

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9 A, pages 17 and 25**

4

5 **PREAMBLE: LCA states:**

6 “Generally anything more involved, such as a development plan comparisons,
7 would be better served with financial analysis or at least, where a utility is
8 involved, a revenue requirement analysis.” (page 17)

9 “LCA believes it is more appropriate to look at how each plan’s incremental costs
10 translate into ratepayer impact in a revenue requirements analysis” (page 25)

11

12 **QUESTION:**

13 Given these statements, does LCA see any merit or value in undertaking an “economic analysis”
14 of the alternative development plans?

15

16 **RESPONSE:**

17 Yes. Please see response PUB/LCA-10b

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9 A, pages 17 and 26**

4

5 **PREAMBLE: LCA states:**

6 “Generally anything more involved, such as a development plan comparisons,
7 would be better served with financial analysis or at least, where a utility is
8 involved, a revenue requirement analysis.” (page 17)

9 “LCA believes it is more appropriate to look at how each plan’s incremental costs
10 translate into ratepayer impact in a revenue requirements analysis” (page 25)

11

12 **QUESTION:**

13 Given these statements, does LCA see any merit or value in undertaking an “economic analysis”
14 of the alternative development plans? If yes, what is the value?

15

16 **RESPONSE:**

17 Yes. The trends and comparisons will look similar in the two analyses. Please see response to
18 PUB/LCA-10b.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9 A, pages 17 and 27**

4

5 **PREAMBLE: LCA states:**

6 “Generally anything more involved, such as a development plan comparisons,
7 would be better served with financial analysis or at least, where a utility is
8 involved, a revenue requirement analysis.” (page 17)

9 “LCA believes it is more appropriate to look at how each plan’s incremental costs
10 translate into ratepayer impact in a revenue requirements analysis” (page 25)

11

12 **QUESTION:**

13 Given these statements, does LCA see any merit or value in undertaking an “economic analysis”
14 of the alternative development plans? If not, why not?

15

16 **RESPONSE:**

17 Yes. Please see response to PUB/LCA-10b.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9 A, page 46**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Please provide LCA's views on the usefulness of IRR metrics as a decision making tool.

9

10 **RESPONSE:**

11 LCA's view is that IRR is one of a number of metrics that are useful to consider in decision
12 making. LCA's view is that IRR coupled with an annual cumulative present value (CPV)
13 economic analysis and net present value (NPV) over the entire study period provide important
14 insights and perspective on the economic characteristics of a resource plan for decision making.
15 MH's sole use of NPV over the entire study period does not give an indication of the impact on
16 interim years or the relative value of additional investments among plans.

17 IRR can help provide a metric to allow the relative comparisons between plans in the interim
18 years be better understood. It is helpful in comparing plans that considered very different
19 levels of capital investment as an indicator of the value that the incremental investment
20 provides.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9A, page 49**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Does LCA agree with Manitoba Hydro that sunk costs should be excluded when performing
9 economic analyses?

10

11 **RESPONSE:**

12 Yes. Sunk cost is usually omitted from forward looking economic analysis. This “going forward”
13 analysis is the standard approach for determining whether a project in process should continue
14 to proceed.

15 An analysis including the sunk costs, an “all in” analysis, provides information on the overall
16 economic value of the project that can be useful for understanding rate impacts or overall
17 project evaluation.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9 A, pages 64-67 and 77**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Please re-do Figures 9-26 through 9-28, but this time use Plan 5 as the “base case” for
9 comparison in each scenario and provide the S-curves and a PV values table for Plans #1 and
10 #14.

11

12 **RESPONSE:**

13 Figures CAC/LCA-004a-1 to 3 provide the requested information in the formats similar to
14 Figures 9-26 to 28 of Technical Appendix 9A.

15

16

17

18

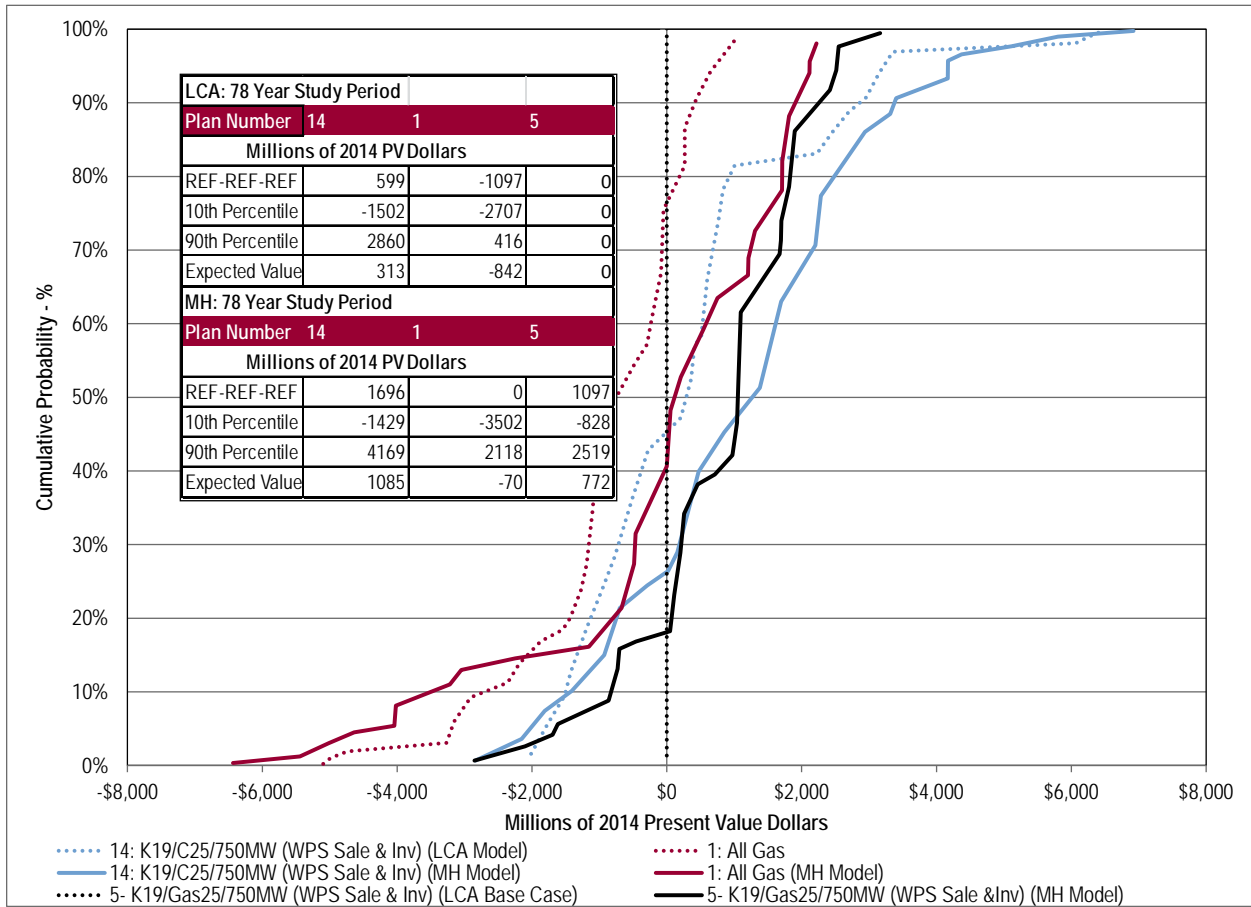
Energy Prices	Discount Rates	Capital Costs	K19/C25/750MW (WPS)	K19/C25/750MW (WPS)	K19/C25/750MW (WPS)	K19/Gas2 5/750MW (WPS)	K19/C31/750MW	K19/Gas3 1/750MW	K19/C25/250MW	K19/Gas2 4/250MW	K19/C31/250MW	All Gas	Wind/Gas	K22/Gas	K22/C29	SCGF/C26	CCGF/C26	Wind/C26	
Low (30%)	Low (15%)	High (30%)	14	-787	0	0	-699	-563	-605	-335	-651	-1188	-4914	-937	-1210	-454	-674	-1688	
		Ref (50%)	206	-560	0	-522	-514	-508	-260	-260	-550	-1433	-3787	-916	-1170	-785	-866	-1533	
		Low (20%)	411	-327	0	-320	-472	-366	-188	-188	-396	-1544	-2963	-887	-1070	-952	-924	-1338	
	Ref (50%)	High (30%)	-1425	-2086	0	-1594	-461	-1780	-181	-1431	267	-2326	-482	-1809	-567	-801	-1513		
		Ref (50%)	-1186	-1817	0	-1411	-442	-1625	-163	-1307	-49	-1735	-536	-1753	-839	-962	-1438		
		Low (20%)	-954	-1559	0	-1217	-426	-1447	-137	-1150	-224	-1297	-567	-1652	-968	-1003	-1310		
	High (35%)	High (30%)	-2013	-2586	0	-1825	-385	-2231	-86	-1615	1001	-998	-178	-1862	-487	-720	-1272		
		Ref (50%)	-1758	-2302	0	-1651	-381	-2053	-97	-1494	648	-676	-275	-1815	-737	-873	-1246		
		Low (20%)	-1518	-2038	0	-1474	-377	-1863	-95	-1347	440	-430	-338	-1725	-852	-912	-1158		
	Ref (55%)	Low (15%)	High (30%)	2956	2601	0	2103	63	2309	308	308	1770	-2910	-5064	-408	1263	343	400	-257
			Ref (50%)	3149	2828	0	2280	112	2406	382	382	1871	-3155	-3937	-386	1303	12	209	-102
			Low (20%)	3353	3061	0	2483	154	2548	455	455	2024	-3266	-3113	-358	1403	-155	151	93
Ref (50%)		High (30%)	361	61	0	81	-24	43	232	232	-5	-780	-2463	-155	-346	-86	-152	-641	
		Ref (50%)	599	330	0	264	-6	198	250	250	119	-1097	-1872	-210	-291	-358	-313	-566	
		Low (20%)	832	588	0	457	11	376	275	275	275	-1272	-1434	-240	-189	-487	-355	-437	
High (35%)		High (30%)	-772	-1038	0	-675	-43	-931	217	-649	268	-1122	50	-872	-161	-277	-670		
		Ref (50%)	-518	-755	0	-501	-39	-753	207	-527	-86	-800	-47	-825	-411	-429	-644		
		Low (20%)	-278	-491	0	-324	-35	-563	208	-381	-294	-554	-110	-735	-527	-469	-556		
High (15%)		Low (15%)	High (30%)	6067	6150	0	5104	688	5514	1002	1002	4490	-4740	-5025	196	4050	1339	1671	1427
			Ref (50%)	6259	6377	0	5281	738	5610	1077	1077	4591	-4985	-3897	217	4089	1008	1480	1582
			Low (20%)	6464	6610	0	5484	779	5753	1150	1150	4745	-5096	-3073	246	4189	841	1422	1777
	Ref (50%)	High (30%)	2227	2280	0	1858	414	2033	685	685	1595	-1871	-2480	228	1301	528	623	391	
		Ref (50%)	2466	2549	0	2041	433	2187	703	703	1719	-2187	-1889	174	1356	255	462	465	
		Low (20%)	2698	2807	0	2234	449	2365	728	728	1876	-2362	-1451	143	1457	126	421	594	
	High (35%)	High (30%)	512	545	0	537	302	479	555	555	435	-482	-1159	326	243	265	260	47	
		Ref (50%)	767	829	0	710	305	657	544	544	557	-835	-836	228	291	15	107	73	
		Low (20%)	1007	1093	0	888	309	847	546	546	704	-1043	-590	165	380	-101	68	161	

- 1
- 2 **Figure CAC/LCA-004a-1:** represents a chart similar to Figure 9-26 on Page 9A-64 of Technical
- 3 Appendix 9A – Probabilistic Analysis Quilt 78 year with LCA Methodology for Determining
- 4 Comparison to Plan 5

Summary Table - NPV after 78 years as compared to All Gas				
Plan	Description		Reference Scenario	Expected Value
Plan 1	All Gas		(\$1,097)	(\$842)
Plan 2	K22/Gas		(\$210)	(\$208)
Plan 3	Wind/Gas		(\$1,872)	(\$1,856)
Plan 4	K19/Gas24/250MW		\$250	\$199
Plan 5	K19/Gas25/750MW (WPS)		\$0	\$0
Plan 6	K19/Gas31/750MW		(\$6)	(\$66)
Plan 7	SCGT/C26		(\$358)	(\$317)
Plan 8	CCGT/C26		(\$313)	(\$313)
Plan 9	Wind/C26		(\$566)	(\$625)
Plan 10	K22/C29		(\$291)	(\$424)
Plan 11	K19/C31/250MW		\$119	(\$36)
Plan 12	K19/C31/750MW		\$264	\$49
Plan 13	K19/C25/250MW		\$198	(\$60)
Plan 14	K19/C25/750 (WPS)		\$599	\$313
Plan 15	K19/C25/750MW		\$330	(\$12)

1

2 **Figure CAC/LCA-004a-2:** represents an chart similar to Figure 9-27 on Page 9A-66 of Technical
 3 Appendix 9A – Summary Table of Expected Economic Value – Millions of 2014 Present Value
 4 Dollars



1

2 **Figure CAC/LCA-004a-3:** represents a chart similar to Figure 9-28 on page 9A-67 of Technical

3 Appendix 9a – Plan 14 Preferred Development Plan and Plan 1 All Gas versus Plan 5 comparing

4 MH & LCA Methodologies, NPV after 78 years

1 **SUBJECT:**

2

3 **REFERENCE:**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Please re-do Figures 9-34 through 9-36 but this time use Plan 5 as the “base case” for each
9 scenario and provide the S-curves and a PV values table for Plans #1, #4, #6, and #14.

10

11 **RESPONSE:**

12 Figures CAC/LCA-004b-1 to 3 shown below provide the requested information in the formats
13 similar to Figures 9-34 to 36 of Technical Appendix 9A.

14

15

16

17

18

19

20

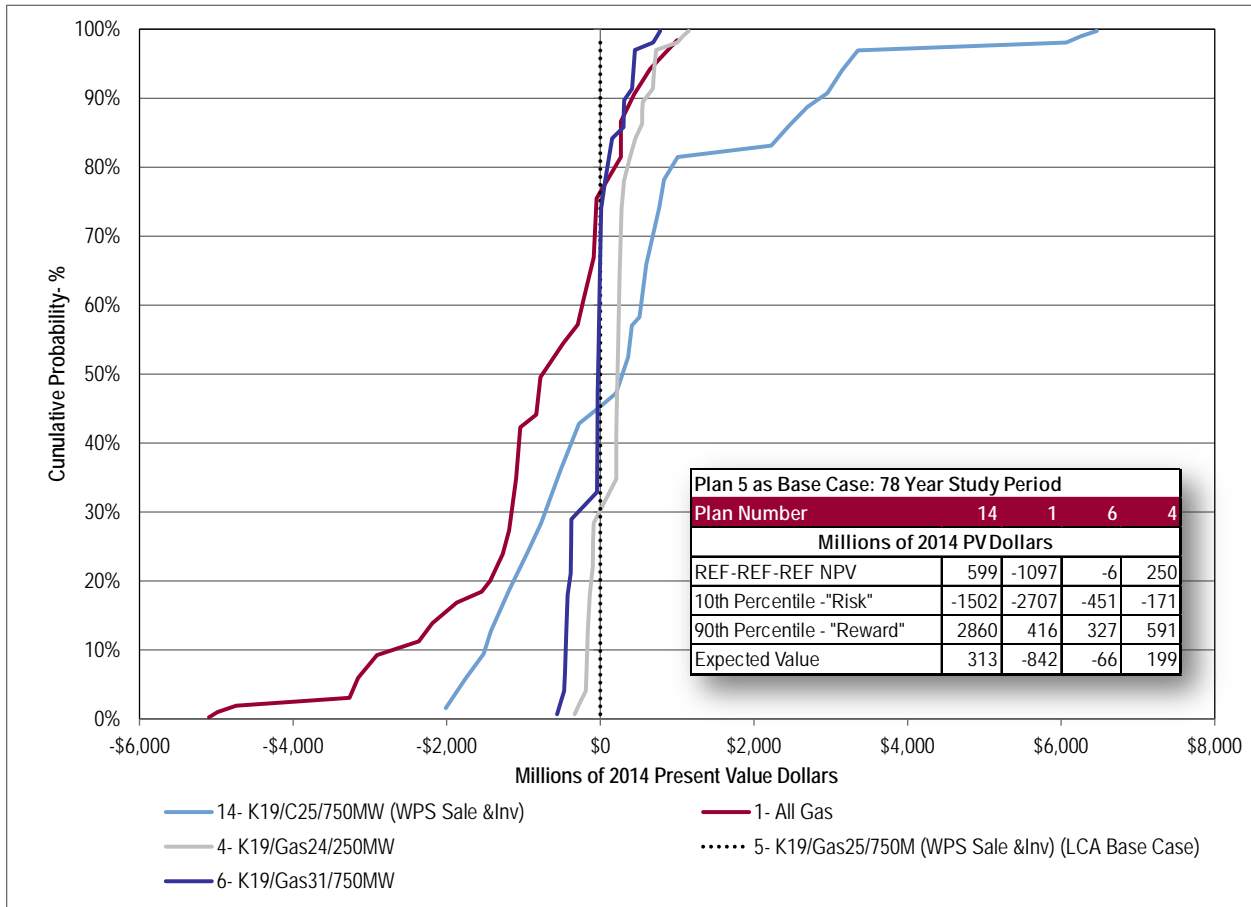
21

22

23

24

25



1

2 **Figure CAC/LCA-004b-1:** represents a chart similar to Figure 9-34 on page 9A-77 of Technical
 3 Appendix 9a – Probability Distribution of the Selected Plans Compared having higher costs than
 4 Plan 5 after 78 Years using the LCA Methodology – Millions of 2014 Present Value Dollars

5

6

7

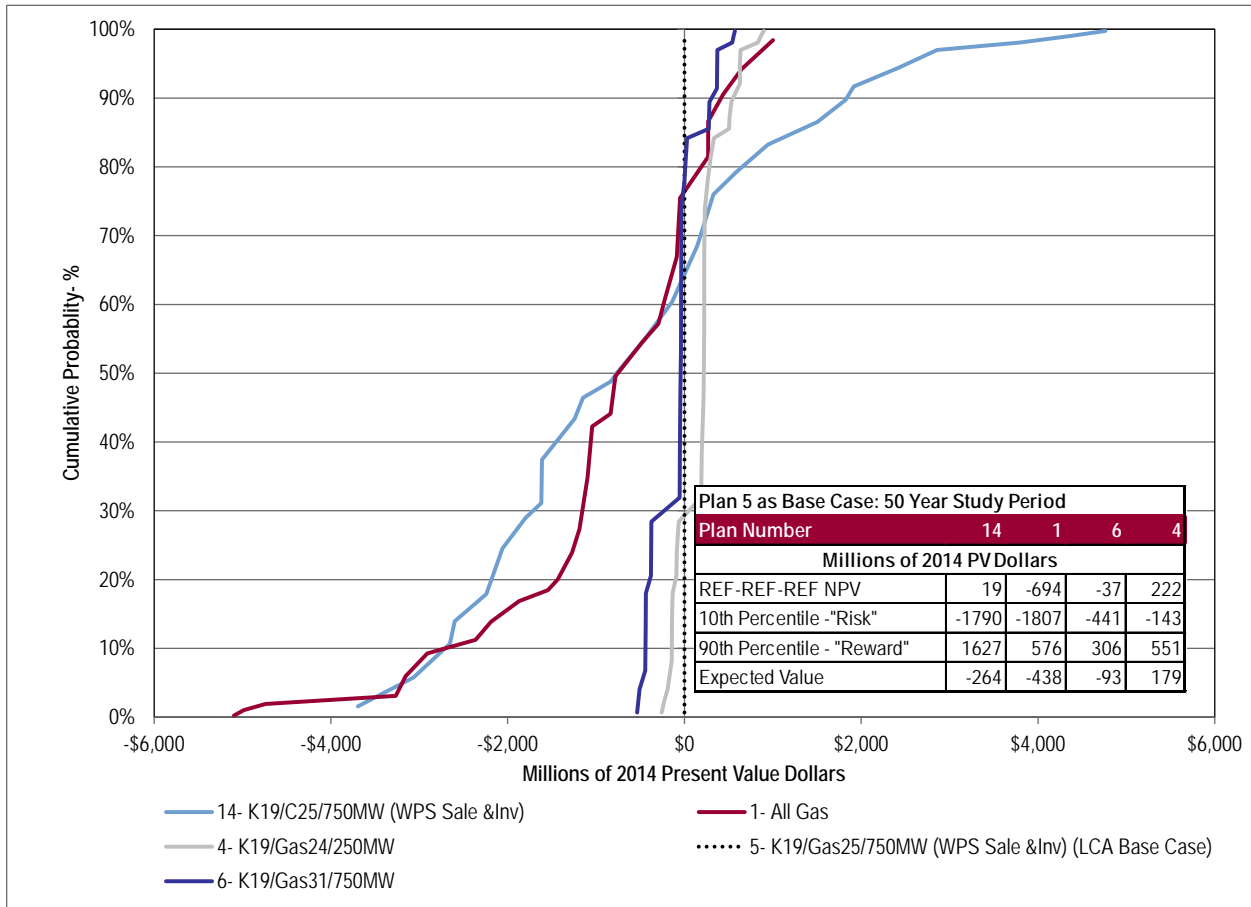
8

9

10

11

12



1

2 **Figure CAC/LCA-004b-2:** represents a chart similar to Figure 9-35 on page 9A-78 of Technical
 3 Appendix 9a – Probability Distribution of the Selected Plans Compared having higher costs than
 4 Plan 5 after 50 Years using the LCA Methodology – Millions of 2014 Present Value Dollars

5

6

7

8

9

10

11

12

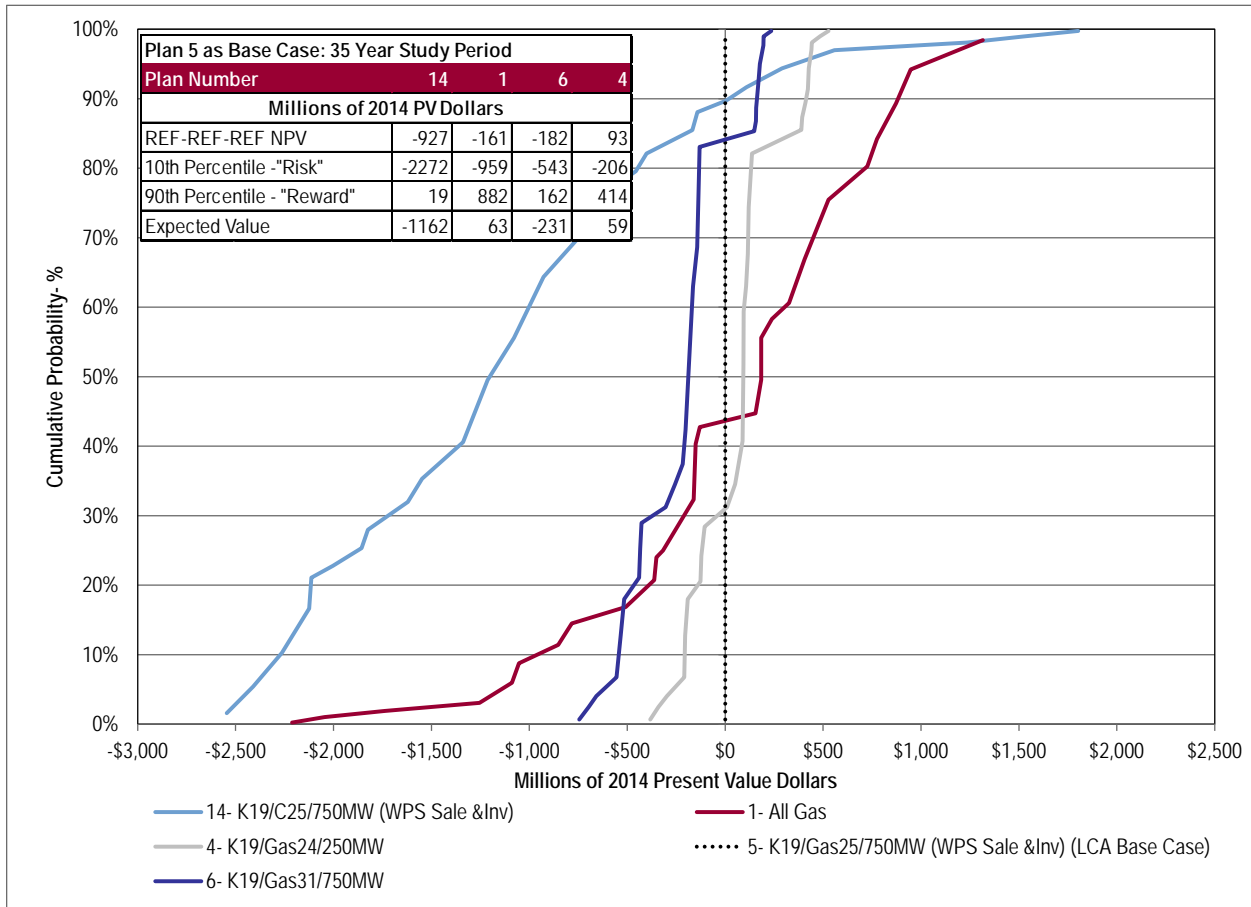


Figure CAC/LCA-004b-3: represents a chart similar to Figure 9-36 on page 9A-79 of Technical Appendix 9a – Probability Distribution of the Selected Plans Compared having higher costs than Plan 5 after 35 Years using the LCA Methodology – Millions of 2014 Present Value Dollars

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9 A, page 83**

4 **Morrison Park Associates (MPA) Report, page 67**

5

6 **PREAMBLE:**

7

8 **QUESTION:**

9 In their report MPA asserts that the appropriated discount rate to use in their analyses is one
10 that reflects ratepayers' time value of money. Does La Capra consider this to be the
11 appropriate perspective to use for purposes of establishing the discount rate for its economic
12 analyses?

13

14 **RESPONSE:**

15 LCA has seen this issue debated over the years when looking at utility planning analyses.
16 Revenue requirement analyses are calculations of costs to ratepayers. In theory it makes sense
17 to then apply a ratepayer cost of money to determine the appropriate discount rate for
18 evaluating costs and savings over time. However, the range of proposed values for ratepayer
19 cost of money ranges from simple bank savings account interest to the interest charged by
20 credit cards. The debate widens further when the industrial customers, many of which only
21 make investments in facility capital projects that have simple payback of 3 years or less. This
22 implies a discount rate of over 30% should be used to be consistent with their analyses of
23 capital projects. In all cases that we can recall this debate is never concluded. Since the utilities
24 cost of capital has to some degree the investors' views of the risks of the utilities portfolio, the
25 utility cost of capital ends up being the discount rate which is most typically used.

26 The analysis that MH has done and the LCA has presented is from this utility cost of capital
27 perspective.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9 A, page 83**

4 **Morrison Park Associates (MPA) Report, page 68**

5

6 **PREAMBLE:**

7

8 **QUESTION:**

9 In their report MPA asserts that the appropriated discount rate to use in their analyses is one
10 that reflects ratepayers' time value of money. Does La Capra consider this to be the
11 appropriate perspective to use for purposes of establishing the discount rate for its economic
12 analyses? If yes, why?

13

14 **RESPONSE:**

15 Please see response to CAC/LCA-5a above.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9 A, page 83**

4 **Morrison Park Associates (MPA) Report, page 69**

5

6 **PREAMBLE:**

7

8 **QUESTION:**

9 In their report MPA asserts that the appropriated discount rate to use in their analyses is one
10 that reflects ratepayers' time value of money. Does La Capra consider this to be the
11 appropriate perspective to use for purposes of establishing the discount rate for its economic
12 analyses? If not, what perspective should be used and what would the appropriate discount
13 rate be?

14

15 **RESPONSE:**

16 Please see response CAC/LCA-5a above.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9 A, page 92**

4 **MPA Report, page 66**

5

6 **PREAMBLE:**

7

8 **QUESTION:**

9 In their report MPA observes that “there is strong support for the reference (discount rate)
10 scenario and some support for the high scenario”. Given these comments why did LCA assign a
11 50% probability to each of these scenarios?

12

13 **RESPONSE:**

14 At the time of the analysis the views of MPA were not finalized for LCA use.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9 A, page 133**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 What discount rate was used to establish the PV values set out in Figure 9-76?

9

10 **RESPONSE:**

11 A real discount rate of 5.05% was used.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 9 A, page 133**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Why is this the appropriate rate to use for looking at the economics of the plans from a
9 “provincial perspective”?

10

11 **RESPONSE:**

12 Please see LCA’s response to CAC/LCA-5a.

1 **SUBJECT:**

2

3 **REFERENCE: CA Appendix 9 A, pages 146-149**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Figures 9-86 through 9-88 all have the same values under the “Manitoba Hydro Perspective”
9 regardless of the time period used. Please confirm whether these values are correct and, if not,
10 provide revised figures.

11

12 **RESPONSE:**

13 Revised Figures 9-86 through 9-88 are provided below corrected for the duplications under
14 “Manitoba Hydro Perspective”.

Comparative Economic Value Case Summary Table - NPV after 78 years as compared to ALL Gas					
Plan	Description	Manitoba Hydro Perspective		Province of Manitoba Perspective	
		Reference Scenario	Expected Value	Reference Scenario	Expected Value
Plan 1	All Gas	-	-	-	-
Plan 2	K22/Gas	\$887	\$634	\$1,242	\$990
Plan 3	Wind/Gas	(\$775)	(\$1,014)	(\$594)	(\$823)
Plan 4	K19/Gas24/250MW	\$1,346	\$1,041	\$1,775	\$1,471
Plan 5	K19/Gas25/750MW (WPS)	\$1,097	\$842	\$1,532	\$1,278
Plan 6	K19/Gas31/750MW	\$1,091	\$776	\$1,536	\$1,222
Plan 7	SCGT/C26	\$738	\$525	\$1,201	\$984
Plan 8	CCGT/C26	\$784	\$529	\$1,268	\$1,011
Plan 9	Wind/C26	\$531	\$217	\$1,068	\$754
Plan 10	K22/C29	\$806	\$418	\$1,568	\$1,178
Plan 11	K19/C31/250MW	\$1,215	\$806	\$2,017	\$1,607
Plan 12	K19/C31/750MW	\$1,360	\$891	\$2,190	\$1,721
Plan 13	K19/C25/250MW	\$1,295	\$782	\$2,224	\$1,708
Plan 14	K19/C25/750 (WPS)	\$1,696	\$1,155	\$2,659	\$2,116
Plan 15	K19/C25/750MW	\$1,427	\$830	\$2,404	\$1,806

1
2
3
4
5
6
7
8
9
10
11

Revised Figure 9-86: Comparative Economic Value after 78 years - Provincial Perspective
Millions of 2014 Present Value Dollars

Comparative Economic Value Case Summary Table - NPV after 50 years as compared to ALL Gas					
Plan	Description	Manitoba Hydro Perspective		Province of Manitoba Perspective	
		Reference Scenario	Expected Value	Reference Scenario	Expected Value
Plan 1	All Gas	-	-	-	-
Plan 2	K22/Gas	\$477	\$228	\$800	\$550
Plan 3	Wind/Gas	(\$845)	(\$1,060)	(\$698)	(\$907)
Plan 4	K19/Gas24/250MW	\$917	\$616	\$1,313	\$1,012
Plan 5	K19/Gas25/750MW (WPS)	\$694	\$438	\$1,100	\$843
Plan 6	K19/Gas31/750MW	\$657	\$345	\$1,069	\$756
Plan 7	SCGT/C26	\$178	(\$39)	\$596	\$372
Plan 8	CCGT/C26	\$174	(\$83)	\$612	\$350
Plan 9	Wind/C26	(\$62)	(\$373)	\$417	\$103
Plan 10	K22/C29	(\$112)	(\$501)	\$571	\$174
Plan 11	K19/C31/250MW	\$264	(\$149)	\$986	\$567
Plan 12	K19/C31/750MW	\$365	(\$104)	\$1,112	\$637
Plan 13	K19/C25/250MW	\$374	(\$139)	\$12,226	\$705
Plan 14	K19/C25/750 (WPS)	\$714	\$174	\$1,596	\$1,049
Plan 15	K19/C25/750MW	\$445	(\$149)	\$1,340	\$739

1
2
3
4
5
6

Revised Figure 9-87: Comparative Economic Value after 50 years - Provincial Perspective
Millions of 2014 Present Value Dollars

Comparative Economic Value Case Summary Table - NPV after 35 years as compared to ALL Gas					
Plan	Description	Manitoba Hydro Perspective		Province of Manitoba Perspective	
		Reference Scenario	Expected Value	Reference Scenario	Expected Value
Plan 1	All Gas	-	-	-	-
Plan 2	K22/Gas	(\$191)	(\$400)	\$84	(\$126)
Plan 3	Wind/Gas	(\$908)	(\$1,077)	(\$811)	(\$976)
Plan 4	K19/Gas24/250MW	\$254	(\$3)	\$603	\$345
Plan 5	K19/Gas25/750MW (WPS)	\$161	(\$63)	\$524	\$299
Plan 6	K19/Gas31/750MW	(\$21)	(\$293)	\$343	\$70
Plan 7	SCGT/C26	(\$686)	(\$866)	(\$334)	(\$519)
Plan 8	CCGT/C26	(\$716)	(\$928)	(\$347)	(\$563)
Plan 9	Wind/C26	(\$1,031)	(\$1,291)	(\$636)	(\$900)
Plan 10	K22/C29	(\$1,501)	(\$1,819)	(\$937)	(\$1,260)
Plan 11	K19/C31/250MW	(\$1,087)	(\$1,424)	(\$482)	(\$824)
Plan 12	K19/C31/750MW	(\$1,119)	(\$1,507)	(\$495)	(\$888)
Plan 13	K19/C25/250MW	(\$1,019)	(\$1,459)	(\$283)	(\$730)
Plan 14	K19/C25/750 (WPS)	(\$766)	(\$1,225)	(\$3)	(\$467)
Plan 15	K19/C25/750MW	(\$1,032)	(\$1,545)	(\$257)	(\$776)

1

2 **Revised Figure 9-88: Comparative Economic Value after 35 years - Provincial Perspective**

3 **Millions of 2014 Present Value Dollars**

4

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 1, pages 10 and 15**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 LCA makes reference to the energy criterion used by other hydro dependent systems. Please
9 provide any information LCA has on the treatment of imports by other utilities (and, in
10 particular those with hydro dependent systems) in their energy planning criteria.

11

12 **RESPONSE:**

13 Refer to the discussion of BC Hydro's self-sufficiency criteria in Technical Appendix 1, page 1-9,
14 noting that BC Hydro's goal is to have sufficient domestic resources to fulfill need in average
15 water condition, allowing the use of external resources for drier water years.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 1, pages 10 and 15**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 In particular, is LCA aware of other utilities that include the ability to make non-firm energy
9 (market-based) purchases in their energy reliability criteria and, if so, please indicate which
10 utilities and provide their specific criteria.

11

12 **RESPONSE:**

13 It is common practice in portfolio planning for energy supply for a utility to consider leave some
14 amount of open position to allow for shorter term market opportunities. For two examples of
15 reliability and energy planning that involve reliance on market, see:

16 A recent report prepared for the U.S. Federal Energy Regulatory Commission, entitled *Resource*
17 *Adequacy Requirements: Reliability and Economic Implications*, includes an analysis of the
18 industry usage of reliance on interties with neighboring systems in the U.S. See pages 57-60 of
19 that report:

20 <http://www.ferc.gov/legal/staff-reports/2014/02-07-14-consultant-report.pdf>

21 Minnesota Power 2013 Resource Plan using “Bridging” with shorter term market purchases as
22 part of its energy supply planning.

23 <http://www.mnpower.com/Environment/ResourcePlan>

24

1 **SUBJECT:**

2

3 **REFERENCE: LCA Initial Expert Analysis Report, Executive Summary, page (ii)**

4 **LCA Appendix 10 A, page 16**

5

6 **PREAMBLE:**

7

8 **QUESTION:**

9 Please confirm that the comment that Manitoba Hydro has not established the need for
10 expanded transmission to the U.S., particularly in cases without Conawapa, is based on Figure
11 10-6 and the findings at the bottom of page 16 of Appendix 10.

12

13 **RESPONSE:**

14 The statement cited was referring principally to LCA Initial Expert Report, pages LCA-16 to LCA-
15 17, and LCA's Technical Appendix 8, Section IV.A. beginning at page 8-21.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix10 A, page 20**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 What is the basis/rationale for using a 7.05% nominal discount rate for purposes of determining
9 the net present value of the “additional consumer revenue” under each plan?

10

11 **RESPONSE:**

12 We used Manitoba Hydro’s nominal weighted average cost of capital (“WACC”). See pages 6
13 and 7 of Appendix 9.3 of the filing. This is equivalent to MH’s real discount rate of 5.05%.

14

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 10 A, page 31 and 52**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Did LCA assess at all whether or not the financial targets used to drive the required rate
9 increases were appropriate under all the development plans?

10

11 **RESPONSE:**

12

13 No, but we did note the historical precedent underlying the selection of the D/E target ratio.
14 Please refer to LCA's Technical Appendix 10, Section VII for our analysis of alternative financial
15 goals.

1 **SUBJECT:**

2

3 **REFERENCE: LCA Appendix 10 A, page 31 and 52**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Did LCA assess at all whether or not the financial targets used to drive the required rate
9 increases were appropriate under all the development plans? If yes, what were LCA's findings?

10

11 **RESPONSE:**

12 We did not perform such an assessment. Please refer to LCA's response to CAC/LCA-012a.

1 **SUBJECT:**

2

3 **REFERENCE: La Capra Report, Appendix 3A**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Please provide a direct example of a utility who has used "optimization" in their resource
9 planning.

10

11 **RESPONSE:**

12 There are numerous examples, such as the recent analysis by Northern States Power. See the
13 discussion of their use of Strategist, a common resource planning optimization model used in
14 the industry:

15 <http://www.mncenter.org/Portals/0/5%20->

16 [%20legal/Xcel%20Initial%20Filing%201%20and%202%20Sherco%20Study%20smaller.pdf](http://www.mncenter.org/Portals/0/5%20-%20legal/Xcel%20Initial%20Filing%201%20and%202%20Sherco%20Study%20smaller.pdf)

17

18

1 **SUBJECT:**

2

3 **REFERENCE: La Capra Report, Appendix 3A**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Please provide a direct example of how the process of optimization was structured.

9

10 **RESPONSE:**

11 Please see LCA's response to CAC/LCA-013a.

1 **SUBJECT:**

2

3 **REFERENCE: La Capra Report, Appendix 3A**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Please provide a direct example of how the process of optimization was applied.

9

10 **RESPONSE:**

11 Please see LCA's response to CAC/LCA-013a.

1 **SUBJECT:**

2

3 **REFERENCE: La Capra Report, Appendix 3A**

4

5 **PREAMBLE:**

6

7 **QUESTION:**

8 Please provide a direct example of the results derived from a process of optimization.

9

10 **RESPONSE:**

11 Please see LCA's response to CAC/LCA-013a.