

APPENDIX A

Energy Imbalance Charges HQT's proposal vs Alternative proposal

HQT's proposal

For a customer who is short on its schedule, the highest of:

- 1) NY Zone M less 0.16 \$/MWh;
- 2) ISO-NE (Phase II) less 6.00 \$/MWh;
- 3) HOEP and;
100 \$Ca/MWh (for bands 2 and 3 only)

For a customer who is long on its schedule, the lowest of:

- 1) NY Zone M plus 4.50 \$/MWh;
- 2) ISO-NE (Phase II) plus 8.00 \$/MW;
- 3) HOEP plus 4.00 or 5.00 \$Ca/MWh (off-peak or on-peak);
25 \$Ca/MWh (for band 2 only) and;
0 \$Ca/MWh (for band 3 only)

(all converted in Canadian dollars at the Bank of Canada noon rate)

Alternative proposal

A Proxy price applies for both incremental and decremental cost.

When Hydro Québec is a net **exporter** out of Québec:

The proxy Québec price is equal to the lowest hourly price, after adjustments for transmission fees, of the markets accepting exports using the market prices for the following three interconnection paths: HQT-NE, HQT-MASS and HQT-ON (HQT-LAW).

When Hydro Québec is a net **importer** out of Québec:

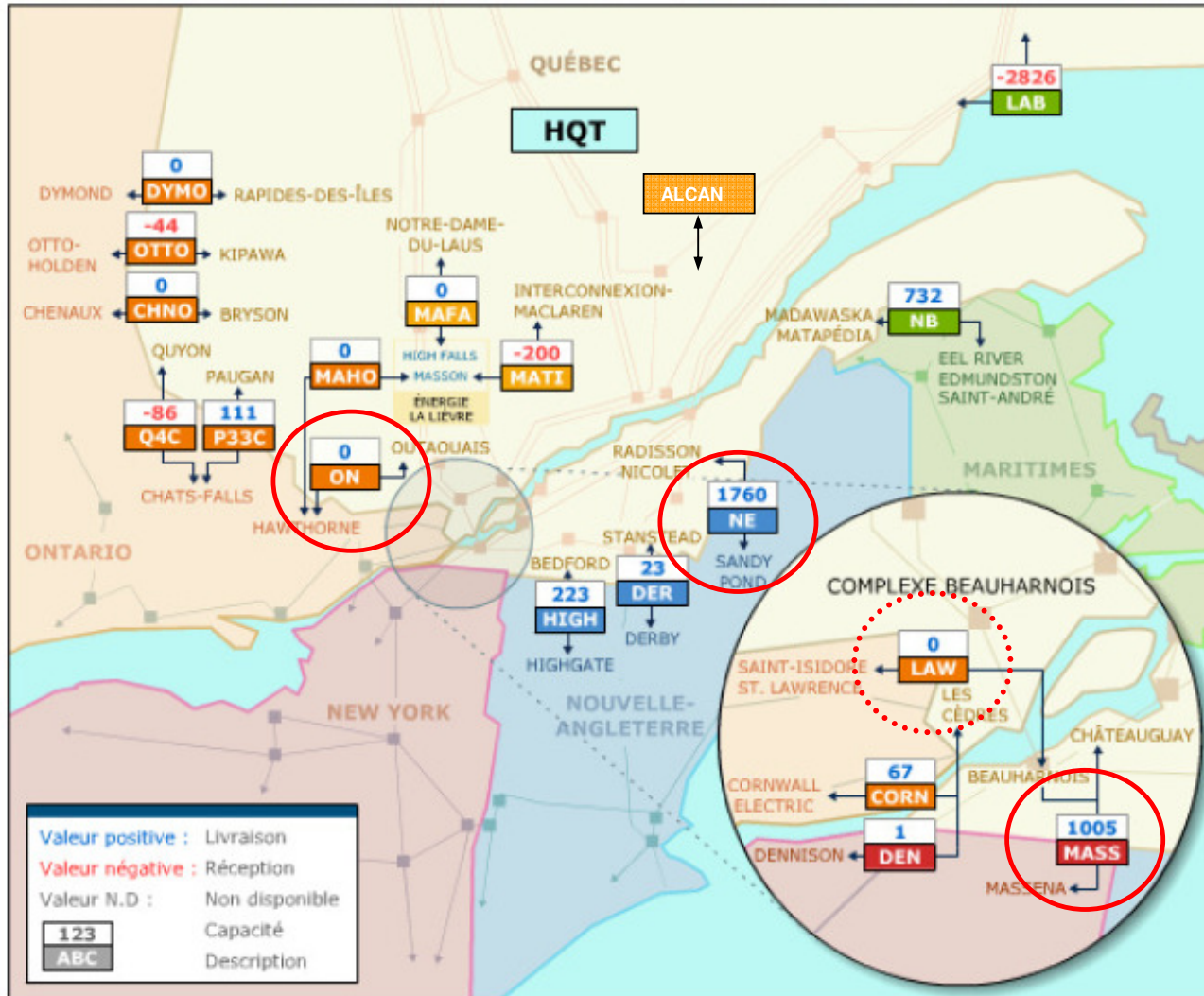
The proxy Québec price is equal to the highest hourly price, after adjustments for transmission fees, of the markets providing imports using the market prices for the following three interconnection paths: NE-HQT, MASS-HQT and ON-HQT (LAW-HQT)

(all converted in Canadian dollars at the Bank of Canada noon rate)

The map on the next page shows the interconnections in Québec. It has been taken from the HQT OASIS and slightly modified to show the three (four) selected interconnections and the Alcan point. Note for this historical analysis the LAW-HQT interconnection was used but following inservice of the new ON-HQT HVDC interconnection it should be used instead of LAW-HQT.

Schéma des chemins

Échanges mesurés sur les interconnexions (MW) 2009/06/16 8:53 EDT - Mise à jour chaque minute



Numerical examples

(sources: HQT OASIS, Bank of Canada and ISO's)

1) For hour ending 11, on July 16th 2008

Bank of Canada noon rate:	0.9983	CAD/USD
NYISO Zone M	148.66	\$US/MWh
ISO-NE Phase II	285.57	\$US/MWh
HOEP	215.21	\$Ca/MWh
HQT point to point rate with applicable ancilliary services	8.26	\$Ca/MWh
Exports out of the HQT point:	3775	MW
Imports into the HQT point:	500	MW

For that hour, using the basic transmission schedules, as available on the HQT OASIS, we saw that Hydro Québec was a net exporter during that hour. There were exports on the HQT-NE, on the HQT-MASS and on the HQT-LAW paths for that hour. That was an on-peak hour.

HQT's proposal

If the transmission customer is short:

Max of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	148.66	-0.16	148.50	148.75	8.26	140.49
2) ISO-NE	285.57	-6.00	279.57	280.05	8.26	271.79
3) HOEP	215.21	0.00	215.21	215.21	8.26	206.95
				=>	271.79	\$Ca/MWh

If the transmission customer is long:

Min of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	148.66	4.50	153.16	153.42	N/A	153.42
2) ISO-NE	285.57	8.00	293.57	294.07	N/A	294.07
3) HOEP	215.21	5.00	220.21	220.21	N/A	220.21
				=>	153.42	\$Ca/MWh

Alternative proposal

(using the same exit / transmission fees than those used by HQT)

As the Québec is a net exporter for this hour, with exports made on the HQT-NE, on the HQT-MASS and the LAW-HQT paths, the calculations are made as follows:

Min of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	148.66	-0.16	148.50	148.75	8.26	140.49
2) ISO-NE	285.57	-6.00	279.57	280.05	8.26	271.79
3) ONT	215.21	0.00	215.21	215.21	8.26	206.95
				=>	140.49	\$Ca/MWh

Flows per market

(in MW)	Exports	Imports	Nets
NYISO	1156	0	-1156
ISO-NE	1376	0	-1376
Ontario	200	179	-21
Others	1043	321	-722
Total	3775	500	-3275

2) For hour ending 8, on January 16th 2009

Bank of Canada noon rate:	0.7973	CAD/USD
NYISO Zone M	95.67	\$US/MWh
ISO-NE Phase II	99.40	\$US/MWh
HOEP	403.47	\$Ca/MWh
HQT point to point rate with applicable ancilliary services	8.26	\$Ca/MWh

Exports out of the HQT point:	979	MW
Imports into the HQT point:	2082	MW

For that hour, using the basic transmission schedules, as available on the HQT OASIS, we saw that Hydro Québec was a net importer during that hour. There were imports on the NE-HQT, on the MASS-HQT and on the LAW-HQT paths for that hour. That was an on-peak hour.

HQT's proposal

If the transmission customer is short:

Max of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	95.67	-0.16	95.51	119.79	8.26	111.53
2) ISO-NE	99.40	-6.00	93.40	117.15	8.26	108.89
3) HOEP	403.47	0.00	403.47	403.47	8.26	395.21
				=>	395.21	\$Ca/MWh

If the transmission customer is long:

Min of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	95.67	4.50	100.17	125.64	N/A	125.64
2) ISO-NE	99.40	8.00	107.40	134.70	N/A	134.70
3) HOEP	403.47	5.00	408.47	408.47	N/A	408.47
				=>	125.64	\$Ca/MWh

Alternative proposal

(using the same exit / transmission fees than those used by HQT)

As the Québec is a net importer for this hour, with imports made on the NE-HQT, on the MASS-HQT and the LAW-HQT paths, the calculations are made as follow:

Max of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	95.67	4.50	100.17	125.64	N/A	125.64
2) ISO-NE	99.4	8.00	107.40	134.70	N/A	134.70
3) ONT	403.47	5.00	408.47	408.47	N/A	408.47
				=>	408.47	\$Ca/MWh

Flows per market

(in MW)	Exports	Imports	Nets
NYISO	2	955	953
ISO-NE	309	82	-227
Ontario	0	348	348
Others	668	697	29
Total	979	2082	1103

3) For hour ending 16, on April 16th 2009

Bank of Canada noon rate:	0.8290	CAD/USD
NYISO Zone M	20.69	\$US/MWh
ISO-NE Phase II	31.92	\$US/MWh
HOEP	36.24	\$Ca/MWh
HQT point to point rate with applicable ancilliary services	8.26	\$Ca/MWh

Exports out of the HQT point:	2236	MW
Imports into the HQT point*:	747	MW

*: excluding the 3000 MW scheduled on the LAB-HQT path by HQ to serve the native load

For that hour, using the basic transmission schedules, as available on the HQT OASIS, we saw that Hydro Québec was a net exporter during that hour. There were exports on the HQT-NE and on the HQT-MASS paths for that hour. That was an on-peak hour.

HQT's proposal

If the transmission customer is short:

Max of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	20.69	-0.16	20.53	24.76	8.26	16.50
2) ISO-NE	31.92	-6.00	25.92	31.27	8.26	23.01
3) HOEP	36.24	0.00	36.24	36.24	8.26	27.98
				=>	27.98	\$Ca/MWh

If the transmission customer is long:

Min of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	20.69	4.50	25.19	30.39	N/A	30.39
2) ISO-NE	31.92	8.00	39.92	48.15	N/A	48.15
3) HOEP	36.24	5.00	41.24	41.24	N/A	41.24
				=>	30.39	\$Ca/MWh

Alternative proposal

(using the same exit / transmission fees than those used by HQT)

As the Québec is a net exporter for this hour, with exports made on the HQT-NE and the HQT-MASS paths, the calculations are made as follows:

Min of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	20.69	-0.16	20.53	24.76	8.26	16.50
2) ISO-NE	31.92	-6.00	25.92	31.27	8.26	23.01
				=>	16.50	\$Ca/MWh

Flows per market

(in MW)	Exports	Imports	Nets
NYISO	973	0	-973
ISO-NE	480	0	-480
Ontario	0	184	184
Others	783	563	-220
Total	2236	747	-1489

4) For hour ending 6, on July 29th 2008

Bank of Canada noon rate:	0.9746	CAD/USD
NYISO Zone M	74.18	\$US/MWh
ISO-NE Phase II	75.19	\$US/MWh
HOEP	32.36	\$Ca/MWh
HQT point to point rate with applicable ancilliary services	8.26	\$Ca/MWh

Exports out of the HQT point:	1282	MW
Imports into the HQT point:	1495	MW

For that hour, using the basic transmission schedules, as available on the HQT OASIS, we saw that Hydro Québec was a net importer during that hour. There were imports on the MASS-HQT and on the LAW-HQT paths for that hour. That was an off-peak hour.

HQT's proposal

If the transmission customer is short:

Max of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	74.18	-0.16	74.02	75.95	8.26	67.69
2) ISO-NE	75.19	-6.00	69.19	70.99	8.26	62.73
3) HOEP	32.36	0.00	32.36	32.36	8.26	24.10
				=>	67.69	\$Ca/MWh

If the transmission customer is long:

Min of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	74.18	4.50	78.68	80.73	N/A	80.73
2) ISO-NE	75.19	8.00	83.19	85.36	N/A	85.36
3) HOEP	32.36	4.00	36.36	36.36	N/A	36.36
				=>	36.36	\$Ca/MWh

Alternative proposal

(using the same exit / transmission fees than those used by HQT)

As the Québec is a net importer for this hour, with imports made on the MASS-HQT and the LAW-HQT paths, the calculations are made as follows:

Max of	In native currency			In \$Ca/MWh		
	Price	Adjustment	Subtotal	Subtotal	HQT rate	Final price
1) NY	74.18	4.50	78.68	80.73	N/A	80.73
2) ONT	32.36	4.00	36.36	36.36	N/A	36.36
				=>	80.73	\$Ca/MWh

Flows per market

(in MW)	Exports	Imports	Nets
NYISO	145	700	555
ISO-NE	395	0	-395
Ontario	0	237	237
Others	742	558	-184
Total	1282	1495	213