MANITOBA HYDRO BOOK OF DOCUMENTS

10 KEY EXHIBITS

MAY 26, 2014

Manitoba Hydro

NFAT Multiple Perspectives – MH Ex#95, Slide 133

Market Valuation Economics

- NPV net benefit to MH (domestic customers & project partners)

MH Domestic customer

- Reliability (minimum required by planning criteria & amount above criteria)
- Energy security (minimum required by planning criteria & amount above criteria)
- Rate increases (annual & cumulative)
- Financial targets (debt/equity, interest coverage, capital coverage)
- Retained earnings, fixed asset & debt levels

Socio-economic

- Manitoba Economy – employment & income
- Training & business opportunities
- Infrastructure, services, personal & family & community life, resource use, heritage resources
- Special focus on Northern & Aboriginal communities

Macro-environmental impacts & benefits

- Air, land, water, flora, fauna
- Greenhouse gases & key environmental functions

Manitoba Government

- Financial transfers to provincial government
- Capital tax, water rentals, debt guarantee fee
- Alignment to Manitoba Hydro Act, Sustainable Development Act, Climate Change Act, Clean Energy Strategy

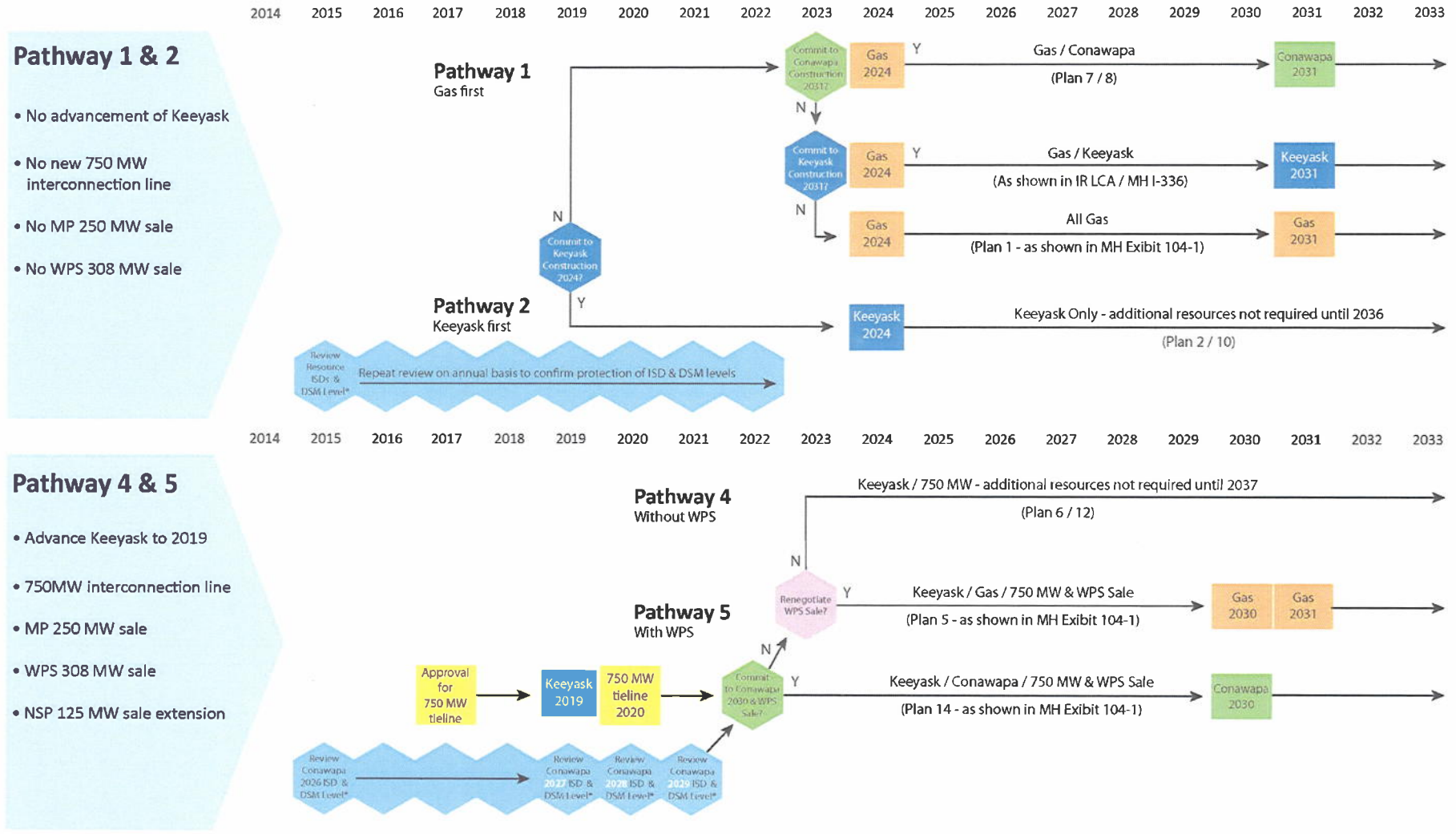
Risk

- Deal with uncertainties, mitigation, flexibility

Pathway Decision Tree – MH Ex#192

MH Exhibit #192

Update to Figure 14.2 Pathway Decision Tree - ISD's based on 2013 Load Forecast, Level 2 DSM & Pipeline Load



*ISD protection contingent on additional export contracts, export prices, load growth, DSM, etc.

INCREMENTAL ECONOMICS – TOTAL RESOURCE COST VIEW

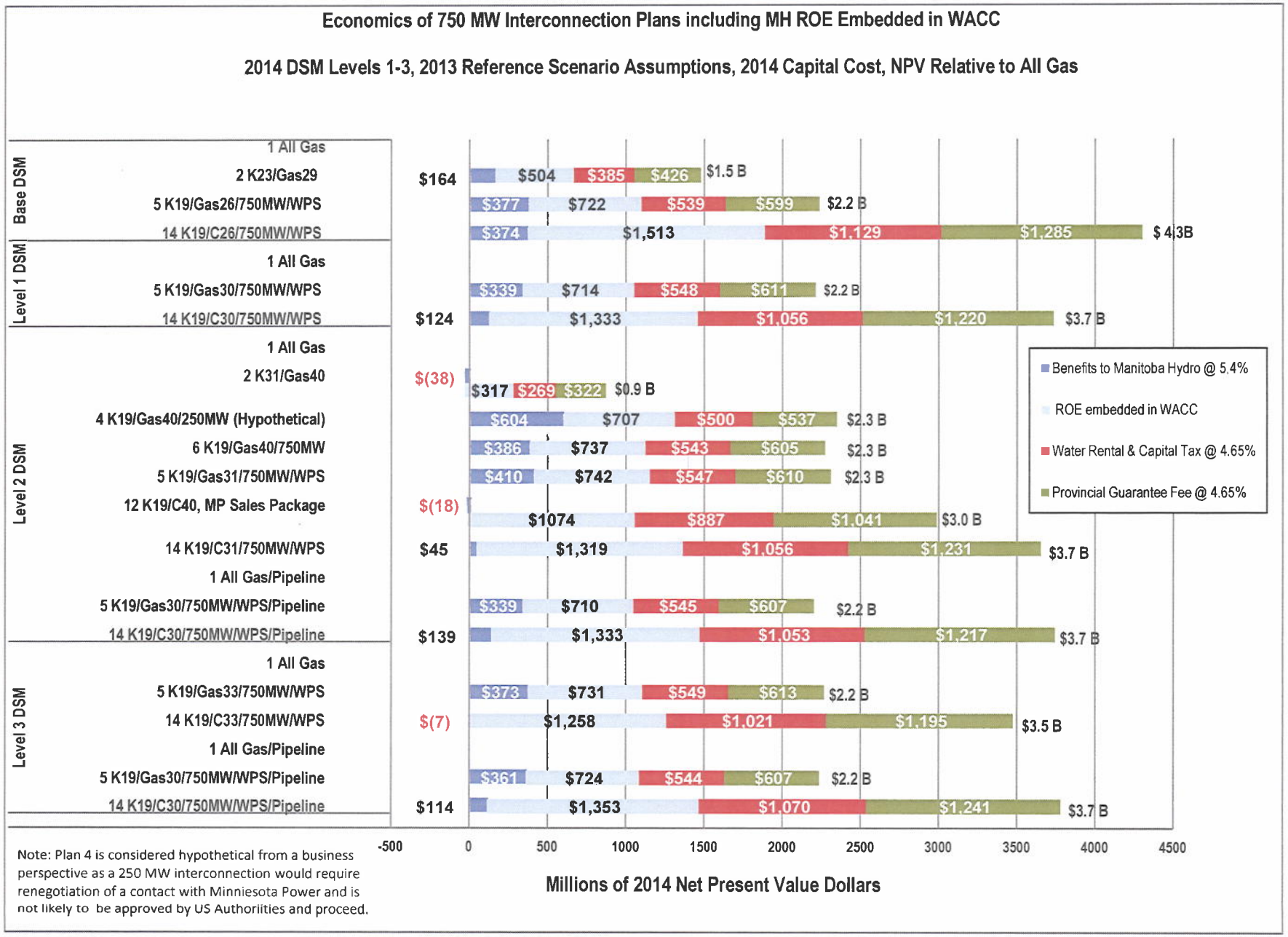
		Total Resource Cost – Plans 1, 2, 4, 5, 6, 12 and 14 Base, Levels 1, 2, 3 DSM Without Pipeline Load Level 2, 3 DSM With Pipeline Load Includes Total Resource Costs and no lost domestic revenue Incremental NPV (millions of 2014$) Relative to All Gas at base DSM					
DSM Level	All Gas	Plan 2 K/Gas	Plan 4 Hypothetical K19/Gas/250MW	Plan 5 K19/Gas/750MW	Plan 6 K19/Gas/750MW	Plan 12 K19/C40/750MW	Plan 14 K19/C/750MW
Base DSM	0 Gas 2023	164 K 2023		377 Gas 2026			374 C 2026
Level 1 DSM	535 Gas 2028			874 Gas 2047			659 C 2030
Level 2 DSM	1351 Gas 2031	1313 K 2031	1955 Gas 2040	1761 Gas 2031	1737 Gas 2040	1333 C 2040	1396 C 2031
Level 3 DSM	1302 Gas 2033			1675 Gas 2033			1295 C 2033
Level 2 DSM With pipeline	644 Gas 2024			983 Gas 2030			783 C 2030
Level 3 DSM With pipeline	584 Gas 2029			944 Gas 2030			698 C 2030

Note: Plan 4 is considered hypothetical from a business perspective as a 250 MW interconnection would require renegotiation of a contract with Minnesota Power which would not be expected to result in the same level of benefits given that the entire economic analysis is now in the public forum. MP has taken the position in its Certificate of Need filing on October 21, 2013 (Section 7.4.2.1 page 77) that "such a project would not meet the long-term needs of the region and would not prove to be cost-effective for customers or environmentally preferable over the long-term." The 250MW interconnection is not likely to be approved by US authorities and proceed.

MH Ex # 104-8 - Revised Capital Costs and Revised Treatment of Common factors

Development Plan			1	2	4	8	6	12	5	14
			All Gas	K22/Gas	K19/Gas24 /250MW	CCGT/C26	K19/Gas31 /750MW	K19/C31 /750MW	K19/Gas25 /750MW	K19/C25 /750MW
									WPS Sale & no WPS Inv	
Energy Prices	Discount Rates	Capital Costs	Millions of 2014 NPV Dollars							
Low	Low	H	-1062	-1401	-851	-1501	-1079	-2143	-758	-1825
		Ref	-68	16	646	106	392	-53	698	424
		L	734	1205	1898	1449	1613	1750	1906	2359
	Ref	H	-463	-1751	-1512	-2398	-1793	-3717	-1546	-3969
		Ref	208	-677	-334	-1085	-614	-1977	-355	-2010
		L	750	232	658	15	369	-476	637	-325
	High	H	-88	-1782	-1761	-2625	-2060	-4202	-1872	-4838
		Ref	416	-891	-748	-1480	-1033	-2668	-820	-3044
		L	823	-133	110	-519	-172	-1345	61	-1500
Ref	Low	H	-2033	-120	543	325	298	1410	-7	1869
		Ref	-1039	1296	2040	1932	1770	3501	1449	4118
		L	-237	2486	3292	3275	2991	5304	2658	6053
	Ref	H	-671	-585	-260	-910	-517	-1204	-707	-1345
		Ref	0	489	917	403	662	536	484	614
		L	542	1397	1910	1503	1645	2037	1477	2300
	High	H	17	-716	-620	-1343	-880	-2214	-1034	-2759
		Ref	520	175	393	-198	148	-680	18	-966
		L	927	933	1251	762	1008	643	899	578
High	Low	H	-3454	892	1647	2005	1333	4820	402	5388
		Ref	-2460	2309	3143	3612	2804	6911	1858	7638
		L	-1658	3498	4396	4955	4025	8714	3066	9573
	Ref	H	-1158	402	797	469	526	1178	-103	1125
		Ref	-487	1476	1974	1782	1704	2918	1088	3084
		L	55	2384	2967	2882	2687	4418	2081	4770
	High	H	-82	210	368	-156	115	-352	-384	-824
		Ref	422	1101	1381	989	1143	1182	669	969
		L	828	1859	2239	1949	2003	2505	1549	2513

Development Plan	1	2	4	8	6	12	5	14
	All Gas	K22/Gas	K19/Gas24 /250MW	CCGT/C26	K19/Gas31 /750MW	K19/C31 /750MW	K19/Gas25 /750MW	K19/C25 /750MW
							WPS Sale & no WPS Inv	
	Millions of 2014 NPV Dollars							
10th Percentile -"Risk"	-953	-862	-727	-1457	-1007	-2512	-909	-2946
25th Percentile	-244	-622	-290	-980	-556	-1482	-367	-1760
75th Percentile	483	1026	1339	916	1099	1232	824	1105
90th Percentile - "Reward"	738	1448	2019	1898	1749	3239	1475	3653
Expected Value	-9	268	651	143	386	115	268	120
Ref-Ref-Ref NPV	0	489	917	403	662	536	484	614

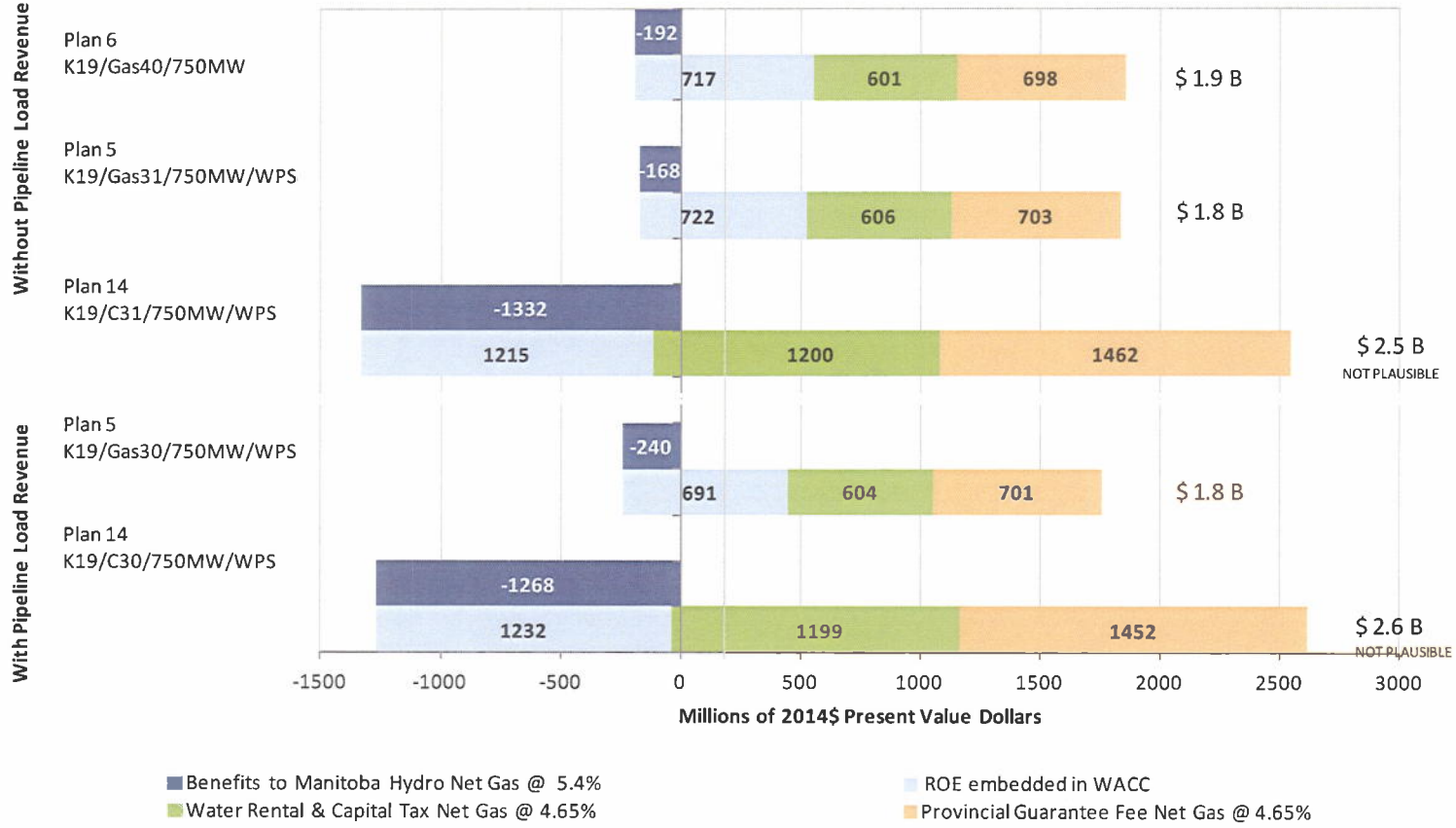

Economics of 750 MW Interconnection Plans including MH ROE Embedded in WACC
2014 DSM Levels 1-3, 2013 Reference Scenario Assumptions, 2014 Capital Cost, NPV Relative to All Gas
Base DSM
Level 1 DSM
Level 2 DSM
Level 3 DSM
1 All Gas
2 K23/Gas29
5 K19/Gas26/750MW/WPS
14 K19/C26/750MW/WPS
1 All Gas
5 K19/Gas30/750MW/WPS
14 K19/C30/750MW/WPS
1 All Gas
2 K31/Gas40
4 K19/Gas40/250MW (Hypothetical)
6 K19/Gas40/750MW
5 K19/Gas31/750MW/WPS
12 K19/C40, MP Sales Package
14 K19/C31/750MW/WPS
1 All Gas/Pipeline
5 K19/Gas30/750MW/WPS/Pipeline
14 K19/C30/750MW/WPS/Pipeline
1 All Gas
5 K19/Gas33/750MW/WPS
14 K19/C33/750MW/WPS
1 All Gas/Pipeline
5 K19/Gas30/750MW/WPS/Pipeline
14 K19/C30/750MW/WPS/Pipeline
$164
$504
$385
$426
$1.5 B
$377
$722
$539
$599
$2.2 B
$374
$1,513
$1,129
$1,285
$ 4.3B
$339
$714
$548
$611
$2.2 B
$124
$1,333
$1,056
$1,220
$3.7 B
$(38)
$317
$269
$322
$0.9 B
$604
$707
$500
$537
$2.3 B
$386
$737
$543
$605
$2.3 B
$410
$742
$547
$610
$2.3 B
$(18)
$1074
$887
$1,041
$3.0 B
$45
$1,319
$1,056
$1,231
$3.7 B
$339
$710
$545
$607
$2.2 B
$139
$1,333
$1,053
$1,217
$3.7 B
$373
$731
$549
$613
$2.2 B
$(7)
$1,258
$1,021
$1,195
$3.5 B
$361
$724
$544
$607
$2.2 B
$114
$1,353
$1,070
$1,241
$3.7 B
Benefits to Manitoba Hydro @ 5.4%
ROE embedded in WACC
Water Rental & Capital Tax @ 4.65%
Provincial Guarantee Fee @ 4.65%
-500
0
500
1000
1500
2000
2500
3000
3500
4000
4500
Millions of 2014 Net Present Value Dollars
Note: Plan 4 is considered hypothetical from a business perspective as a 250 MW interconnection would require renegotiation of a contact with Minniesota Power and is not likely to be approved by US Authoriities and proceed.

HIGH CAPITAL COST STRESS TEST

Keeyask and Conawapa High Capital

Economics of 750 MW Interconnection Plans Including MH ROE & Provincial Transfers

2014 LVL2 DSM, Keeyask and Conawapa High Capital in 2014$, NPV relative to All Gas



** Under reference assumptions & high capital costs. Proceeding with both Keeyask and Conawapa is not plausible as Conawapa would not be pursued because MB Hydro would know the high capital cost of Conawapa based on experience with Keeyask.*

Manitoba Hydro

MH Exhibit #156
Transcript Pages #245, 4269-4270

NEEDS FOR AND ALTERNATIVES TO (NFAT)

Request of Manitoba Hydro Regarding the Evidence of Mr. Thomson

Assuming flat load, 750 MW line, Keeyask & existing & new contracts extended into the future, what would the NPV be in that circumstance?

Response:

The assumption of flat load growth beyond 2022/23 results in a hypothetical circumstance.

The analysis of this hypothetical circumstance uses the economic output from existing reference cases which require new resources in 2023/24 (2013 planning assumptions and updated Keeyask capital costs), and the following additional assumptions:

- The no new generation case was based on the All Gas plan up to and including 2022/23, with existing export commitments beyond 2022/23 based on contract terms and conditions.
- The Keeyask & 750MW interconnection case was based on Plan 5 K19/Gas25/750MW (WPS Sales only) up to and including 2022/23, with existing export commitments beyond 2022/23 based on contract terms and conditions.
- No domestic load growth (flat load) beyond 2022/23.
- From 2023/24 to 2048/49 all energy volumes were held constant.
- Beyond 2048/49, the long-life asset evaluation methodology was applied.

As shown in the following table, if there is no load growth assumed beyond 2022/23 and surplus energy is valued using the 2013 long-term price forecast, building Keeyask and a new interconnection results in an incremental net present value of $395M (at real WACC of 5.4%) relative to building no new generation. This analysis is considered conservative from an export power pricing perspective because it values uncommitted dependable surplus energy at the long-term dependable export price forecast rather than using values consistent with recently signed contracts.

	Present Valued at a real WACC of 5.4%		
	Capital Costs PV Millions 2014$	**Revenue PV Million 2014$**	**Revenues – Costs NPV Millions 2014$**
No new Generation	0	3160	3160
Keeyask 2019 & 750MW interconnection	4605	8167	3563
Incremental NPV			402

The following table shows the same evaluation with the return on equity of 3% removed resulting in a real WACC of 4.65%. As shown in the table there is an incremental net present value $1178M (at real WACC of 4.65%) relative to building no new generation.

	Present Valued at a real WACC of 4.65%		
	Capital Costs PV Millions 2014$	**Revenue PV Million 2014$**	**Revenues – Costs NPV Millions 2014$**
No new Generation	0	3675	3675
Keeyask & 750MW interconnection	4816	9681	4865
Incremental NPV			1190

Although not provided in this anlaysis, there would be substantial incremental benefits from transfers to the province related to Keeyask and a new interconnection.

The remainder of the response to this information request requires provision of Commercially Sensitive Information and will be filed in confidence with the PUB.

NEEDS FOR AND ALTERNATIVES TO (NFAT)

Manitoba Hydro Undertaking #79

Manitoba Hydro to reproduce the capital cost sensitivity table found at slide 11 of Exhibit 129.6 including a comparative analysis of Plan 5 (subject to Mr. Wojczynski's qualification).

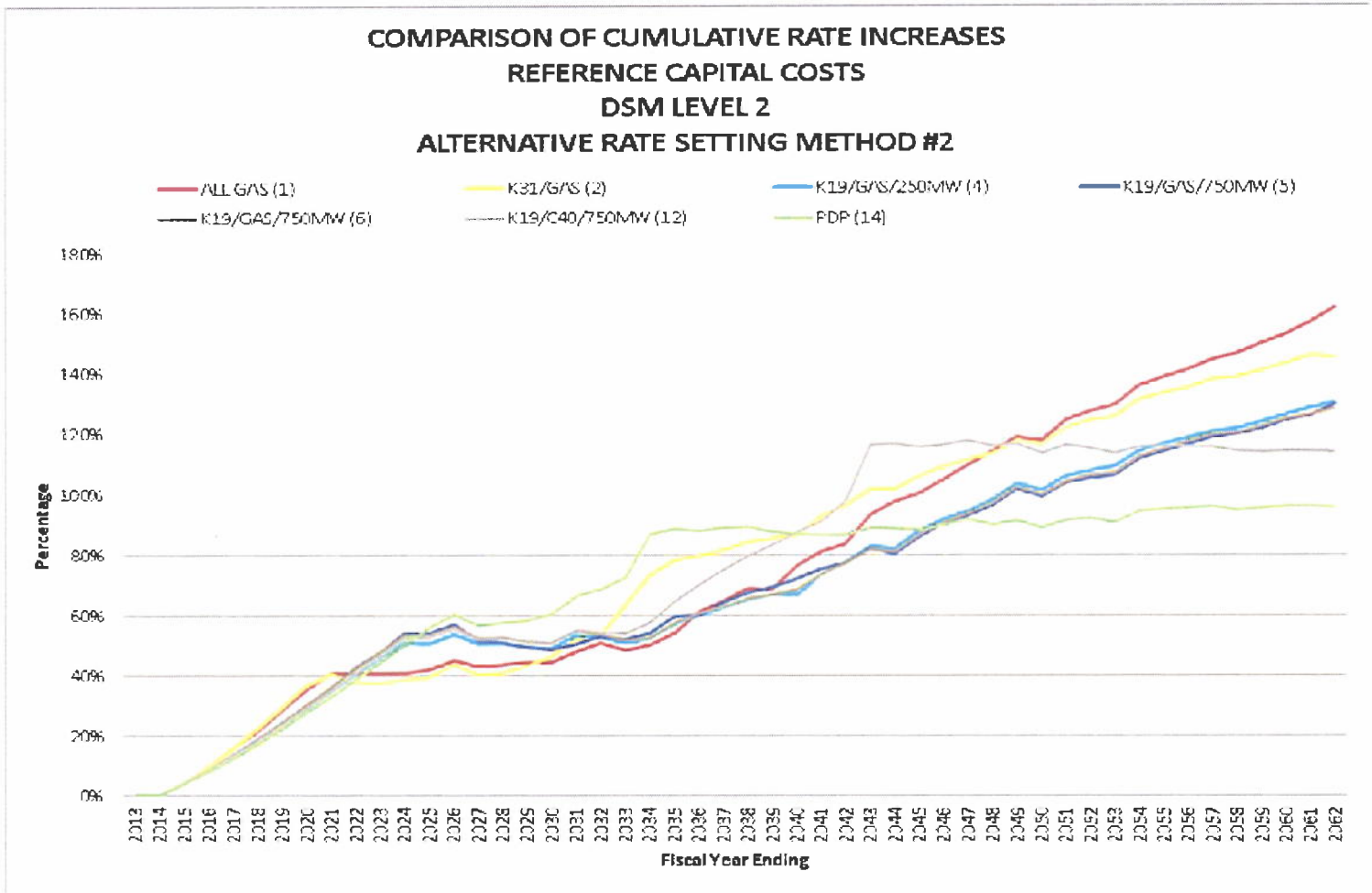
Response:

The table is corrected to eliminate the WPS investment in Plan 5. The previous table did not in fact eliminate the WPS investment from Plan 5. This version of the table does.

Capital Cost Sensitivity

Plan #	14	12	6	5	4	2	1
Account	PDP (with WPS sale)	K19/C31/ 750 MW	K19/Gas31/ 750 MW	K19/Gas25/ 750 MW	K19/G24/ 250MW	K22/Gas	All Gas
Market Valuation	0	97	573	313	577	314	251
Government	0	-117	-367	-358	-365	-407	-687
Economy	0	-27	-104	-100	-101	-120	-193
Environment	0	1	-129	-95	-217	-181	-334
Monetized Net Benefit	**0**	**-46**	**-27**	**-240**	**-105**	**-395**	**-963**

*Plan 14 and plan 5 do not include the WPS investment.



This figure compares the cumulative rate increases of the development plans with updated Keeyask and Conawapa capital costs and DSM Level 2 (without the Pipeline Load) under Alternative Rate Methodology #2.

TABLE 3 CUMULATIVE RATE INCREASES AT DSM LEVEL 2 USING ALTERNATIVE METHODOLOGY #2 AND REFERENCE CAPITAL COSTS		
	2031/32	2061/62
ALL GAS (1)	51%	162%
K31/GAS (2)	53%	145%
K19/GAS/250 MW (4)	52%	130%
K19/GAS/750 MW (5)	53%	130%
K19/GAS/750 MW (6)	53%	128%
K19/C40/750 MW (12)	54%	114%
PDP (14)	69%	96%

This table compares the cumulative rate increases of the development plans with updated Keeyask and Conawapa capital costs and DSM Level 2 (without the Pipeline Load) under Alternative Rate Methodology #2.