

A

Hydro-Québec
Requête R-3401-98

**DOMINION BOND RATING SERVICE LIMITED -
BRITISH COLUMBIA HYDRO & POWER AUTHORITY**

8 SEPTEMBRE 2000

British Columbia Hydro and Power Authority

(*The rating is a flow-through of the Province of British Columbia, which conducts all of B.C. Hydro's financing activities. This report specifically analyzes the Utility.)

Current Report: September 8, 2000
Previous Report: December 1999

RATING*

Rating Trend Rating Action Debt Rated
AA (low) Stable Confirmed Long-term Debt

Walter J. Schroeder, CFA/Jenny Catalfo
(416) 593-5577 x242
e-mail: jcatalfo@dbrs.com

RATING HISTORY* (as at Dec. 31)	<u>Current</u>	<u>1999</u>	<u>1998</u>	<u>1997</u>	<u>1996</u>	<u>1995</u>	<u>1994</u>
Long-term Debt	AA (low)	AA (low)	AA	AA	AA	AA	AA

COMMENTARY

The rating is a flow-through of the Province of British Columbia's rating as the Utility's debt securities are direct obligations of the province. The general strengths of B.C. Hydro continue to prevail: (1) It is one of the lowest cost providers of electricity in North America, and can compete in almost any market where it can transmit power. (2) Earnings are influenced by the water levels available to generate power. (3) The restructuring of the electricity industry in the U.S. has enabled B.C. Hydro to sell electricity into California and other markets in the U.S. at increasingly higher prices, and also to trade electricity. Electricity is purchased at low off-peak prices, conserving water and then, at peak periods, electricity is generated, greatly raising average prices received for exports. (4) The Utility's average coupon on outstanding debt is relatively

high, but is being gradually reduced with refinancings at lower rates, thereby improving coverage ratios and earnings. The balance sheet is slowly improving, and should continue to do so until 2007, when the next range of heavy expansion occurs. However, the major constraints remain: (1) The 83.5% debt levels greatly weaken most key financial ratios. (2) A high payout to the Provincial Government (includes all taxes, levies and dividends) prevents more rapid improvement in the balance sheet. Thus, not much will change with the balance sheet unless government policy changes. Earnings growth in 2000 was mainly related to colder weather, higher water flows available to generate power, higher average prices for power exports and lower interest costs. Water flows available for hydro generation is the key consideration in future earnings performance.

CONSIDERATIONS

Strengths:

- Debt securities are direct obligations to the Province
- Low-cost hydro-based generating capacity
- U.S. FERC marketing license enhances access to U.S. markets as well as earnings growth potential
- Cash flows sufficient to finance capital expenditures and dividend payments

Challenges:

- Excessive debt levels constrain profitability
- Exposure to currency exchange rates: 50% of debt is foreign dollar denominated, of which 65% is unhedged
- Earnings sensitive to water levels
- Heavy government levy burden
- Economic growth remains weak, but is improving

FINANCIAL INFORMATION

For years ended March 31st

	<u>2000</u>	<u>1999</u>	<u>1998</u>	<u>1997</u>	<u>1996</u>	<u>1995</u>	<u>1994</u>
EBIT Interest Coverage (times)	1.91	1.64	1.65	1.47	1.18	1.21	1.19
Net Debt in the Capital Structure (1)	83.5%	85.1%	85.3%	86.0%	87.0%	87.4%	86.9%
Cash Flow/Total Debt (times)	0.14	0.11	0.11	0.09	0.07	0.06	0.06
Cash Flow/Capital Expenditures (times)	2.43	2.18	2.86	2.50	1.61	1.33	1.36
Operating Income (\$ millions)	1,124	1,022	1,025	983	896	909	869
Net Income (bef extras.) (\$ millions)	545	407	440	358	150	185	190
Operating Cash Flow (\$ millions)	979	792	779	699	505	497	603
Electricity Sales (millions of kWhs)	69,852	64,506	56,460	54,484	46,822	46,981	44,663
Electricity Revenues (cents per kWh sold)	4.91	4.65	4.42	4.36	4.77	4.81	4.51
Variable Costs (cents per net gen kWh sold)	1.09	1.04	0.85	0.88	1.12	1.19	1.18
Fixed Costs (cents per net gen kWh sold)	1.99	2.16	2.88	2.88	3.53	3.52	3.44
Purchased Power (cents per gross kWh purchased)	4.28	3.83	3.32	3.41	3.29	2.82	2.96
Pre-tax Margin* (cents per kWh sold)	0.74	0.60	0.72	0.61	0.24	0.33	0.57

(1) Excluding customer contributions and Columbia River Treaty. * Excluding ancillary revenues.

THE COMPANY

British Columbia Hydro and Power Authority, a wholly owned Crown corporation, generates, transmits and distributes electric power in British Columbia. B.C. Hydro is the third largest public electric utility in Canada.

Integrated Electric Utility

DOMINION BOND RATING SERVICE LIMITED

Information comes from sources believed to be reliable, but we cannot guarantee that it, or opinions in this Report, are complete or accurate. This Report is not to be construed as an offering of any securities, and it may not be reproduced without our consent.

REGULATIONS

B.C. Hydro is regulated by the British Columbia Utilities Commission, which establishes and approves customer rates, allowed rate of returns and annual payments to the Province. Both the Utility and the Utilities Commission are subject to directives issued by the Province of British Columbia. The approved ROE is set at a rate equivalent to the pre-tax return allowed for investor-owned utilities. The approved ROE for the year ended March 31, 2000 was 16.69% versus 17.47% in 1999. B.C. Hydro is required to make annual payments to the Province equal to 85% of its "distributable surplus" (largely net income before

capitalized charges and transfers), provided the Utility's debt-to-equity ratio after deducting the payment does not exceed 80:20. (The calculation includes customer contributions, Columbia River Treaty contributions and deferred revenues as equity equivalents. DBRS excludes all of these items in its debt ratios, consistent with the treatment accorded other utilities.) The Province initiated a rate freeze as of December 10, 1997, which was to continue until March 31, 2000, but has been extended to September 30, 2001.

CONSIDERATIONS

Strengths: (1) B.C. Hydro's debt issues are the direct obligations of the Province, although the Utility is responsible for the repayment of principal and interest. As such, the rating assigned to B.C. Hydro is a flow-through rating of the Province of British Columbia.

(2) The Utility's generating capacity is largely low cost hydro-based and contributes to one of the lowest variable cost structures in North America. Variable costs of 1.09¢ per net generated kWh sold compares very favourably to the 3¢-4¢ per kWh for the most efficient natural gas fuelled generation today.

(3) In 1996, the Utility's export subsidiary, Powerex, was granted a power marketing license from the U.S. Federal Energy Regulatory Commission (FERC). This has expanded the size of Utility's potential export market, as B.C. Hydro is now able to sell power directly to other utilities in the U.S., rather than only doing business at the Canadian-U.S. border. Improved access to U.S. markets should enhance earnings growth potential over the longer-term, but also exposes the Utility to potentially material market risks.

(4) Given the water storage capacity of hydro-based power generating facilities, the Utility is in an excellent position to trade power, buying low cost power during off-peak hours, and selling its own generated power during peak periods at higher rates.

(5) Internally generated cash flows are sufficient to finance capital expenditures and dividend payments to the Province.

(6) The Utility has good interconnections with other utilities, including a 600 MW inter-tie to power south Alberta and a 3,150 MW inter-tie to the U.S. The interconnection to the U.S. opens up potential new markets

for the Utility, particularly given the relatively high cost of generation in the Pacific Northwest U.S.

Challenges: (1) The Utility has excessive debt levels, with a debt-to-capital ratio of 83.5%, among the highest debt burdens of all utilities in Canada. Although the refinancing of high coupon debt at lower rates has materially reduced interest costs, the high debt level substantially weakens profitability ratios as net interest expenses still account for roughly 60% of earnings. The average coupon on long-term debt has fallen to 8.10%.

(2) The Utility is sensitive to exchange rates as foreign (mostly U.S.) dollar denominated debt issues account for 43% of total debt outstanding at the end of F1999. Currency swaps reduced this exposure to roughly 30% (F1998 - \$2.7 billion) of total debt outstanding at the end of March 1999.

(3) The Utility has among the highest government levy burdens (taxes, debt guarantee fees and dividends payments) of all government-owned utilities with 80%-95% of earnings over the last 5-years returned to the Provincial Government.

(4) Earnings are sensitive to water levels given the hydro-based nature of power generating facilities. This can contribute to fluctuations in earnings and interest coverage ratios over the shorter-term and can potentially affect export sales.

(5) Although growth is improving slowly, the Provincial economy is among the weakest in Canada. Economic growth has lagged due to problems with Asian markets, a substantial reduction in in-migration, a weak resource sector (which is improving now).

EARNINGS

Almost everything went right for B.C. Hydro in F1999, as income before extraordinary items rose 34%, over the previous year. Hydro-based generation amounted to 49.9 billion kWh, up 5.3% over F1998, mainly because of higher water flows. (1) Higher cost thermal generation actually declined to 1.3 billion kWh from 3.2 billion kWh last year due to the improvement in availability of water. (2) The Utility expanded electricity trading, buying 23.2 billion kWh, versus 19.1 billion kWh last year. Purchases take place at off peak hours at relatively low

prices. This conserves water power for use in electricity generation during peak hours. This contributed to a rise in electricity trading revenues, with rates for exports received were 4.82¢ per kWh, versus 3.95¢ per kWh last year. (3) Residential revenues were 4.6% higher, mainly because temperatures were 11% colder than last year. (4) Interest expense on long-term and short-term debt fell to \$629 million versus \$682 million the prior year, as debt levels were reduced by excess cash flows, and as higher coupon debt was refinanced with lower coupon issues.

These favourable factors were partly offset by higher (8.3%) operating, maintenance and administration costs and depreciation (+7,6%) expenses.

Outlook: B.C. Hydro is benefiting from a variety of factors, which have raised its income to a higher range. Since 1996, income has increased to \$550 million, versus \$200 million

in the time period prior to 1996. Positive factors include: (1) Industry restructuring in the U.S. which enables it to export electricity to California and other areas of the U.S. at higher rates. (2) Falling interest costs as high coupon debt is either repaid or refinanced at lower coupon rates. Future income will also be influenced by available water flows and the amount of rainfall.

FINANCIAL PROFILE

Key debt ratios are strongly influenced by excessive debt levels, with debt-to-capital for F1999 at 83.5%. This compares to 50%-60% for private utilities. Given the high level of earnings returned to the Provincial Government (80%-95% over the last 5 years), the balance sheet is expected to remain among the weakest of all utilities in Canada. Nevertheless, in F1999 the balance sheet improved somewhat as excess cash flows was used to pay down debt. With average debt levels declining slowly, and coupon rates falling, coverage ratios should improve over the next few years.

Outlook: The Utility should be in a position to generate free cash flow of at least \$250 million. However, debt reduction is dependent on the amount of dividends paid to the Province so the direction of the balance sheet is greatly influenced by the Province. Substantial system expansion is not due to occur until 2007, so there should be no strain on the balance sheet until then, with capital expenditures expected to remain below \$400 million.

DEBT MATURITY SCHEDULE

	<u>F2000</u>	<u>F2001</u>	<u>F2002</u>	<u>F2003</u>	<u>F2004</u>
(millions)	\$0	\$184	\$404	\$407	\$591

British Columbia Hydro & Power Authority
Balance Sheet

(\$ millions)	As at March 31			Liabilities & Equity:	As at March 31		
	2000	1999	1998		2000	1999	1998
Assets:				Accounts payable	480	323	320
Temporary investments	5	33	11	Accr'd liab.	469	454	497
A/R + unbilled revenues	415	412	362	L-T debt due in 1 yr.	699	1,354	42
Supplies + prepaids	151	166	140	Current Liabilities	1,648	2,131	859
Current Assets	571	611	513	Long-term debt	7,328	7,125	8,087
Net fixed assets	9,320	9,251	9,168	Rate stab. acct.	129	0	0
Sinking funds	1,017	955	927	Def'd rev. + liab.	327	338	337
Demand-side mgmt programs	146	176	202	Columbia River Treaty	230	240	249
Deferred debt costs	500	634	486	Customer contribution	549	539	530
Investments	0	4	9	Common equity	1,385	1,312	1,243
Foreign currency contracts	42	54	0	Total	11,596	11,685	11,305
Total	11,596	11,685	11,305				

Ratio Analysis

	For years ended March 31							
Liquidity Ratios	2000	1999	1998	1997	1996R	1995R	1994R	1993R
Current ratio	0.35	0.29	0.60	0.62	0.73	0.47	0.29	0.39
Accumulated depreciation/Gross fixed assets	34.8%	33.6%	32.5%	31.3%	30.2%	29.0%	28.1%	26.8%
Cash flow / Total debt	0.14	0.11	0.11	0.09	0.07	0.06	0.06	0.08
Cash flow / Capital expenditures (1)	2.43	2.18	2.86	2.50	1.61	1.33	1.36	1.29
Cash flow-dividends / Capital expenditures (1)	1.62	1.17	1.84	1.50	1.25	0.78	0.69	0.78
Net debt in the capital structure (2)	83.5%	85.1%	85.3%	86.0%	87.0%	87.4%	86.9%	85.7%
Average coupon on 1-t debt	8.10%	7.70%	8.50%	8.50%	9.40%	10.00%	10.10%	10.30%
Common equity in capital structure	16.5%	14.8%	14.7%	13.9%	13.0%	12.5%	12.9%	14.2%
Common dividend payout (before extras.)	62.9%	80.1%	63.4%	32.1%	76.7%	107.0%	128.9%	79.1%

Coverage Ratios (3)

EBIT interest coverage	1.91	1.64	1.65	1.47	1.18	1.21	1.19	1.35
EBITDA interest coverage	2.49	2.14	2.13	1.88	1.51	1.54	1.52	1.66
Fixed charges coverage	1.91	1.64	1.65	1.47	1.18	1.21	1.19	1.35

Earnings Quality / Operating Efficiency

Power purchases / Revenues	28.8%	24.2%	12.2%	8.4%	8.6%	9.2%	7.6%	4.4%
Fuel costs / Revenues	2.4%	2.6%	0.8%	0.6%	2.9%	3.6%	2.7%	2.0%
Operating margin	32.5%	33.9%	40.5%	40.9%	39.5%	39.7%	39.8%	44.8%
Net margin (before extras.)	15.8%	13.5%	17.4%	14.9%	6.6%	8.1%	8.7%	13.8%
Return on average equity (before extras.)	40.4%	31.9%	36.0%	30.6%	13.4%	16.5%	16.2%	27.9%
Profit returned to Government (before extras.)	77.9%	95.2%	82.1%	90.4%	93.7%	102.2%	109.5%	90.9%
Approved ROE	16.69%	17.47%	17.00%	14.81%	-	-	-	-
Customers / Employee	283	285	285	258	244	230	217	218
GWh sold / Employee	12.5	11.8	10.5	9.4	7.8	7.5	6.9	7.7
Growth in customer base	1.4%	1.5%	2.1%	2.0%	2.4%	3.0%	3.1%	2.7%

Self-Generation - Cost Structure (4)

(cents per net generated kWh sold) (Tables may not add due to rounding)

OM&A	0.92	0.87	0.80	0.85	0.96	0.99	1.04	0.84
Fuel	0.17	0.16	0.04	0.03	0.16	0.20	0.15	0.09
Variable Costs	1.09	1.04	0.85	0.88	1.12	1.19	1.18	0.94
Gov't Levies	0.93	0.94	0.95	0.95	0.99	1.00	0.98	0.83
Net Interest Expense	1.14	1.25	1.19	1.25	1.77	1.79	1.78	1.42
Total Cash Costs	3.16	3.22	3.00	3.07	3.88	3.98	3.94	3.19
Non cash financial charges	0.06	0.06	0.03	0.03	0.03	0.01	(0.06)	0.01
Depreciation	0.76	0.72	0.70	0.66	0.74	0.71	0.75	0.58
Total Costs	3.98	4.01	3.73	3.75	4.65	4.71	4.62	3.78

Purchased Power (cents per gross kWh purch.) (5)	4.28	3.83	3.32	3.41	3.29	2.82	2.96	16.96
--	------	------	------	------	------	------	------	-------

(1) Capital expenditures are net of customer contributions.

R = Balance sheet restated to reflect gross debt and sinking fund assets.

(2) Columbia River Treaty and customer contributions excluded from capital structure.

(3) Before capitalized interest, AFUDC and debt amortizations.

(4) Internally generated energy less energy used + lost - excludes power purchases. Transmission losses apportioned relative to total energy supplied.

(5) Includes cost of power purchased for resale and related third-party transmission costs.

British Columbia Hydro & Power Authority

Income Statement

	For years ended March 31							
(\$ millions)	2000	1999	1998	1997	1996	1995	1994	1993
Residential	894	855	839	866	822	792	762	744
Light industrial/commercial	851	838	828	809	790	774	751	718
Large industrial	480	488	424	471	492	466	475	441
Other energy sales	73	77	65	67	78	85	73	76
Sub-total - Domestic	2,298	2,258	2,156	2,213	2,182	2,117	2,061	1,979
Trading revenues	1,129	739	341	164	51	142	95	172
Total energy revenues	3,427	2,997	2,497	2,377	2,233	2,259	2,156	2,151
Non-energy	30	20	36	26	36	28	29	27
Total revenues	3,457	3,017	2,533	2,403	2,269	2,287	2,185	2,178
Expenses:								
OM&A	442	408	385	415	398	397	410	397
Power purchase costs	888	626	195	113	106	129	114	96
IPP contract purchase costs	109	105	114	90	89	81	51	0
Fuel costs	82	77	21	15	65	82	59	44
Depreciation & amortization	365	339	336	322	307	287	295	273
Water rentals	276	267	280	296	239	231	217	241
Taxes	171	173	177	169	169	171	170	152
Total Operating Costs	2,333	1,995	1,508	1,420	1,373	1,378	1,316	1,203
Operating income	1,124	1,022	1,025	983	896	909	869	975
Interest expense	629	682	701	784	915	890	891	878
Non-cash financial charges	29	30	14	13	12	6	(25)	3
Other (income)/expense	(79)	(97)	(130)	(172)	(181)	(172)	(187)	(207)
Net interest expense	579	615	585	625	746	724	679	674
Income before extras.	545	407	440	358	150	185	190	301
Extraordinary items	(129)	(12)	(32)	(19)	0	(23)	0	0
Net income	416	395	408	339	150	162	190	301

Operating Cash Flows	979	792	779	699	505	481	497	603
Less: Payment to Province	326	366	279	279	115	198	245	238
Capital expenditures (net of contrib)	403	363	272	280	313	361	366	466
Cash flows before working capital	250	63	228	140	77	(78)	(114)	(101)
LESS: Working capital	(126)	76	(37)	(122)	145	(44)	24	(95)
Free Cash Flow	376	(13)	265	262	(68)	(34)	(138)	(6)
LESS: Other investments	14	4	(6)	25	(74)	57	57	61
PLUS: Net financing funds	(431)	39	(304)	(209)	(1)	(3)	241	(5)
Net Change in Cash Flows	(69)	22	(33)	28	5	(94)	46	(72)

Unit Revenues and Costs

	(cents per kWh sold)							
Residential	6.12	6.11	6.12	6.11	6.12	6.11	6.12	5.90
Light industrial/commercial	5.32	5.31	5.34	5.32	5.33	5.32	5.33	5.10
Large industrial	3.29	3.32	3.25	3.32	3.38	3.37	3.35	3.20
Other energy sales	5.89	5.82	6.26	6.01	5.00	4.88	5.56	4.79
Domestic Revenues	4.95	4.93	4.98	4.96	4.91	4.92	4.91	4.71
Trading Revenues	4.82	3.95	2.59	1.67	2.10	3.62	3.59	3.05
Average Electricity Revenues	4.91	4.65	4.42	4.36	4.77	4.81	4.83	4.51
Ancillary Revenues	0.04	0.03	0.06	0.05	0.08	0.06	0.06	0.06
Average Revenues	4.95	4.68	4.49	4.41	4.85	4.87	4.89	4.57
Expenses:								
Operating + Administration	0.63	0.63	0.68	0.76	0.85	0.85	0.92	0.83
Power purchases	1.43	1.13	0.55	0.37	0.42	0.45	0.37	0.20
Fuel	0.12	0.12	0.04	0.03	0.14	0.17	0.13	0.09
Variable Costs	2.18	1.89	1.27	1.16	1.41	1.47	1.42	1.13
Gov't Levies	0.64	0.68	0.81	0.85	0.87	0.86	0.87	0.82
Net Interest Expenses	0.79	0.91	1.01	1.12	1.57	1.53	1.58	1.41
Total Cash Costs	3.60	3.47	3.09	3.14	3.84	3.85	3.86	3.36
Cash Margin	1.34	1.20	1.40	1.27	1.00	1.02	1.03	1.21
Non-cash Financial Charges	0.04	0.05	0.02	0.02	0.03	0.01	(0.06)	0.01
Depreciation	0.52	0.53	0.60	0.59	0.66	0.61	0.66	0.57
Pre-tax Margin	0.78	0.63	0.78	0.66	0.32	0.39	0.43	0.63
Variable Costs	2.18	1.89	1.27	1.16	1.41	1.47	1.42	1.13
Fixed Costs (deprec, int + levies)	1.99	2.16	2.44	2.59	3.12	3.01	3.05	2.81
Total Costs	4.17	4.05	3.71	3.75	4.53	4.47	4.47	3.94

British Columbia Hydro & Power Authority
Operating Statistics

For years ended March 31

Electricity Sold - Break down

	2000	1999	1998	1997	1996	1995	1994	1993
Residential	14,599	13,987	13,701	14,167	13,442	12,957	12,442	12,600
Light industrial + commercial	16,001	15,776	15,511	15,201	14,823	14,542	14,086	14,070
Large industrial	14,603	14,705	13,042	14,175	14,569	13,812	14,178	13,785
Other	1,239	1,323	1,038	1,115	1,561	1,743	1,312	1,588
Total domestic electric	46,442	45,791	43,292	44,658	44,395	43,054	42,018	42,043
Trading volumes	23,410	18,715	13,168	9,826	2,427	3,927	2,645	5,643
Total - GWh sold	69,852	64,506	56,460	54,484	46,822	46,981	44,663	47,686

Energy sales growth	8.3%	14.3%	3.6%	16.4%	-0.3%	5.2%	-6.3%	0.3%
---------------------	------	-------	------	-------	-------	------	-------	------

Generation

Hydro	90%	9,992	9,960	9,921	9,746	9,716	9,706	9,706	9,706
Gas	8%	912	912	912	912	912	912	912	912
Oil	2%	211	173	166	171	223	220	217	217
Installed Capacity (Megawatts)		11,115	11,045	10,999	10,829	10,851	10,838	10,835	10,835
Energy Generated (GWh)									
Hydro		49,927	47,399	50,334	53,334	41,695	39,921	40,101	49,211
Gas		1,312	3,177	1,378	428	3,502	3,812	3,248	1,766
Oil		407	101	67	66	65	65	62	77
Gross power generated	69%	51,646	50,677	51,779	53,828	45,262	43,798	43,411	51,054
PLUS: Purchases	31%	23,299	19,100	9,296	5,950	5,921	7,450	5,567	566
Energy generated + purchased		74,945	69,777	61,075	59,778	51,183	51,248	48,978	51,620
LESS: Transmission losses + internal use		5,093	5,271	4,615	5,294	4,361	4,267	4,315	3,934
Total - GWh sold		69,852	64,506	56,460	54,484	46,822	46,981	44,663	47,686

Energy lost + used/Energy gen + purch	6.8%	7.6%	7.6%	8.9%	8.5%	8.3%	8.8%	7.6%
Maximum primary peak demand (MW)	8,423	8,777	8,243	8,267	8,451	8,168	8,059	8,156
Demand/Installed capacity (Megawatts)	75.8%	79.5%	74.9%	76.3%	77.9%	75.4%	74.4%	75.3%

Export Interconnections

Alberta	600	600	600	600	600	600	600	600
U.S.	3,150	3,150	3,150	2,300	2,300	2,300	2,300	2,300
Total (Megawatts)	3,750	3,750	3,750	2,900	2,900	2,900	2,900	2,900

Interconnections as a % of Installed Capacity	33.7%	34.0%	34.1%	26.8%	26.7%	26.8%	26.8%	26.8%
---	-------	-------	-------	-------	-------	-------	-------	-------