

C2-39

1 necessary to compensate BC Hydro for those carrying costs. It is important to note that BC  
2 Hydro reports that while 68% of residential bills were paid on or before the due date, 24%  
3 of residential customer bills were paid one month late. (BCOAPO 2.299.1, citing  
4 BCOAPO 1.179.1). In fact, this statement is not precisely correct. It would be more  
5 accurate to say that 24% of the residential customer bills are paid after the due date for the  
6 bill but before the due date for the next bill. It is unreasonable to assume that everyone that  
7 pays in the month after the due date pays on the last day of the month after the due date.

8  
9 **Q. CAN YOU DEMONSTRATE THE RESULTING OVERCHARGE?**

10 A. Yes. A simple model shows the extent of the overcharge by BC Hydro's Late Payment  
11 Charge. Assume, for purposes of analysis, that the Company has 300 residential customers  
12 each of whom has a monthly bill of \$100. Assume further that these 300 customers pay at  
13 the rate that BC Hydro identified for various months over a 12 month period. (BCOAPO  
14 2.299.1, citing BCOAPO 1.186.1). I have used three months for analysis: May (a non-  
15 cold, non-hot weather month); August (a hot weather month), and January (a cold weather  
16 month). I impose a Late Payment Charge of 1.5% beginning on Day 30 and continuing  
17 through Day 40 of each month. I compare the accrued Late Payment Charges to two  
18 different levels of carrying costs: (1) carrying costs cumulative from the day of the bill  
19 (Day 1); and (2) carrying costs cumulative from the day the bill becomes overdue (Day 21).

20  
21 I find that the BC Hydro Late Payment Charge substantially over-compensates the  
22 Company for its carrying costs as determined by the Company's 4.28% WACD. I have  
23 presented the calculation in Schedule RDC-4 (pages 1 – 6). As can be seen:

1           ➤ In May 2014, the Company would have collected \$45 in Late Payment Charge  
2 revenue given the billing and rate of payment over the first 40 days. In contrast,  
3 the Company would have experienced a carrying cost of only \$50.55 if the Late  
4 Payment Charge revenue is compared to costs accrued from Day 1 through Day  
5 40 (i.e., whether or not the bill was late). The Company would have  
6 experienced a carrying cost of only \$7.92 if the Late Payment Charge revenue is  
7 compared to carrying costs accrued from the first day that payments were late  
8 (Day 21) through Day 40.<sup>1</sup> (Schedule RDC-4, page 1 of 6).

9           ➤ In August 2014, the Company would have collected \$45 in Late Payment  
10 Charge revenue, compared to carrying costs of \$51.25 from Day 1 through Day  
11 40 and compared to carrying costs of \$8.06 from Day 21 through Day 40.  
12 (Schedule RDC-4, page 3 of 6).

13           ➤ In January 2015, the Company would have collected \$45 in Late Payment  
14 Charge revenue, compared to carrying costs of \$50.59 from Day 1 through Day  
15 40 and \$7.99 from Day 21 through Day 40. (Schedule RDC-4, page 5 of 6).

16           The BC Hydro Late Payment Charge clearly over-compensates the Company for the  
17 Company's carrying costs. However, one thing is notable in all three months as well: while  
18 the Late Payment Charge of 1.5%/month is imposed on Day 30, in each of the three months  
19 studied, the largest proportion of payments after the due date are received on the first day  
20 after the due date. In all three months, the percentage of payments in the first *two* days  
21 after the due date exceeds the percentage of late payments  
22 after the due date exceeds the percentage of late payments

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<sup>1</sup> While this Schedule examines the late payment charges on bills that have been paid, a similar analysis on those bills remaining unpaid yields the same results.

Schedule RDC-4  
(page 1 of 6)

Late Payment Charges vs. Carrying Costs (May 2014)										
	Amt Paid	Percent Paid	No. Paid	Carrying Cost from Day 1	Carrying Cost After Late	LPC On Pd Amt	Cumulative Costs	Cumulative LPC	Customers	
1	\$1,800	6%	18	\$0.21	\$0.00	\$0.00	\$0.21	\$0.00		300
2	\$300	1%	3	\$0.07	\$0.00	\$0.00	\$0.28	\$0.00	Monthly bill	\$100
3	\$0	0%	0	\$0.00	\$0.00	\$0.00	\$0.28	\$0.00	Total billed	\$30,000
4	\$1,800	6%	18	\$0.84	\$0.00	\$0.00	\$1.13	\$0.00	Amount paid daily	\$4
5	\$900	3%	9	\$0.53	\$0.00	\$0.00	\$1.65	\$0.00	Late charge	1.5%
6	\$900	3%	9	\$0.63	\$0.00	\$0.00	\$2.29	\$0.00	Annual carrying cost	4.28%
7	\$1,200	4%	12	\$0.98	\$0.00	\$0.00	\$3.27	\$0.00	Daily carrying cost	0.0117%
8	\$900	3%	9	\$0.84	\$0.00	\$0.00	\$4.12	\$0.00		
9	\$600	2%	6	\$0.63	\$0.00	\$0.00	\$4.75	\$0.00		
10	\$600	2%	6	\$0.70	\$0.00	\$0.00	\$5.45	\$0.00		
11	\$900	3%	9	\$1.16	\$0.00	\$0.00	\$6.61	\$0.00		
12	\$900	3%	9	\$1.27	\$0.00	\$0.00	\$7.88	\$0.00		
13	\$900	3%	9	\$1.37	\$0.00	\$0.00	\$9.25	\$0.00		
14	\$1,200	4%	12	\$1.97	\$0.00	\$0.00	\$11.22	\$0.00		
15	\$600	2%	6	\$1.06	\$0.00	\$0.00	\$12.28	\$0.00		
16	\$300	1%	3	\$0.56	\$0.00	\$0.00	\$12.84	\$0.00		
17	\$600	2%	6	\$1.20	\$0.00	\$0.00	\$14.04	\$0.00		
18	\$600	2%	6	\$1.27	\$0.00	\$0.00	\$15.30	\$0.00		
19	\$900	3%	9	\$2.01	\$0.00	\$0.00	\$17.31	\$0.00		
20	\$900	3%	9	\$2.11	\$0.00	\$0.00	\$19.42	\$0.00		
21	\$3,000	10%	30	\$7.39	\$0.35	\$0.00	\$26.81	\$0.00		
22	\$900	3%	9	\$2.32	\$0.21	\$0.00	\$29.13	\$0.00		
23	\$600	2%	6	\$1.62	\$0.21	\$0.00	\$30.75	\$0.00		
24	\$600	2%	6	\$1.69	\$0.28	\$0.00	\$32.43	\$0.00		
25	\$600	2%	6	\$1.76	\$0.35	\$0.00	\$34.19	\$0.00		
26	\$300	1%	3	\$0.91	\$0.21	\$0.00	\$35.11	\$0.00		
27	\$300	1%	3	\$0.95	\$0.25	\$0.00	\$36.06	\$0.00		
28	\$300	1%	3	\$0.98	\$0.28	\$0.00	\$37.04	\$0.00		
29	\$300	1%	3	\$1.02	\$0.32	\$0.00	\$38.06	\$0.00		
30	\$0	0%	0	\$0.00	\$0.00	\$0.00	\$38.06	\$0.00		
31	\$300	1%	3	\$1.09	\$0.39	\$4.50	\$39.15	\$4.50		
32	\$300	1%	3	\$1.13	\$0.42	\$4.50	\$40.28	\$9.00		
33	\$300	1%	3	\$1.16	\$0.46	\$4.50	\$41.44	\$13.50		
34	\$300	1%	3	\$1.20	\$0.49	\$4.50	\$42.64	\$18.00		
35	\$300	1%	3	\$1.23	\$0.53	\$4.50	\$43.87	\$22.50		

Late Payment Charges vs. Carrying Costs (May 2014)

	Amt Paid	Percent Paid	No. Paid	Carrying Cost from Day 1	Carrying Cost After Late	LPC On Pd Amt	Cumulative Costs	Cumulative LPC	Customers	
36	\$300	1%	3	\$1.27	\$0.56	\$4.50	\$45.13	\$27.00		
37	\$300	1%	3	\$1.30	\$0.60	\$4.50	\$46.44	\$31.50		
38	\$300	1%	3	\$1.34	\$0.63	\$4.50	\$47.77	\$36.00		
39	\$300	1%	3	\$1.37	\$0.67	\$4.50	\$49.14	\$40.50		
40	\$300	1%	3	\$1.41	\$0.70	\$4.50	\$50.55	\$45.00		
	\$26,700		267	\$50.55	\$7.92	\$45.00				300

Schedule RDC-4  
(page 3 of 6)

Late Payment Charges vs. Carrying Costs (August 2014)										
	Amt Paid	Percent Paid	No. Paid	Carrying Cost from Day 1	Carrying Cost After Late	LPC On Pd Amt	Cumulative Costs	Cumulative LPC	Customers	300
1	\$1,800	6%	18	\$0.21	\$0.00	\$0.00	\$0.21	\$0.00	Monthly bill	\$100
2	\$300	1%	3	\$0.07	\$0.00	\$0.00	\$0.28	\$0.00	Total billed	\$30,000
3	\$0	0%	0	\$0.00	\$0.00	\$0.00	\$0.28	\$0.00	Amount paid daily	\$4
4	\$2,100	7%	21	\$0.98	\$0.00	\$0.00	\$1.27	\$0.00	Late charge	1.5%
5	\$900	3%	9	\$0.53	\$0.00	\$0.00	\$1.79	\$0.00	Annual carrying cost	4.28%
6	\$1,200	4%	12	\$0.84	\$0.00	\$0.00	\$2.64	\$0.00	Daily carrying cost	0.0117%
7	\$1,200	4%	12	\$0.98	\$0.00	\$0.00	\$3.62	\$0.00		
8	\$900	3%	9	\$0.84	\$0.00	\$0.00	\$4.47	\$0.00		
9	\$600	2%	6	\$0.63	\$0.00	\$0.00	\$5.10	\$0.00		
10	\$600	2%	6	\$0.70	\$0.00	\$0.00	\$5.80	\$0.00		
11	\$600	2%	6	\$0.77	\$0.00	\$0.00	\$6.58	\$0.00		
12	\$900	3%	9	\$1.27	\$0.00	\$0.00	\$7.84	\$0.00		
13	\$900	3%	9	\$1.37	\$0.00	\$0.00	\$9.22	\$0.00		
14	\$1,200	4%	12	\$1.97	\$0.00	\$0.00	\$11.19	\$0.00		
15	\$600	2%	6	\$1.06	\$0.00	\$0.00	\$12.24	\$0.00		
16	\$600	2%	6	\$1.13	\$0.00	\$0.00	\$13.37	\$0.00		
17	\$600	2%	6	\$1.20	\$0.00	\$0.00	\$14.56	\$0.00		
18	\$600	2%	6	\$1.27	\$0.00	\$0.00	\$15.83	\$0.00		
19	\$600	2%	6	\$1.34	\$0.00	\$0.00	\$17.17	\$0.00		
20	\$900	3%	9	\$2.11	\$0.00	\$0.00	\$19.28	\$0.00		
21	\$3,000	10%	30	\$7.39	\$0.35	\$0.00	\$26.66	\$0.00		
22	\$1,200	4%	12	\$3.10	\$0.28	\$0.00	\$29.76	\$0.00		
23	\$600	2%	6	\$1.62	\$0.21	\$0.00	\$31.38	\$0.00		
24	\$300	1%	3	\$0.84	\$0.14	\$0.00	\$32.22	\$0.00		
25	\$600	2%	6	\$1.76	\$0.35	\$0.00	\$33.98	\$0.00		
26	\$600	2%	6	\$1.83	\$0.42	\$0.00	\$35.81	\$0.00		
27	\$300	1%	3	\$0.95	\$0.25	\$0.00	\$36.76	\$0.00		
28	\$300	1%	3	\$0.98	\$0.28	\$0.00	\$37.75	\$0.00		
29	\$300	1%	3	\$1.02	\$0.32	\$0.00	\$38.77	\$0.00		
30	\$0	0%	0	\$0.00	\$0.00	\$0.00	\$38.77	\$0.00		
31	\$300	1%	3	\$1.09	\$0.39	\$4.50	\$39.86	\$4.50		
32	\$300	1%	3	\$1.13	\$0.42	\$4.50	\$40.98	\$9.00		
33	\$300	1%	3	\$1.16	\$0.46	\$4.50	\$42.14	\$13.50		
34	\$300	1%	3	\$1.20	\$0.49	\$4.50	\$43.34	\$18.00		
35	\$300	1%	3	\$1.23	\$0.53	\$4.50	\$44.57	\$22.50		

Late Payment Charges vs. Carrying Costs (August 2014)										
	Amt Paid	Percent Paid	No. Paid	Carrying Cost from Day 1	Carrying Cost After Late	LPC On Pd Amt	Cumulative Costs	Cumulative LPC	Customers	300
36	\$300	1%	3	\$1.27	\$0.56	\$4.50	\$45.84	\$27.00		
37	\$300	1%	3	\$1.30	\$0.60	\$4.50	\$47.14	\$31.50		
38	\$300	1%	3	\$1.34	\$0.63	\$4.50	\$48.48	\$36.00		
39	\$300	1%	3	\$1.37	\$0.67	\$4.50	\$49.85	\$40.50		
40	\$300	1%	3	\$1.41	\$0.70	\$4.50	\$51.25	\$45.00		
	\$27,300		273	\$51.25	\$8.06	\$45.00				

Schedule RDC-4  
(page 5 of 6)

Late Payment Charges vs. Carrying Costs (January 2015)										
	Amt Paid	Percent Paid	No. Paid	Carrying Cost from Day 1	Carrying Cost After Late	LPC On Pd Amt	Cumulative Costs	Cumulative LPC	Customers	300
1	\$1,500	5%	15	\$0.18	\$0.00	\$0.00	\$0.18	\$0.00	Monthly bill	\$100
2	\$300	1%	3	\$0.07	\$0.00	\$0.00	\$0.25	\$0.00	Total billed	\$30,000
3	\$300	1%	3	\$0.11	\$0.00	\$0.00	\$0.35	\$0.00	Amount paid daily	\$4
4	\$2,100	7%	21	\$0.98	\$0.00	\$0.00	\$1.34	\$0.00	Late charge	1.5%
5	\$900	3%	9	\$0.53	\$0.00	\$0.00	\$1.86	\$0.00	Annual carrying cost	4.28%
6	\$900	3%	9	\$0.63	\$0.00	\$0.00	\$2.50	\$0.00	Daily carrying cost	0.0117%
7	\$1,200	4%	12	\$0.98	\$0.00	\$0.00	\$3.48	\$0.00		
8	\$600	2%	6	\$0.56	\$0.00	\$0.00	\$4.05	\$0.00		
9	\$600	2%	6	\$0.63	\$0.00	\$0.00	\$4.68	\$0.00		
10	\$600	2%	6	\$0.70	\$0.00	\$0.00	\$5.38	\$0.00		
11	\$900	3%	9	\$1.16	\$0.00	\$0.00	\$6.54	\$0.00		
12	\$900	3%	9	\$1.27	\$0.00	\$0.00	\$7.81	\$0.00		
13	\$900	3%	9	\$1.37	\$0.00	\$0.00	\$9.18	\$0.00		
14	\$1,200	4%	12	\$1.97	\$0.00	\$0.00	\$11.15	\$0.00		
15	\$600	2%	6	\$1.06	\$0.00	\$0.00	\$12.21	\$0.00		
16	\$300	1%	3	\$0.56	\$0.00	\$0.00	\$12.77	\$0.00		
17	\$600	2%	6	\$1.20	\$0.00	\$0.00	\$13.97	\$0.00		
18	\$600	2%	6	\$1.27	\$0.00	\$0.00	\$15.23	\$0.00		
19	\$600	2%	6	\$1.34	\$0.00	\$0.00	\$16.57	\$0.00		
20	\$900	3%	9	\$2.11	\$0.00	\$0.00	\$18.68	\$0.00		
21	\$3,000	10%	30	\$7.39	\$0.35	\$0.00	\$26.07	\$0.00		
22	\$1,200	4%	12	\$3.10	\$0.28	\$0.00	\$29.16	\$0.00		
23	\$600	2%	6	\$1.62	\$0.21	\$0.00	\$30.78	\$0.00		
24	\$600	2%	6	\$1.69	\$0.28	\$0.00	\$32.47	\$0.00		
25	\$600	2%	6	\$1.76	\$0.35	\$0.00	\$34.23	\$0.00		
26	\$300	1%	3	\$0.91	\$0.21	\$0.00	\$35.14	\$0.00		
27	\$300	1%	3	\$0.95	\$0.25	\$0.00	\$36.09	\$0.00		
28	\$300	1%	3	\$0.98	\$0.28	\$0.00	\$37.08	\$0.00		
29	\$300	1%	3	\$1.02	\$0.32	\$0.00	\$38.10	\$0.00		
30	\$0	0%	0	\$0.00	\$0.00	\$0.00	\$38.10	\$0.00		
31	\$300	1%	3	\$1.09	\$0.39	\$4.50	\$39.19	\$4.50		
32	\$300	1%	3	\$1.13	\$0.42	\$4.50	\$40.31	\$9.00		

Late Payment Charges vs. Carrying Costs (January 2015)										
	Amt Paid	Percent Paid	No. Paid	Carrying Cost from Day 1	Carrying Cost After Late	LPC On Pd Amt	Cumulative Costs	Cumulative LPC	Customers	300
33	\$300	1%	3	\$1.16	\$0.46	\$4.50	\$41.47	\$13.50		
34	\$300	1%	3	\$1.20	\$0.49	\$4.50	\$42.67	\$18.00		
35	\$300	1%	3	\$1.23	\$0.53	\$4.50	\$43.90	\$22.50		
36	\$300	1%	3	\$1.27	\$0.56	\$4.50	\$45.17	\$27.00		
37	\$300	1%	3	\$1.30	\$0.60	\$4.50	\$46.47	\$31.50		
38	\$300	1%	3	\$1.34	\$0.63	\$4.50	\$47.81	\$36.00		
39	\$300	1%	3	\$1.37	\$0.67	\$4.50	\$49.18	\$40.50		
40	\$300	1%	3	\$1.41	\$0.70	\$4.50	\$50.59	\$45.00		
	\$26,700		267	\$50.59	\$7.99	\$45.00				