	(770)	(852)	(1 096)	(1 156)	(1 161)	(1 153)	(1 159)	(1 155)	(1 149)	(1 136)	(1 118)	(1 068)	(1 042)	(997)	(961)	(905)
Add Back Total CEF16 Update Capitalized Interest	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Gross Interest	(890)	(955)	(1 022)	(1 103)	(1 142)	(1 151)	(1 175)	(1 179)	(1 171)	(1 179)	(1 176)	(1 173)	(1 158)	(1 140)	(1 087)	(1 060)	(1 016)	(982)	(929)
Deduct Capitalized Interest on Major Projects*	337	299	297	315	274	36	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Received	5	12	22	26	19	8	4	9	6	11	14	26	31	18	14	24	39	50	60
CASH FLOW FROM OPERATIONS (Restated)	712	695	625	762	888	793	803	917	910	1 032	1 158	1 322	1 504	1 668	1 915	2 056	2 214	2 364	2 461
Electric PP&E from Cash Flow Statement	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Capitalized Interest Included in PP&E Above	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
CEF16 Update Cash Flows including Deferrals	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
Deduct Major Projects Capex*	(2 612)	(1 973)	(1 384)	(753)	(426)	(205)	(58)	(2)	(1)	(1)	-	-	-	-	-	-	-	-	-
CAPITAL EXPENDITURES	688	709	689	674	652	638	623	683	712	736	747	775	771	809	821	839	851	927	943
CFO to CAPEX RATIO	1.03	0.98	0.91	1.13	1.36	1.24	1.29	1.34	1.28	1.40	1.55	1.71	1.95	2.06	2.33	2.45	2.60	2.55	2.61
Surplus Available to Retire Debt / (Deficiency)	23	(15)	(64)	88	237	155	180	233	197	296	412	547	734	858	1 094	1 217	1 363	1 437	1 518

* Bipole III, Keeyask, MMTP and GNTL

CASH FLOW FROM OPERATIONS TO CAPITAL EXPENDITURES
PUB/MH II-18
75/25 in 2026/27
(Millions of Dollars)

For the year ended March 31

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Cash Receipts from Customers	2 152	2 223	2 286	2 549	2 829	3 066	3 241	3 453	3 533	3 775	3 861	3 971	4 090	4 205	4 327	4 456	4 587	4 727	4 784
Cash Paid to Suppliers and Employees	(892)	(843)	(870)	(885)	(894)	(904)	(935)	(953)	(952)	(966)	(980)	(996)	(1 013)	(1 035)	(1 030)	(1 043)	(1 064)	(1 087)	(1 097)
Interest Paid	(531)	(635)	(700)	(762)	(835)	(1 069)	(1 122)	(1 111)	(1 083)	(1 047)	(1 029)	(1 024)	(1 007)	(889)	(768)	(700)	(638)	(574)	(505)
Add Back Total CEF16 Update Capitalized Interest	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
Gross Interest	(890)	(955)	(1 018)	(1 095)	(1 125)	(1 124)	(1 142)	(1 130)	(1 101)	(1 067)	(1 050)	(1 048)	(1 029)	(911)	(787)	(718)	(656)	(596)	(529)
Deduct Capitalized Interest on Major Projects*	337	299	297	315	274	36	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Received	5	12	23	26	19	8	9	14	17	17	37	71	92	31	15	22	43	62	94
CASH FLOW FROM OPERATIONS (Restated)	712	736	717	909	1 103	1 082	1 173	1 385	1 497	1 759	1 868	1 997	2 140	2 290	2 526	2 716	2 911	3 106	3 251
Electric PP&E from Cash Flow Statement	3 660	3 002	2 391	1 760	1 368	898	700	704	732	756	767	798	793	832	840	857	870	948	966
Less: Capitalized Interest Included in PP&E Above	(360)	(320)	(319)	(333)	(290)	(55)	(19)	(19)	(18)	(20)	(20)	(24)	(22)	(23)	(19)	(18)	(19)	(21)	(24)
CEF16 Update Cash Flows including Deferrals	3 300	2 682	2 073	1 428	1 078	843	680	686	714	737	747	775	771	809	821	839	851	927	943
Deduct Major Projects Capex*	(2 612)	(1 973)	(1 384)	(753)	(426)	(205)	(58)	(2)	(1)	(1)	-	-	-	-	-	-	-	-	-
CAPITAL EXPENDITURES	688	709	689	674	652	638	623	683	712	736	747	775	771	809	821	839	851	927	943
CFO to CAPEX RATIO	1.03	1.04	1.04	1.35	1.69	1.70	1.88	2.03	2.10	2.39	2.50	2.58	2.78	2.83	3.07	3.24	3.42	3.35	3.45
Surplus Available to Retire Debt / (Deficiency)	23	27	29	235	451	444	550	702	784	1 023	1 121	1 222	1 370	1 480	1 704	1 878	2 059	2 180	2 308

* Bipole III, Keeyask, MMTP and GNTL

27

REFERENCE:

Appendix 4.1 Pg. 138 – Other Financial Targets

PREAMBLE TO IR (IF ANY):

KPMG recommended MH monitor several other financial metrics:

- i) EBIT interest coverage ratio
- ii) Cash flow from operations to net debt
- iii) Net debt to assets
- iv) EBITDA to revenues
- v) Capital expenditures to fixed assets; and
- vi) Average electricity prices across different customer groups, continuing with the explicit objective of maintaining its position among the lowest electricity rates in Canada and North America

QUESTION:

Please indicate which of the additional metrics recommended by KPMG are utilized by the Corporation and for what internal and external purposes.

RATIONALE FOR QUESTION:**RESPONSE:**

All of the metrics listed above are measured and monitored by the corporation. Manitoba Hydro's response to PUB/MH I-37 provides the purpose for measuring and monitoring the CFO to capex ratio which applies to the corporation's use of the above metrics as well.

REFERENCE:

PUB/MH I-40

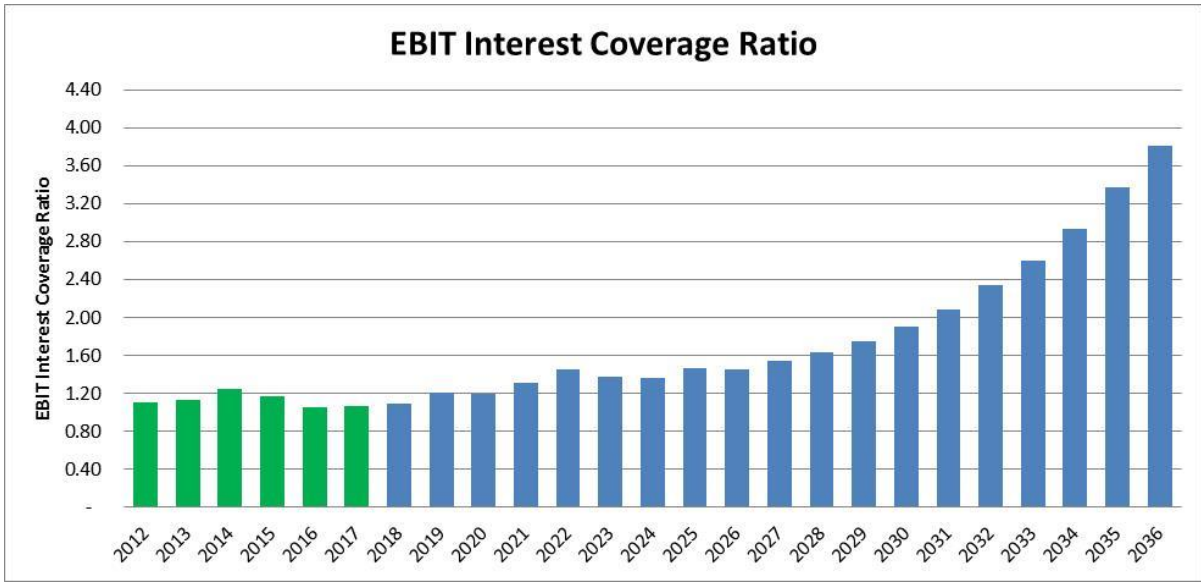
PREAMBLE TO IR (IF ANY):**QUESTION:**

Please provide the results of each of the measured metrics for the last five historical years and the 20-year outlook and provide commentary on each of the metrics and the trend over the next 5, 10 and 20 years.

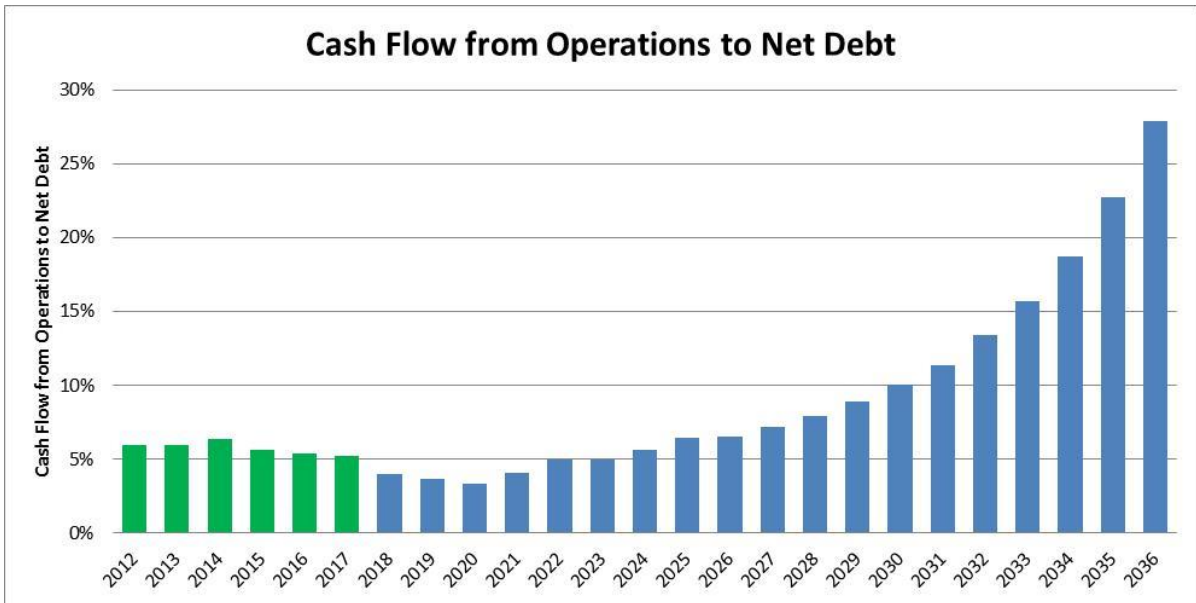
RATIONALE FOR QUESTION:**RESPONSE:**

The green bars displayed in the graphs below represent actual results while the blue bars represent the MH16 Update with Interim.

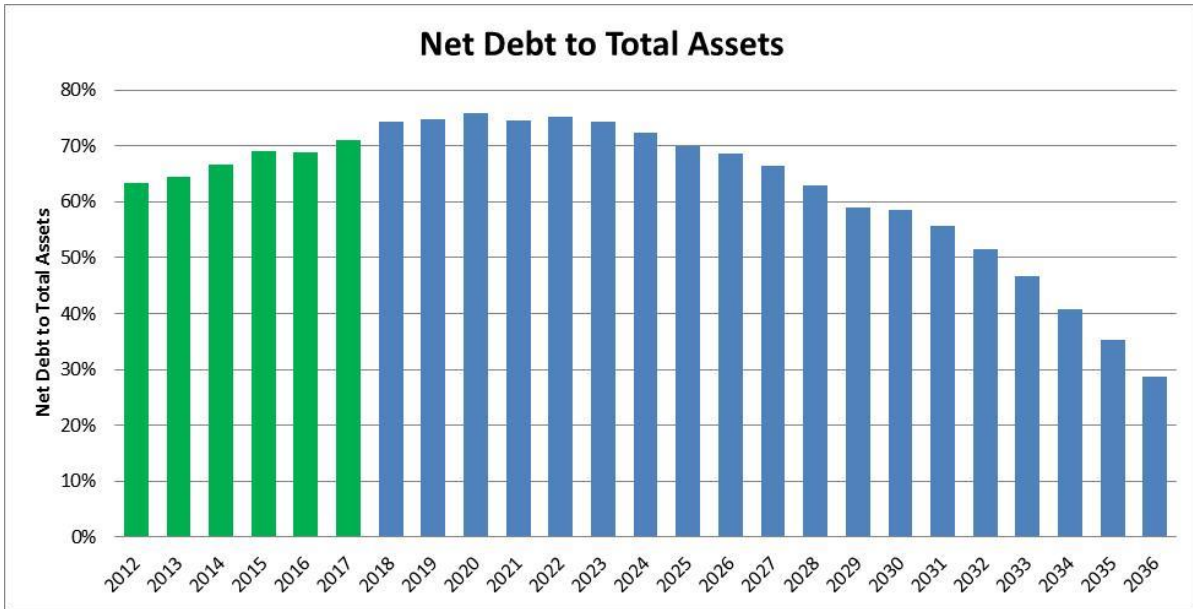
Following Manitoba Hydro's 2015 Financial Target Review, the MHEB endorsed a recommendation to adopt an EBITDA interest coverage ratio with a minimum target of 1.80 which replaced the EBIT interest coverage ratio with a minimum target of 1.20. The following figure shows the EBIT interest coverage ratio which is calculated by dividing the earnings before interest and taxes during the period by the interest expense for the same period. The EBIT interest coverage ratio measures how many times interest expense can be paid for using earnings. The ratio falls between 1.10 and 1.60 over the first 10 years of the forecast. After 2027, the ratio improves substantially year over year.



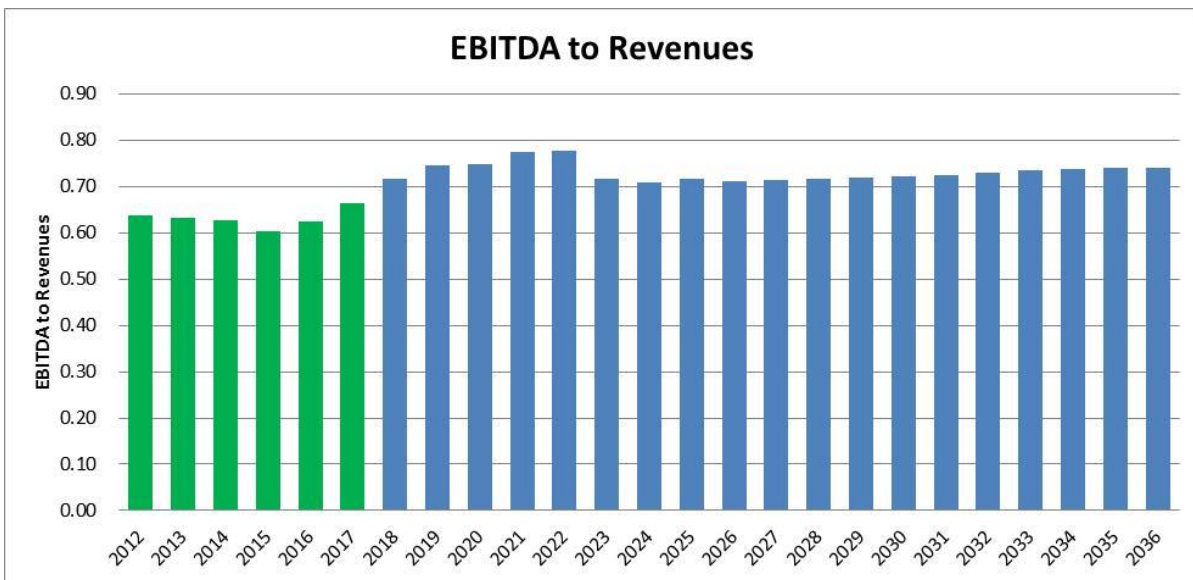
The following figure shows the ratio of cash flow from operations to net debt. The ratio averages approximately 5% from 2018 to 2025. As the net debt declines (post 2025) the ratio improves considerably.



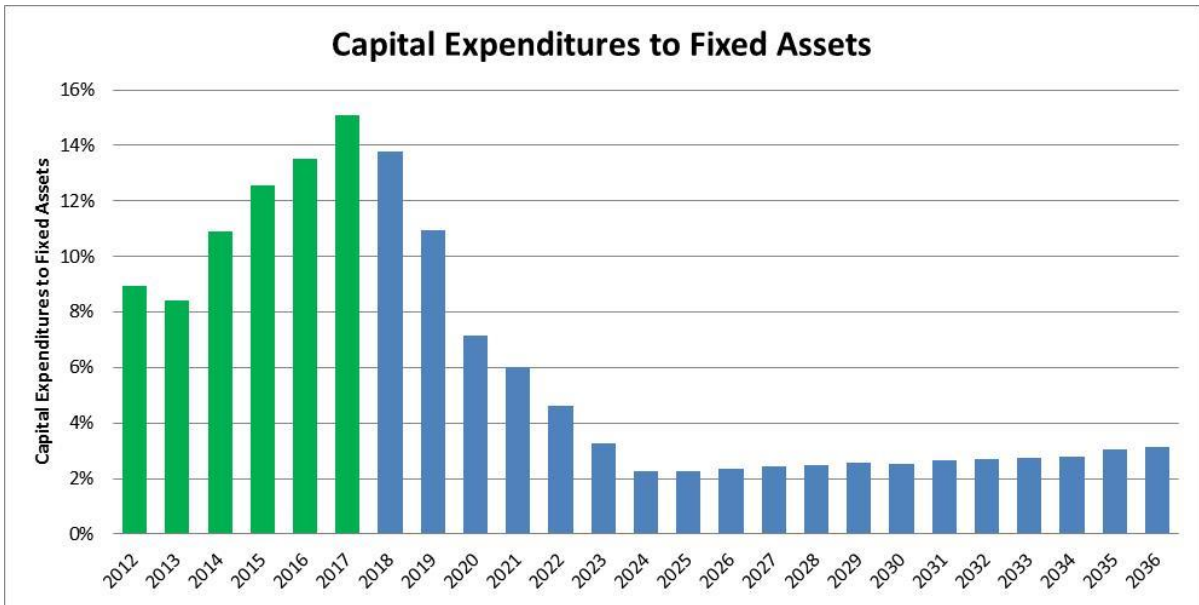
The following figure shows the ratio of net debt to total assets. A higher ratio indicates a higher degree of leverage. The figure shows the ratio has been growing since 2012 through the period of major investment and is projected to peak at 76% in 2020 at which point it begins to improve considerably.



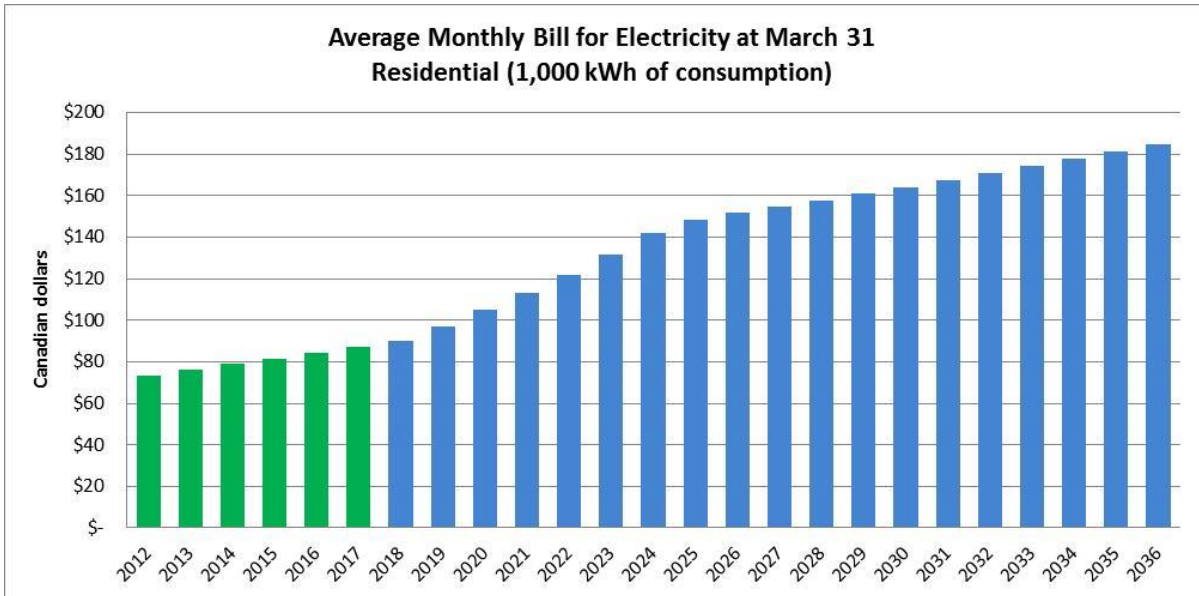
The figure below shows the ratio EBITDA to total revenues. This ratio demonstrates the percentage of earnings remaining after operation expenses (operating and administrative, water rentals, fuel and power purchases and capital and other taxes). The ratio grows to 78% in 2022 before leveling off and averaging 72% throughout the remainder of the forecast.

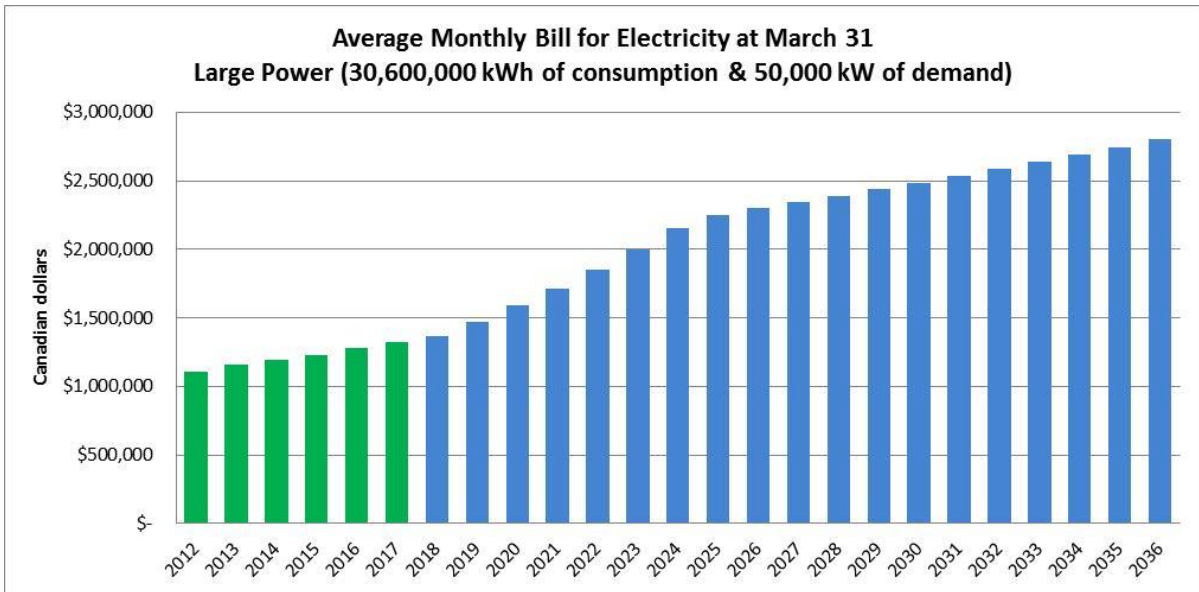
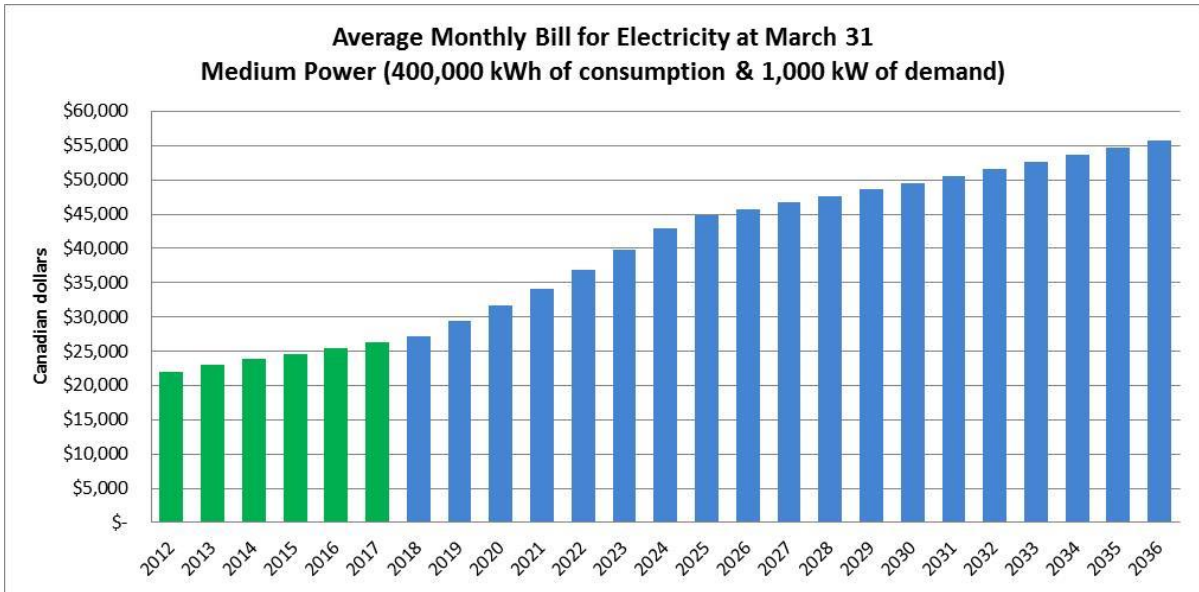


The figure below shows the ratio of annual capital expenditures to total fixed assets (net plant in service plus construction work in progress). The ratio peaks during the period of major capital investment and drops off considerably once spending on the Bipole III ends and then again when the construction of Keeyask is complete.



The following three figures show the average monthly electricity bill for residential, medium power and large power customers.





1 **PUB/Coalition - 28**

2 **Reference:**

3 MPA Report Page 9 & 10, PUB/MH II-19 (a), PUB/MH II-23

4 **Preamble to IR (If Any):**

5 MPA indicated that the Capital coverage ratio. This metric is not a typical part of financial
6 analysis, and its value is somewhat obscure. Certain typical financial measures do take into
7 account capital expenditures (such as “Free Cash Flow”), but determining whether funds from
8 operations are sufficient to pay for capital expenditures does not in itself indicate much about
9 the company. Knowing the amount of Cash Funds from Operations generated by a company
10 is often useful when compared to interest 11 charges or debt (in which case it becomes a
11 cash flow metric), since debt providers often wish to understand whether a company has
12 sufficient cash to make good on debt obligations.

13 **Question:**

14 a) MH has introduced a modified capital coverage ratio, Cash flow to Capex ratio. Please
15 provide your assessment of this metric versus a Free Cash Flow or Discretionary Free
16 Cash Flow metric.

17 b) Please indicate whether such a metric is commonly used by credit rating agencies and
18 if so for what purpose.

19 **RESPONSE:**

20 a) It is critical to note that there are very few “definitive” definitions of financial terms
21 (apart from the most basic financial terms). Different market analysts (or analytical

1 firms) may use slightly different formulas for a given financial term, based on their point
2 of view, the purpose of their calculation, the nature of the enterprise they are analyzing,
3 and the particular financial technicalities that may apply. For example, different
4 analysts may take different positions on the treatment of one-time costs, accrued
5 revenues and expenses, income from “non-core” activities, and the appropriate way to
6 “standardize” line items in an enterprise in order to make them comparable to other
7 firms. These and many other nuances will affect the calculation of many superficially
8 “common” financial metrics.

9
10 In Manitoba Hydro’s response to PUB/MH II 19(a), they provided their understanding of
11 the way that DBRS and S&P analysts calculate each of their own versions of the ratio
12 “Cash Flow from Operations (CFO) : Capex”. They differed from each other in several
13 ways. Moreover, Manitoba Hydro noted that Moody’s does not include a “CFO : Capex”
14 metric in its reports. This variation among these different market analysts is not
15 surprising, and in fact should be viewed as typical.

16
17 However, it should be noted that both DBRS and S&P calculated their version of “CFO
18 : Capex” based on the *total* Capex of Manitoba Hydro, and not a Capex figure which
19 was adjusted to remove “Major New Generation and Transmission” amounts, as is
20 Manitoba Hydro’s practice. As a result, the Manitoba Hydro formulation of the “Capital
21 Coverage Ratio” was not relevant to the analysis of the two agencies.

22
23 It is also notable that on pages 64 and 65 of Appendix 4.1 of the Application (the May
24 2015 KPMG Report), a comparison of “CFO : Capex” is provided as between Manitoba
25 Hydro and several other provincial electricity utilities in Canada. In this case, KPMG
26 also chose to use total Capex in their calculations, rather than Manitoba Hydro’s
27 adjusted capex figure.

28
29 If Manitoba Hydro wishes to track and publicize a “CFO : Capex” metric, then it may be

1 better served by adopting one of the versions used by at least one of the credit rating
2 agencies that currently report on the company's credit-worthiness, or adopt a definition
3 which allows for more straightforward comparison to other utilities.

4
5 A more basic issue is the fact that Manitoba Hydro is calculating a ratio which provides
6 only limited information. This ratio provides directional information; namely, if the ratio
7 is greater than 1, then Manitoba Hydro has generated net cash flow from internal
8 resources which may be used to retire debt (or the cash may be used for other
9 purposes), while if the ratio is less than 1 it has not. This metric can be contrasted to
10 Free Cash Flow or Discretionary Free Cash Flow, which are amounts rather than
11 ratios: these will be either positive or negative dollar totals (there are several potential
12 definitions of both of these terms, but at the most basic level Free Cash Flow can be
13 defined as "Cash Flow from Operations less Capital Expenditures", and Discretionary
14 Free Cash Flow is "Free Cash Flow less Dividends", assuming dividends are payable).
15 Either of these calculations will provide information on how much debt might actually
16 be retired (any value greater than zero means that debt theoretically could be retired
17 by that amount). Both Free Cash Flow and Discretionary Free Cash Flow provide more
18 useful information than the ratio "CFO : Capex". Moreover, Free Cash Flow or
19 Discretionary Free Cash Flow can then be compared to outstanding Debt levels, which
20 provides additional useful information (e.g., the multiple calculated by dividing
21 outstanding Debt by Discretionary Free Cash Flow is a theoretical number of years
22 required to retire debt, which in turn can be compared to the average remaining useful
23 life of assets, etc.).

24 b) Free Cash Flow and Discretionary Cash Flow (as they are variously defined by
25 different analysts) are useful in that they provide an indication of the ability of an
26 enterprise to generate value which can be distributed to shareholders, or reinvested in
27 the business. For credit rating agencies, positive Free Cash Flow indicates that the
28 enterprise is generating sufficient value to allow for the retirement of debt principal.

1 Note, however, that the retirement of debt principal in and of itself does not necessarily
2 indicate any specific change in the Debt to Equity ratio of the enterprise, since
3 information about the relationship between Capex and Depreciation is also required in
4 order to make that calculation (if Depreciation is greater than Capex, then the asset
5 base of the enterprise is shrinking, and other things being equal, debt should be retired
6 in proportion to the ratio between Depreciation and Capex in order to maintain the
7 capital ratio; whereas if Capex is greater than Depreciation the asset base is growing,
8 and at the same time there is positive Free Cash Flow which is used to retire Debt,
9 then the capital ratio is definitely improving).

10
11 In a regulated utility environment, where investments sometimes stretch across several
12 financial years and do not begin to generate revenue until they are "used and useful", it
13 is not atypical to find that Free Cash Flow swings up and down from year to year (as
14 would the CFO : Capex ratio). If a regulated utility is consistently expanding its asset
15 base for a period of time, then it will likely have negative Free Cash Flow, but in a
16 subsequent period it might "harvest" its investments and have positive Free Cash Flow
17 (because Capex will be reduced). Over time, the net balance of these flows should be
18 related both to the rate of growth of the utility's asset base, and to the return on
19 investment that is built into the regulated utility economic model.

20
21 For credit rating agencies, or any other financial analyst reviewing a regulated utility,
22 cash flows and capital expenditures must be understood in the context of the growth of
23 the company's asset base, its customer base, and the ability of customers to pay for
24 the services that will be delivered based on the asset base that the utility invests in.

25
26 However, the primary consideration for a credit-rating agency is the ability of a utility to
27 service its debts (and ultimately repay them). As a result, the primary focus for analysis
28 is not the relationship between cash flows and capital expenditures, but instead the
29 focus is on cash flows and debt, as well as cash flows and debt service costs. As noted

1 on page 33 of the MPA Report, there are many such metrics, and S&P identifies seven
2 of them. Other agencies have similar lists.

3
4 The growth plans of Manitoba Hydro, its capital expenditure plans, and the impact of
5 the same on its customer base are obviously all of concern to market analysts and
6 potential lenders, but this is all secondary information which colours the basic
7 inferences that are drawn from comparison of cash flows and debt.

1 **PUB/Coalition - 29**

2 **Reference:**

3 MPA report Pg. 9, PUB/MH I -1-23 (a-b)

4 **Preamble to IR (If Any):**

5 MPA indicate that the Interest Coverage Ratio, that incorporates both finance expense and
6 capitalized interest represents the approximate net cash cost of debt for the year and that at a
7 1.80X level, creditors would be comfortable that the business is producing enough cash flow
8 to service outstanding debt. Manitoba Hydro has previously stated “Manitoba Hydro accepts
9 that the EBITDA interest coverage ratio is a superior measure of how much cushion the
10 Corporation has on a cash flow basis before it is necessary to borrow to make interest
11 payments, as well as allowing for better peer and credit rating comparisons.” [Supplemental
12 Filing for April 1, 2016 Rates Page 31] MPA further indicates that there are other cash flow
13 metrics beyond the Interest Coverage Ratio such as Free Cash Flow and Discretionary Free
14 Cash flow metrics.

15 **Question:**

- 16 a) Please indicate whether this metric should be used as a primary metric for rate-setting.
- 17 b) At what level above 1.0x would this metric not produce enough cash flow to service
18 outstanding debt?
- 19 c) What other Cash flow metrics should be used for rate setting purposes and why?
- 20 d) Please review and comment on the Free Cash flow information provided in PUB/MH I-
21 23.

1 **RESPONSE:**

2 *Please note that on the broad issues of minimum financial targets and rate-setting*
3 *mechanisms, it may be useful to read MPA responses to six IRs in tandem. These are*
4 *PUB/Coalition 29, 30, 31, and 32, and GSS-GSM/1 and 2.*

- 5 a) Debt Service Coverage is critical for Manitoba Hydro, as it goes to the heart of the
6 question of whether the corporation is “self-supporting” in the eyes of the capital
7 markets. The Interest Coverage Ratio as defined by Manitoba Hydro provides positive
8 and useful information about Debt Service Coverage, and is therefore a useful
9 indicator. In our view, it is the most important of the three indicators tracked by
10 Manitoba Hydro.
- 11 b) The Interest Coverage Ratio that is calculated by Manitoba Hydro is based on figures
12 drawn from the corporation’s Income Statement. As a result, it reflects accrued
13 revenues and expenses, regulatory movements, and other non-cash items, while at the
14 same time it does not capture certain other cash obligations (such as payments related
15 to Winnipeg Hydro and mitigation, which strictly speaking are not related to current
16 operations, but nevertheless are cash obligations that must be paid). Notwithstanding
17 these issues, it provides an indication of the sufficiency of cash flows to meet debt
18 service obligations. However, the exact relationship between this ratio and actual cash
19 flowing through the business will change over time, as each of these various non-cash
20 and non-expense items fluctuate. It is therefore not possible to say with certainty the
21 exact minimum level of this metric that should be maintained over time.
- 22 c) In addition to income statement-based cash flow measures, the PUB may wish to
23 consider tracking strict cash flow measures that seek to forecast the actual cash
24 requirements for Manitoba Hydro. For example, “Cash Flow from Operations less
25 mitigation less payments to Winnipeg” would capture the net cash flows from the
26 enterprise before capital investments, sinking fund management and debt financing.

1 While in exceptional years (such as severe drought) this figure may be negative, on
2 average it must be positive, or Manitoba Hydro would no longer be financially self-
3 supporting.

- 4 d) In response to PUB IR 1-23, Manitoba Hydro provided a forecast of the CFO : Capex
5 ratio, without adjusting for Major New Generation and Transmission, at both 7.9% and
6 3.95% rate paths. Both of these forecasts show the expected relationships: capex
7 greatly exceeds cash flows for the next few years as the Keeyask project is completed,
8 and then cash flows exceed Capex in later years. Subtracting Capex from CFO is a
9 measure of Free Cash Flow. Obviously, given a series of higher rate increases, the
10 7.9% rate path shows a much more pronounced surplus of cash flow over Capex
11 beginning in 2023.

12
13 Notably, both of these forecasts are provided based on reference assumptions for all
14 underlying variables (for example, inflation, interest rates, operating costs, domestic
15 demand, export prices, and, crucially, average hydrological conditions). There is no
16 indication of what the range of results might be (which is provided elsewhere, in
17 response to other IRs, for example PUB/MH II-41).

18
19 These estimates of Free Cash Flows confirm basic expectations, however, what
20 additional value does this metric provide? Are the curves too steep, or not steep
21 enough? Is it problematic that in the 3.95% rate path there is a five-year period from
22 2023 to 2027 where net cash flow after Capex is approximately zero? Is the much
23 more aggressive forecast in the 7.9% rate path an appropriate use of ratepayer
24 money? In order to get deeper insights into the finances of the firm, it would be useful
25 to have information about the relationship between Capex and Depreciation, total
26 assets employed in the business, outstanding Debt levels, the average remaining life of
27 assets over time, etc. Free Cash Flow information is a useful starting point for analysis

1 (and it is certainly better to have access to this information than not), but it does not
2 provide particularly deep insight into the firm's progress over time.

3

1 **PUB/Coalition - 30**

2 **Reference:**

3 MPA Report Pg. 35

4 **Preamble to IR (If Any):**

5 MPA states that on page 35 “Certainly, the capital structure of a utility is important, and all
6 analysts do recognize that, but few if any appear to make capital structure a centerpiece of
7 their analysis in the way Manitoba Hydro does.”

8 **Question:**

9 Does MH require a capital structure of 75:25 or can other targets be considered based on the
10 risks faced by the Corporation.

11 **RESPONSE:**

12 *Please note that on the broad issues of minimum financial targets and rate-setting*
13 *mechanisms, it may be useful to read MPA responses to six IRs in tandem. These are*
14 *PUB/Coalition 29, 30, 31, and 32, and GSS-GSM/1 and 2.*

15 Manitoba Hydro must maintain its financial self-supporting status, and as a result ensuring
16 sufficient debt service coverage must be a priority.

17 The company faces substantial volatility in its cash flows because of hydrology, and to a
18 lesser extent because of export price risk, operating risks, and other risks. If rates were set
19 annually, and solely on the basis of debt service coverage, then domestic rates could be
20 expected to swing dramatically based on these underlying volatile factors. That would not be

1 an acceptable balancing of regulatory principles resulting in just and reasonable rates,
2 because ratepayers have the right to expect some stability and predictability in their rate
3 regime. As a result, it would be appropriate for Manitoba Hydro to maintain some level of
4 reserves (equity) that would allow it to manage its volatile cash flows, while keeping rates
5 relatively stable and predictable.

6 However, there is a cost to maintaining reserves: ratepayers are contributing those reserves,
7 and ratepayers have other uses for their money. From a capital efficiency perspective, it
8 would be best if reserves were not larger than absolutely necessary to manage the expected
9 degree of volatility in Manitoba Hydro cash flows. At the same time, no group or cohort of
10 ratepayers should be unfairly burdened with contributing the reserves, because doing so
11 violates the regulatory principle of cost causality. Therefore, from a cost causality perspective,
12 it would be best if all ratepayers could contribute equally to reserves over time (on an
13 inflation-adjusted basis), and the volume of reserves would go up and down as required to
14 manage the volatile cash flows as they occur. Notably then, regulatory principles suggest at
15 least two different ways to manage reserves, but in neither case is a fixed reserve target
16 required.

17 The absolute level of reserves at any given time is not actually critically important, only the
18 expected sufficiency of the reserves for the upcoming period of time, however long that
19 “period” is deemed to be. For example, if the intention is to keep rates on a stable path for the
20 next five years, then existing reserves plus contributions to reserves over the five years
21 should be sufficient to manage the expected volatility in cash flows. If rates are reset every
22 two years, but the time horizon is always five years forward, then changes in rates should be
23 much more moderate than would be the case with annual rate-setting on a pure debt service
24 coverage basis. Alternatively, if the desire was to ensure stability over a longer 10-year period,
25 then a calculation would be made about the level of annual contribution to reserves that would
26 be sufficient to ensure that reserves never bottom out during the 10-year horizon. Again, if

1 rates are set every two years, and the horizon is always 10 years forward, then changes in
2 rates should be moderated.

3 Note, however, that in this construct rates ARE adjusted periodically based on prevailing
4 conditions, which means they are not completely stable and predictable. Once again,
5 regulatory principles must be balanced against each other when making decisions about rate-
6 setting mechanisms. Moreover, this kind of calculation requires careful analysis about which
7 volatile factors will be managed through the use of reserves, and which will not. For example,
8 hydrological variation is undoubtedly an extremely volatile factor that should be managed
9 through reserves, while inflation, which only affects the company slowly over time, is not
10 (moreover, inflation affects the general price level in the economy in real time, and there is no
11 good reason to attempt to manage its effects).

12 Based on the foregoing logic, it is not apparent that targeting an arbitrary 75:25 debt to equity
13 ratio is necessary. In particular, it is not clear that setting an arbitrary target, and an arbitrary
14 goal to achieve that target as of March 31, 2027 or any other date, is in any way related to the
15 expected levels of cash flow volatility that Manitoba Hydro is tasked with managing.

16 In PUB/MH II – 41, Manitoba Hydro provided its Interest Coverage Ratio estimates for 918
17 runs of its model based on the revised 7.9% for six years rate path. In that model, at the P5
18 position, interest coverage is 1.40 times in 2020, rising to 1.87 by 2027. This means that 95%
19 of the time, interest coverage will be higher than this level, and in fact substantially higher
20 than the minimum level required for cash flow sufficiency in any given year. At the P50
21 position, interest coverage at the corresponding dates are 1.76 and 2.41. Interest coverage is
22 far, far higher than it appears it needs to be to manage any potential volatility in cash flows,
23 according to Manitoba Hydro's own risk analysis. This suggests that reserves are
24 unnecessarily high at the levels proposed, and a lower rate path may be sufficient to satisfy
25 minimum financial conditions.

1 **PUB/Coalition - 31**

2 **Reference:**

3 MPA Report Pg. 44 L6-14

4 **Preamble to IR (If Any):**

5

6 **Question:**

7 a) How would MH establish a drought fund cash reserve? Would this equate to a
8 Minimum Retained Earnings Target?

9 b) How does the \$500M operating line play into the establishment of a drought fund?

10 **RESPONSE:**

11 *Please note that on the broad issues of minimum financial targets and rate-setting*
12 *mechanisms, it may be useful to read MPA responses to six IRs in tandem. These are*
13 *PUB/Coalition 29, 30, 31, and 32, and GSS-GSM/1 and 2.*

14 Please note that this IR invites consideration of possible new and alternative ways of
15 managing certain issues related to Manitoba Hydro rates. While MPA is pleased to offer
16 suggestions and ideas, it should be recognized that these are necessarily tentative and
17 reflective of the limited time and resources available during a general rate-setting process.

18 Adequately reviewing all possible pros and cons of new options and rules is well beyond the
19 limitations of an IR response. It would be very much appreciated if the following response was
20 understood in this light.

1 a) As described in response to IR 30, above, the sufficiency of reserves could be
2 calculated on a rolling-forward or periodic basis. Depending upon the current state of
3 reserves, and all of the forecasted risks pertaining to the forward period, an
4 assessment could be made of how much ratepayers should contribute to reserves as
5 part of their rates in the coming years.

6
7 Rather than establishing an arbitrary minimum level of reserves, the PUB could focus
8 on a probability assessment. For example, a rule could be that current reserves plus
9 contributions be set at a level high enough so that 95% of all hydrological scenarios
10 could be managed, from an interest coverage perspective, without interim rate
11 increases beyond the rate path chosen. In the 5% of extreme cases, then additional
12 steps would be required. Alternatively, the PUB could choose a 99% standard, or a
13 90% standard, or whatever standard was deemed to be balanced and fair to
14 ratepayers, taking into account rate stability and predictability, cost causality, and
15 efficiency.

16
17 Finally, the question refers to “cash reserves”. As discussed in MPA’s Report at page
18 44, “reserves” in our view should be considered “equity” in the parlance of Manitoba
19 Hydro. “Cash reserves”, properly so called, are relatively expensive to maintain and not
20 particularly desirable except in limited cases, as discussed in the Report.

21 b) Credit lines are a means to manage very short-term liquidity needs. It would be
22 appropriate to take these financial resources into account to manage very short-term
23 cash flow needs (such as a one-year, massive change in water inflows, as occurred in
24 1940 or 2003). However, on a five-year or ten-year rolling average basis, it would not
25 be appropriate to include credit-line type resources as “reserves”. In these cases,
26 “equity” may be a better analogy.

1 **PUB/Coalition - 32**2 **Reference:**

3 MPA Report Pg. 48

4 **Preamble to IR (If Any):**5 **Question:**

6 a) Confirm that from an economic efficiency perspective, when one considers that capital
7 cost of ratepayers, a 7.9% rate trajectory is not the most efficient use of ratepayer
8 capital when compared to a 3.95% rate trajectory.

9 b) Please describe what information MH would be required to employ an optimal
10 probability – weighted break-even point.

11 **RESPONSE:**

12 *Please note that on the broad issues of minimum financial targets and rate-setting*
13 *mechanisms, it may be useful to read MPA responses to six IRs in tandem. These are*
14 *PUB/Coalition 29, 30, 31, and 32, and GSS-GSM/1 and 2.*

15 a) If ratepayers are assumed to have a 5% “Social” cost of capital (i.e., 3% real cost plus
16 2% inflation), then in the reference scenario, ratepayers will always be better off in the
17 3.95% rate path versus the 7.9% rate path. The cumulative discounted cost of power
18 for ratepayers in the 7.9% rate path is always higher, despite the fact that nominal rates
19 in the 7.9% path are actually lower beginning in eleventh year of the model.

20
21 The tables on the next page show this comparison:
22

November 15, 2017

2017/18 and 2018/19 General Rate Application
Response to Intervener Information Requests

1 Rate Path based on 7.9%, Discounted at 5%

Year Ending in March	2017	1 2018	2 2019	3 2020	4 2021	5 2022	6 2023	7 2024	8 2025	9 2026	10 2027	11 2028	12 2029	13 2030	14 2031	15 2032	16 2033	17 2034	18 2035	19 2036	
Change in Units																					
Annual Units Purchased	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Price Increase		3.36%	7.90%	7.90%	7.90%	7.90%	7.90%	7.90%	4.54%	2.00%	2.00%	-19.75%	-3.12%	-1.11%	1.81%	-1.05%	0.57%	0.40%	0.72%	3.26%	
Nominal Price	1	1.03	1.12	1.20	1.30	1.40	1.51	1.63	1.71	1.74	1.77	1.42	1.38	1.36	1.39	1.37	1.38	1.39	1.40	1.44	
Discount Rate	5%	1	1.05	1.10	1.16	1.22	1.28	1.34	1.41	1.48	1.55	1.63	1.71	1.80	1.89	1.98	2.08	2.18	2.29	2.41	2.53
Discounted Price		0.98	1.01	1.04	1.07	1.10	1.13	1.16	1.15	1.12	1.09	0.83	0.77	0.72	0.70	0.66	0.63	0.61	0.58	0.57	
Annual Nominal Cost of Power	1000	1,033.60	1,115.25	1,203.36	1,298.42	1,401.00	1,511.68	1,631.10	1,705.15	1,739.26	1,774.04	1,423.67	1,379.25	1,363.94	1,388.63	1,374.05	1,381.88	1,387.41	1,397.40	1,442.95	
Cumulative Nominal Cost of Power		1,033.60	2,148.85	3,352.21	4,650.64	6,051.64	7,563.32	9,194.42	10,899.58	12,638.83	14,412.87	15,836.54	17,215.79	18,579.74	19,968.36	21,342.41	22,724.29	24,111.70	25,509.09	26,952.05	
Annual Discounted Cost		984.38	1,011.57	1,039.51	1,068.22	1,097.72	1,128.04	1,159.19	1,154.12	1,121.14	1,089.11	832.39	768.02	723.33	701.35	660.94	633.06	605.32	580.65	571.02	
Cumulative Discounted Cost		984.38	1,995.95	3,035.46	4,103.67	5,201.39	6,329.43	7,488.63	8,642.74	9,763.88	10,852.99	11,685.38	12,453.40	13,176.73	13,878.08	14,539.02	15,172.07	15,777.39	16,358.04	16,929.07	

2

3 Rate Path based on 3.95%, Discounted at 5%

Year Ending in March	2017	1 2018	2 2019	3 2020	4 2021	5 2022	6 2023	7 2024	8 2025	9 2026	10 2027	11 2028	12 2029	13 2030	14 2031	15 2032	16 2033	17 2034	18 2035	19 2036	
Change in Units																					
Annual Units Purchased	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Price Increase		3.36%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	3.95%	-1.16%	-23.77%
Nominal Price	1	1.03	1.07	1.12	1.16	1.21	1.25	1.30	1.36	1.41	1.46	1.52	1.58	1.65	1.71	1.78	1.85	1.92	1.90	1.45	
Discount Rate	5%	1	1.05	1.10	1.16	1.22	1.28	1.34	1.41	1.48	1.55	1.63	1.71	1.80	1.89	1.98	2.08	2.18	2.29	2.41	2.53
Discounted Price		0.98	0.97	0.96	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.79	0.57	
Annual Nominal Cost of Power	1000	1,033.60	1,074.43	1,116.87	1,160.98	1,206.84	1,254.51	1,304.07	1,355.58	1,409.12	1,464.78	1,522.64	1,582.79	1,645.31	1,710.29	1,777.85	1,848.08	1,921.08	1,898.79	1,447.45	
Cumulative Nominal Cost of Power		1,033.60	2,108.03	3,224.89	4,385.88	5,592.72	6,847.23	8,151.30	9,506.87	10,916.00	12,380.78	13,903.42	15,486.20	17,131.51	18,841.80	20,619.65	22,467.73	24,388.81	26,287.60	27,735.04	
Annual Discounted Cost		984.38	974.54	964.79	955.14	945.59	936.14	926.78	917.51	908.33	899.25	890.26	881.35	872.54	863.81	855.18	846.63	838.16	788.99	572.80	
Cumulative Discounted Cost		984.38	1,958.92	2,923.71	3,878.85	4,824.45	5,760.58	6,687.36	7,604.87	8,513.20	9,412.45	10,302.70	11,184.06	12,056.60	12,920.41	13,775.59	14,622.21	15,460.37	16,249.36	16,822.16	

4

1 In this set of reference conditions (hydrology, export prices, inflation, interest rates,
2 operating costs, domestic demand, etc.), Manitoba Hydro's financial performance is
3 adequate under either rate path, and the corporation continues to be financially self-
4 sufficient throughout. Given that the 7.9% rate path imposes greater burdens on
5 ratepayers, it would appear that the 3.95% rate path would be preferable.

6 However, the reference scenario does not reflect the potential volatility that Manitoba
7 Hydro might suffer. It is merely the notional mid-point of a range of forecasted
8 possibilities.

- 9 b) In order to more closely examine the scenarios, and calculate what level of rates might
10 be best for ratepayers, it is important to establish that both scenarios satisfy minimum
11 financial conditions such as "self-supporting" status. In PUB/MH II-41, Manitoba Hydro
12 provides risk analysis for rate paths that are similar to what is shown in the table above
13 until 2027. However, after 2027 the risk information provided by Manitoba Hydro is for
14 different rate paths, and so is not applicable.

15
16 Based on the risk analysis Manitoba Hydro has provided, it appears that both the 7.9%
17 and the 3.95% rate paths meet minimum financial conditions, as defined by the P05
18 position of interest coverage, through the year 2027. From the information in
19 Coalition/MH II-1, it would appear that even at the P01 position both rate paths may
20 meet minimum financial requirements (though note that the information in Coalition/MH
21 II-1, was not updated for the interim rate decision, so it is not identical to the rate paths
22 considered in the tables above). It is possible that an even lower rate path than 3.95%
23 would also meet the minimum conditions, but Manitoba Hydro has not provided that
24 data.

25
26 Assuming two rate paths are calculated which both meet minimum financial health
27 conditions under the same worst case probability scenarios (e.g., using Manitoba

1 Hydro's nomenclature, the P01 position, or the P05 position), then the rate paths can
2 be fairly compared on a discounted basis.

3
4 Alternatively, it is possible to structure a rate path which is conditional: for example, it
5 will meet minimum financial conditions at the P05 position, but not if risks turn out to be
6 worse than that (such as at the P01 position). In those cases, an interim rate increase
7 will be required of some amount (which should be calculated). Effectively, that creates
8 a rate path with a "fork" in it. It would be necessary to calculate the discounted costs to
9 ratepayers in both forks of the rate path, and then produce a probability-weighted
10 average cost to ratepayers for the forked path. Then, and only then, the forked path
11 could be fairly compared to the higher rate path.

12
13 With a larger data set on possible rate paths, and risk analysis of each of them, it
14 would be possible to perform discounted cost analysis on all of the options to
15 determine which was best for ratepayers.

16

1 **PUB/Coalition - 33**

2 **Reference:**

3 MPA Report Pg. 53 Line 26

4 **Preamble to IR (If Any):**

5

6 **Question:**

7 Please provide a description of how a debt servicing ratemaking formula could be employed
8 in Manitoba.

9 **RESPONSE:**

10 Please see GSS-GSM/Coalition - 1.

11