

CEIRM's Benchmarking Submission to 3GIRM Consultation 2008

Presentation to the OEB Working Group
on Benchmarking

January 21, 2013

About the CEIRM submission

- 22 LDCs representing 51% of then 4.6 million customers
 - 69% of all customers not including Hydro One
- Cross-section of LDC diversity
 - small and large
 - northern and southern
 - urban, suburban and rural
- LDCs that support IRM principles
 - Seeking IRM that works with effectiveness and fairness
 - Forwarding practical and workable recommendations
- 9 recommendations across three issues
 - Level playing field
 - Meaningful peer groups
 - Data quality and assurance

3rd GIRM – how it works for LDCs

Updated Performance Rankings Based on Econometric Benchmarks (26% allocation for LV charges divided by 2.35)

Year Benchmark	Actual/Predicted	Deviation Percentage (A-1)	P-Value	Rank
Hydro Hawksway	0.648	-0.302	0.009	1
Chatham-Kent Hydro	0.700	-0.300	0.001	2
Northern Ontario Wires	0.712	-0.288	0.001	3
Cambridge and North Dumfries Hydro	0.716	-0.284	0.001	4
E.L.K. Energy	0.743	-0.257	0.004	5
Grimsey Power	0.759	-0.241	0.006	6
Hydro One Brampton Networks	0.781	-0.219	0.013	7
Hydro One Brantford Networks	0.789	-0.211	0.017	8
Kingston Hydro	0.803	-0.197	0.024	9
Midland Power Distribution	0.804	-0.196	0.024	10
Hydro Ottawa	0.816	-0.184	0.028	11
Hydro One	0.822	-0.178	0.038	12
Hydro One	0.826	-0.174	0.042	13
Hydro One	0.829	-0.171	0.045	14
Hydro One	0.835	-0.165	0.046	15
Hydro One	0.838	-0.162	0.046	16
Hydro 2000	0.870	-0.130	0.103	17
Hydro Ottawa	0.876	-0.124	0.114	18
Waterloo North Hydro	0.877	-0.123	0.117	19
Niagara-on-the-Lake Hydro	0.880	-0.120	0.123	20
Peninsula West Utilities	0.886	-0.114	0.138	21
Lakefront Utilities	0.888	-0.112	0.141	22
Kenora Hydro Electric	0.895	-0.105	0.157	23
Rideau St. Lawrence Distribution	0.907	-0.093	0.167	24
Albion Hydro	0.908	-0.092	0.167	25
North Bay Hydro Distribution	0.914	-0.086	0.208	26
Innistrill Hydro Distribution Systems	0.915	-0.085	0.209	27
Peterborough Distribution	0.918	-0.082	0.219	28
Hudson Hills Hydro	0.918	-0.082	0.219	29
Newmarket & Tay Hydro Electric	0.926	-0.074	0.242	30
Heart Power Distribution	0.928	-0.072	0.245	31
Orangeville Hydro	0.940	-0.060	0.317	32
Orangeville Hydro	0.940	-0.060	0.317	33
Essex Regional Hydro Distribution	0.942	-0.058	0.362	34
P.U.C. Distribution	0.942	-0.058	0.364	35
Niagara-on-the-Lake Hydro	0.946	-0.054	0.377	36
Verdant Connections	0.958	-0.042	0.384	37
Verdant Connections	0.978	-0.022	0.391	38
Verdant Connections	0.986	-0.014	0.448	39
Verdant Connections	1.001	0.001	0.496	40
Verdant Connections	1.002	0.002	0.491	41
Burlington Hydro	1.006	0.006	0.478	42
Hydro One Networks	1.007	0.007	0.476	43
Brantford Power	1.008	0.008	0.472	44
Haldimand County Hydro	1.010	0.010	0.463	45
Toronto Hydro Electric System	1.015	0.015	0.445	46
London Hydro	1.026	0.026	0.409	47
Verdant Power	1.027	0.027	0.405	48
Woodstock Hydro Services	1.027	0.027	0.403	49
Milton Hydro Distribution	1.040	0.040	0.361	50
St. Thomas Energy	1.040	0.040	0.364	51
Bluewater Power Distribution	1.049	0.049	0.333	52
Thunder Bay Hydro Electricity Distribution	1.050	0.050	0.328	53
Grand Valley Energy	1.051	0.051	0.327	54
Ontario River Power	1.051	0.051	0.325	55
West Park Power	1.062	0.062	0.292	56
Cooperative Hydro Embury	1.064	0.064	0.295	57
Perry Sound Power	1.066	0.066	0.289	58
Oakville Hydro Electricity Distribution	1.077	0.077	0.251	59
Brant County Power	1.078	0.078	0.247	60
St. Thomas Energy	1.088	0.088	0.244	61
COLLUS Power	1.084	0.084	0.232	62
Orillia Power Distribution	1.093	0.093	0.219	63
Dutton Hydro	1.095	0.095	0.201	64
Orillia Power	1.103	0.103	0.185	65
Fort Erie (CNP)	1.107	0.107	0.178	66
PowerStream	1.121	0.121	0.161	67
St. Thomas Energy	1.121	0.121	0.151	68
Greater Sudbury West Nipissing	1.124	0.124	0.145	69
Greater Sudbury Hydro & West Nipissing	1.127	0.127	0.139	70
Fort Frances Power	1.144	0.144	0.112	71
Eastern Ontario Power (CNP)	1.158	0.158	0.082	72
Niagara Falls Hydro	1.175	0.175	0.072	73
Orillia Wellington Hydro	1.191	0.191	0.066	74
Midland Power Utility	1.211	0.211	0.041	75
ENW Powerlines	1.222	0.222	0.029	76
East Powerlines	1.227	0.227	0.019	77
White Hydro Electric	1.268	0.268	0.018	78
Chapais Public Utilities	1.310	0.310	0.007	79
West Coast Huron Energy	1.363	0.363	0.003	80
Erie Thames Powerlines	1.373	0.373	0.002	81
Great Lakes Power	1.422	0.422	0.001	82
Port Colborne (CNP)	1.502	0.502	0.000	83

Updated Performance Rankings Based on Unit Cost Indexes (26% allocation for LV charges divided by 2.35)

Average / Group Average ¹ [A]	Percentage Difference ² [A - 1]	Efficiency Ranking ³
0.309	-50.1%	1
0.592	-40.8%	2
0.610	-39.0%	3
0.728	-27.2%	4
0.741	-25.9%	5
0.750	-25.0%	6
0.759	-24.0%	7
0.762	-23.8%	8
0.771	-22.9%	9
0.772	-22.8%	10
0.791	-20.9%	11
0.796	-20.4%	12
0.799	-20.1%	13
0.804	-19.6%	14
0.820	-18.0%	15
0.836	-16.4%	16
0.838	-16.2%	17
0.846	-15.4%	18
0.848	-15.2%	19
0.852	-14.8%	20
0.872	-12.8%	21
0.880	-12.0%	22
0.882	-11.9%	23
0.884	-11.8%	24
0.885	-11.4%	25
0.887	-11.2%	26
0.892	-10.8%	27
0.897	-10.3%	28
0.898	-10.2%	29
0.910	-9.0%	30
0.927	-7.3%	31
0.932	-7.0%	32
0.933	-6.9%	33
0.934	-6.2%	34
0.938	-5.5%	35
0.940	-5.2%	36
0.949	-3.1%	37
0.971	-2.9%	38
0.974	-2.8%	39
0.974	-2.6%	40
0.981	-1.9%	41
0.983	-1.7%	42
0.988	-1.2%	43
0.993	-0.7%	44
0.997	-0.3%	45
1.014	1.4%	46
1.015	1.5%	47
1.024	2.4%	48
1.030	3.0%	49
1.038	3.8%	50
1.043	4.0%	51
1.054	5.4%	52
1.065	8.5%	53
1.066	8.6%	54
1.069	8.9%	55
1.071	7.1%	56
1.077	7.7%	57
1.083	8.3%	58
1.083	8.3%	59
1.096	9.6%	60
1.114	11.4%	61
1.118	11.8%	62
1.121	12.1%	63
1.137	13.7%	64
1.140	14.0%	65
1.142	14.2%	66
1.151	15.1%	67
1.149	14.9%	68
1.151	15.1%	69
1.152	15.2%	70
1.181	18.1%	71
1.190	19.0%	72
1.206	20.6%	73
1.221	22.1%	74
1.234	23.4%	75
1.237	23.7%	76
1.269	26.9%	77
1.315	31.5%	78
1.420	42.0%	79
1.450	45.0%	80
1.531	53.1%	81
1.816	101.6%	82

Stretch Factor Results: 2007 Data Update (26% allocation of LV charges divided by 2.35)

Company	Group	Stretch Factor
Hydro Hawksway	1	0.20%
Chatham-Kent Hydro	1	0.20%
Northern Ontario Wires	1	0.20%
Cambridge and North Dumfries Hydro	1	0.20%
E.L.K. Energy	1	0.20%
Hydro One Brampton Networks	1	0.20%
Niagara-on-the-Lake Hydro	1	0.20%
Hydro One	1	0.20%
Barrie Hydro Distribution	1	0.20%
Grimsey Power	2	0.40%
Ontario River Power	2	0.40%
Essex Regional Hydro Distribution	2	0.40%
Waterloo North Hydro	2	0.40%
Niagara-on-the-Lake Hydro	2	0.40%
Peninsula West Utilities	2	0.40%
Lakefront Utilities	2	0.40%
Kenora Hydro Electric	2	0.40%
Rideau St. Lawrence Distribution	2	0.40%
Albion Hydro	2	0.40%
North Bay Hydro Distribution	2	0.40%
Innistrill Hydro Distribution Systems	2	0.40%
Peterborough Distribution	2	0.40%
Hudson Hills Hydro	2	0.40%
Newmarket & Tay Hydro Electric	2	0.40%
Heart Power Distribution	2	0.40%
Orangeville Hydro	2	0.40%
Orangeville Hydro	2	0.40%
Essex Regional Hydro Distribution	2	0.40%
Washington North Power	2	0.40%
P.U.C. Distribution	2	0.40%
Niagara-on-the-Lake Hydro	2	0.40%
Verdant Connections	2	0.40%
Verdant Connections	2	0.40%
Verdant Connections	2	0.40%
Tillicumby Hydro	2	0.40%
Burlington Hydro	2	0.40%
Hydro One Networks	2	0.40%
Brantford Power	2	0.40%
Haldimand County Hydro	2	0.40%
Toronto Hydro Electric System	2	0.40%
London Hydro	2	0.40%
Westboro Power	2	0.40%
Woodstock Hydro Services	2	0.40%
Milton Hydro Distribution	2	0.40%
Norfolk Power Distribution	2	0.40%
Bluewater Power Distribution	2	0.40%
Thunder Bay Hydro Electricity Distribution	2	0.40%
Grand Valley Energy	2	0.40%
Ontario River Power	2	0.40%
West Park Power	2	0.40%
Cooperative Hydro Embury	2	0.40%
Perry Sound Power	2	0.40%
Oakville Hydro Electricity Distribution	2	0.40%
Brant County Power	2	0.40%
St. Thomas Energy	2	0.40%
COLLUS Power	2	0.40%
Orillia Power Distribution	2	0.40%
Dutton Hydro	2	0.40%
Orillia Power	2	0.40%
Fort Erie (CNP)	2	0.40%
PowerStream	2	0.40%
St. Thomas Energy	2	0.40%
Greater Sudbury West Nipissing	2	0.40%
Greater Sudbury Hydro & West Nipissing	2	0.40%
Fort Frances Power	2	0.40%
Central West Ontario Hydro	2	0.40%
Midland Power Utility	2	0.40%
Eastern Ontario Power (CNP)	3	0.00%
Niagara Falls Hydro	3	0.00%
ENW Powerlines	3	0.00%
Essex Powerlines	3	0.00%
White Hydro Electric	3	0.00%
Ontario Public Utilities	3	0.00%
West Coast Huron Energy	3	0.00%
Erie Thames Powerlines	3	0.00%
Grand Lakes Power	3	0.00%
Port Colborne (CNP)	3	0.00%

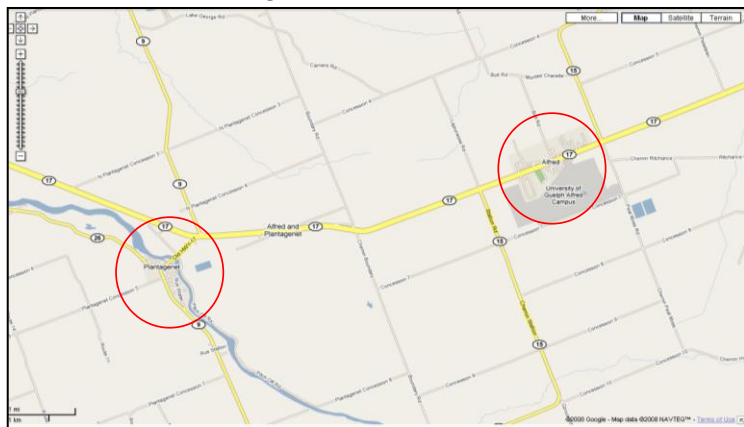
Source: PEG, "Sensitivity Analysis on Efficiency Ranking and Cohorts for the 2009 Rate Year: Update", Dec. 3, 2008.

Recommendations: Level Playing Field

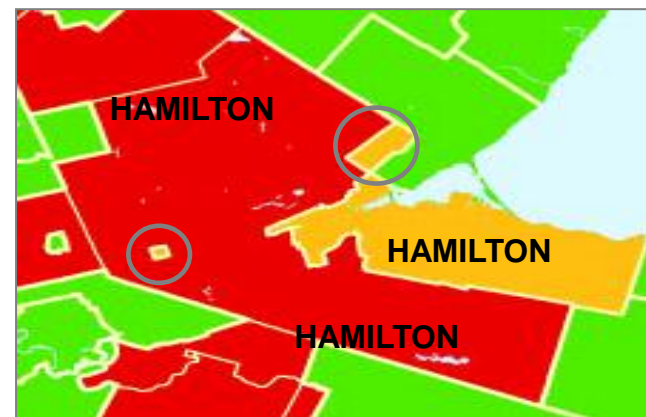
1. Treatment of LV costs
2. Exclusion of LDC HV costs
3. Recognition of Capital in benchmarking

70 of 83 LDCs pay LV to a “host” LDC

Hydro 2000



Horizon Utilities



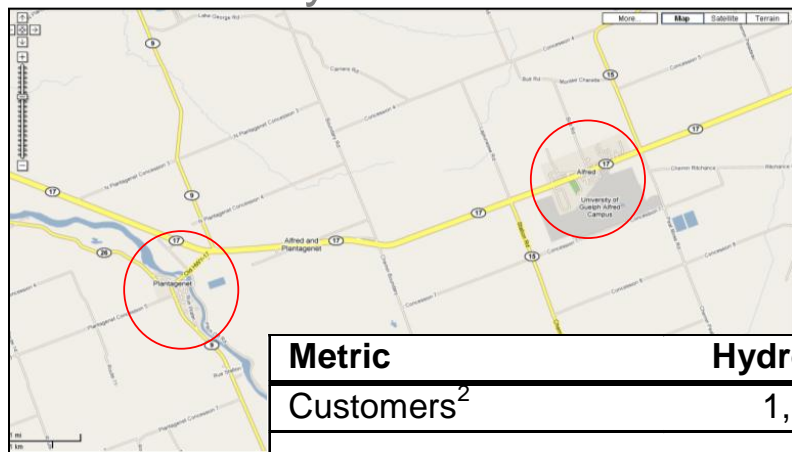
NB: Circles represent “embedded” territories

Updated Performance Rankings Based on Econometric Benchmarks

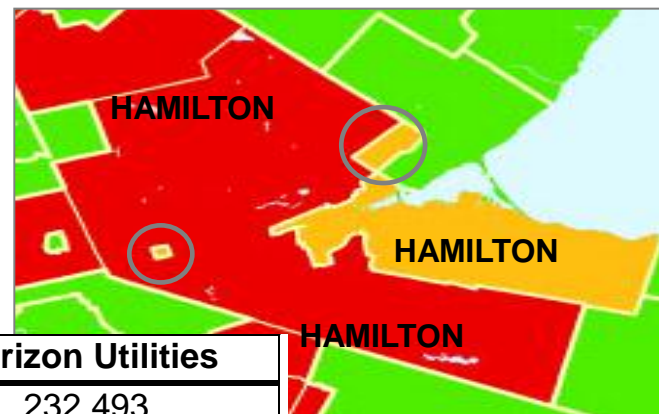
	Years Benchmarked	Actual/Predicted ¹	Deviation Percentage [A-1] ¹	P-Value	Cost surplus (savings) in \$ ¹	Rank ¹
Hydro Hawkesbury	2005-2007	0.643	-0.357	0.000	-418,444	1
Chatham-Kent Hydro	2005-2007	0.691	-0.309	0.001	-2,313,018	2
Northern Ontario Wires	2005-2007	0.711	-0.289	0.001	-705,028	3
Cambridge and North Dumfries Hydro	2005-2007	0.715	-0.285	0.002	-3,034,920	4
E.L.K. Energy	2005-2007	0.729	-0.271	0.003	-801,804	5
Grimsby Power	2005-2007	0.764	-0.236	0.006	-478,794	6
Oshawa PUC Networks	2005-2007	0.787	-0.213	0.017	-2,221,026	7
Lakeland Power Distribution	2005-2007	0.789	-0.211	0.018	-669,491	8
Hydro One Brampton Networks	2005-2007	0.793	-0.207	0.020	-4,101,822	9
Kitchener-Wilmot Hydro	2005-2007	0.805	-0.195	0.027	-2,939,410	10
Renfrew Hydro	2005-2007	0.807	-0.193	0.028	-199,649	11
Barrie Hydro Distribution	2005-2007	0.814	-0.186	0.034	-1,850,692	12
Festival Hydro	2005-2007	0.822	-0.178	0.041	-760,153	13
Welland Hydro-Electric System	2005-2007	0.834	-0.166	0.054	-773,256	14
Hydro 2000	2005-2007	0.840	-0.160	0.060	-45,934	15
Kingston Electricity Distribution	2005-2007	0.860	-0.140	0.090	-811,765	16
Horizon Utilities	2005-2007	0.864	-0.136	0.098	-5,920,789	17
Hydro Ottawa	2005-2007	0.873	-0.127	0.113	-8,195,021	18
Lakefront Utilities	2005-2007	0.874	-0.126	0.115	-261,407	19

LDC benchmarking requires LV for comparison

Hydro 2000



Horizon Utilities



Metric	Hydro 2000	Horizon Utilities
Customers ²	1,159	232,493
Rate Base ¹	\$735,075	\$362,942,366
Net PPE ²	\$375,075	\$301,539,366
Rate Base / Customer	\$634	\$1,561
Net PPE / Customer	\$324	\$1,297
O&M ²	\$15,268	\$12,578,876
Administration ²	\$217,311	\$24,425,794 ²
OM&A ²	\$232,579	\$37,004,670
LV Costs	\$106,241 ¹	\$128,811
OMA + LV	\$338,820	\$37,133,481
OM&A / Customer	\$201	\$159
OM&A + LV / Cust.	\$292	\$160

NB: Circles represent embedded territories

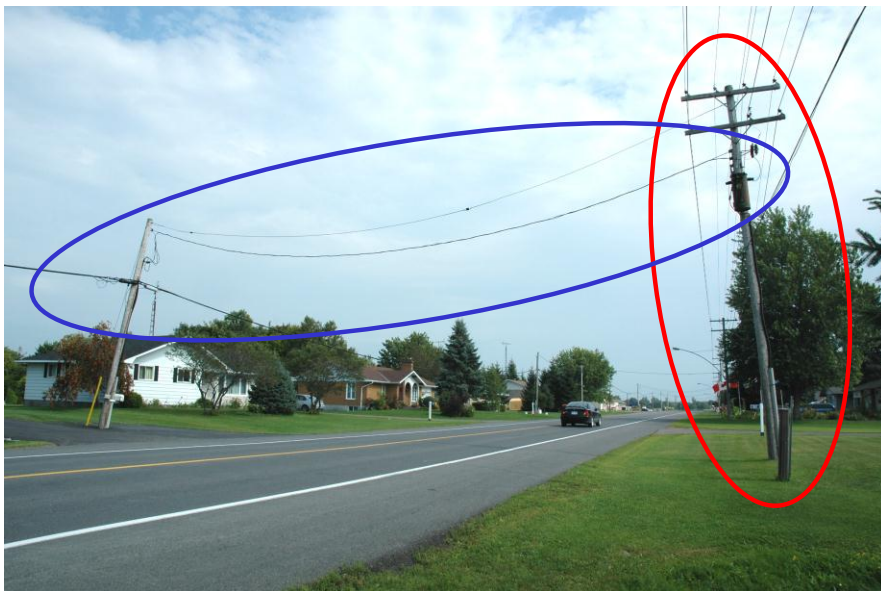
¹ 2008 EDR Decisions, ² 2007 OEB RRR filings.

Hydro 2000 and Horizon both “superior” performers

\$/cust./year LDC	Operation and Maintenance			OM&A		
	2005	2006	2007	2005	2006	2007
Hydro 2000	3	4	13	121	192	201
Horizon	56	53	54	165	148	159
LDC Average	84	92	92	225	247	249

Blue = Hydro 2000’s “under-build” wires

Red = Hydro One’s pole and “primary” wires



Alfred Meter Point

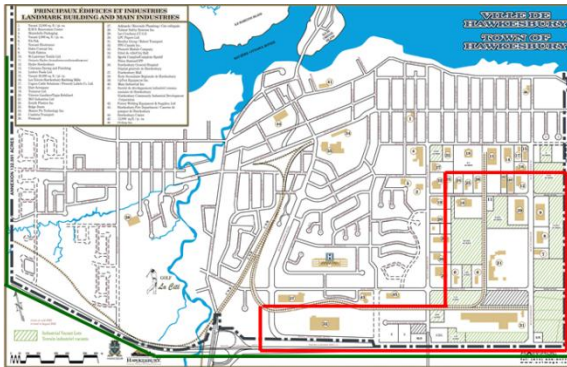


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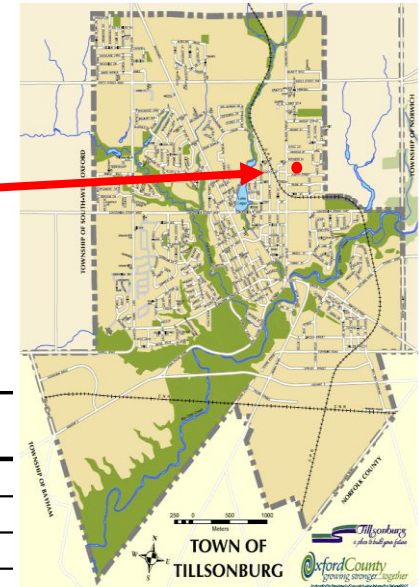


Two small LDCs – LV and HV connected comparison

LV – Hawkesbury Hydro



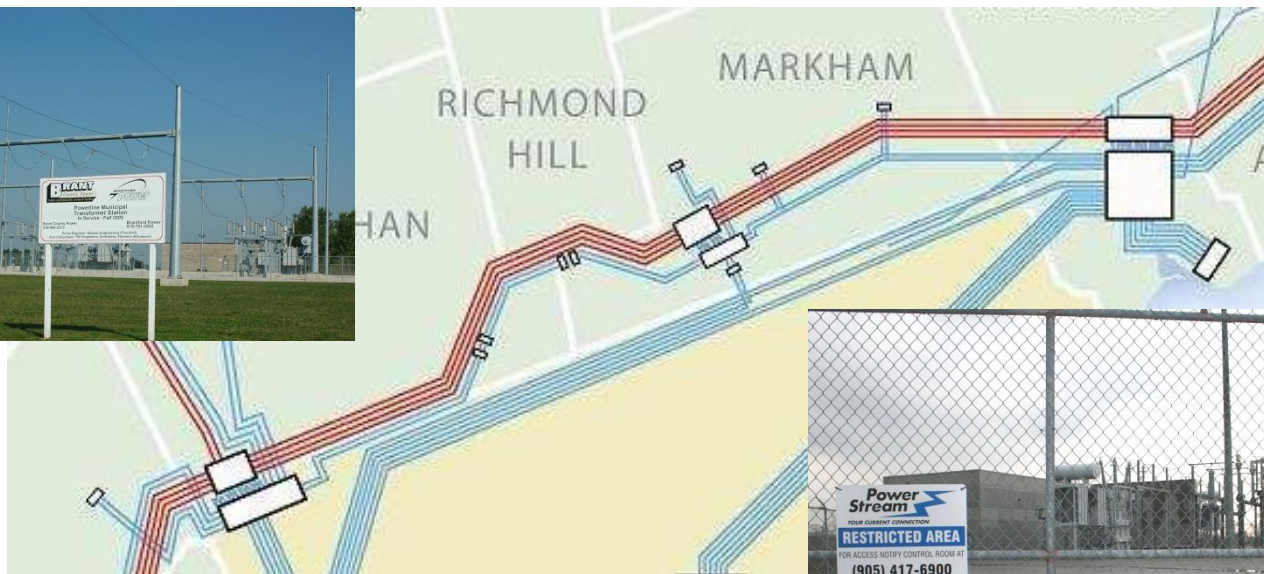
HV – Tillsonburg Hydro



Metric (2007 Yearbook)	Hydro Hawkesbury	Tillsonburg Hydro
Customers	5,428	6,571
Gross PPE	\$3,096,612	\$13,042,205
Net PPE	\$1,921,495	\$5,917,911
Gross PPE / customer	\$570	\$1,985
Net PPE / customer	\$354	\$901
OM&A / customer	\$142	\$247
O&M / Customer	\$42	\$122
Admin. / Customer	\$100	\$125
kWh billed per customer:		
Residential	11,812	8,865
GS < 50 kW	38,912	37,836
GS > 50 kW & LU	1,536,631	1,465,508

Source: 2007 OEB Yearbook

19 of 83 LDC own HV assets in their LDC*



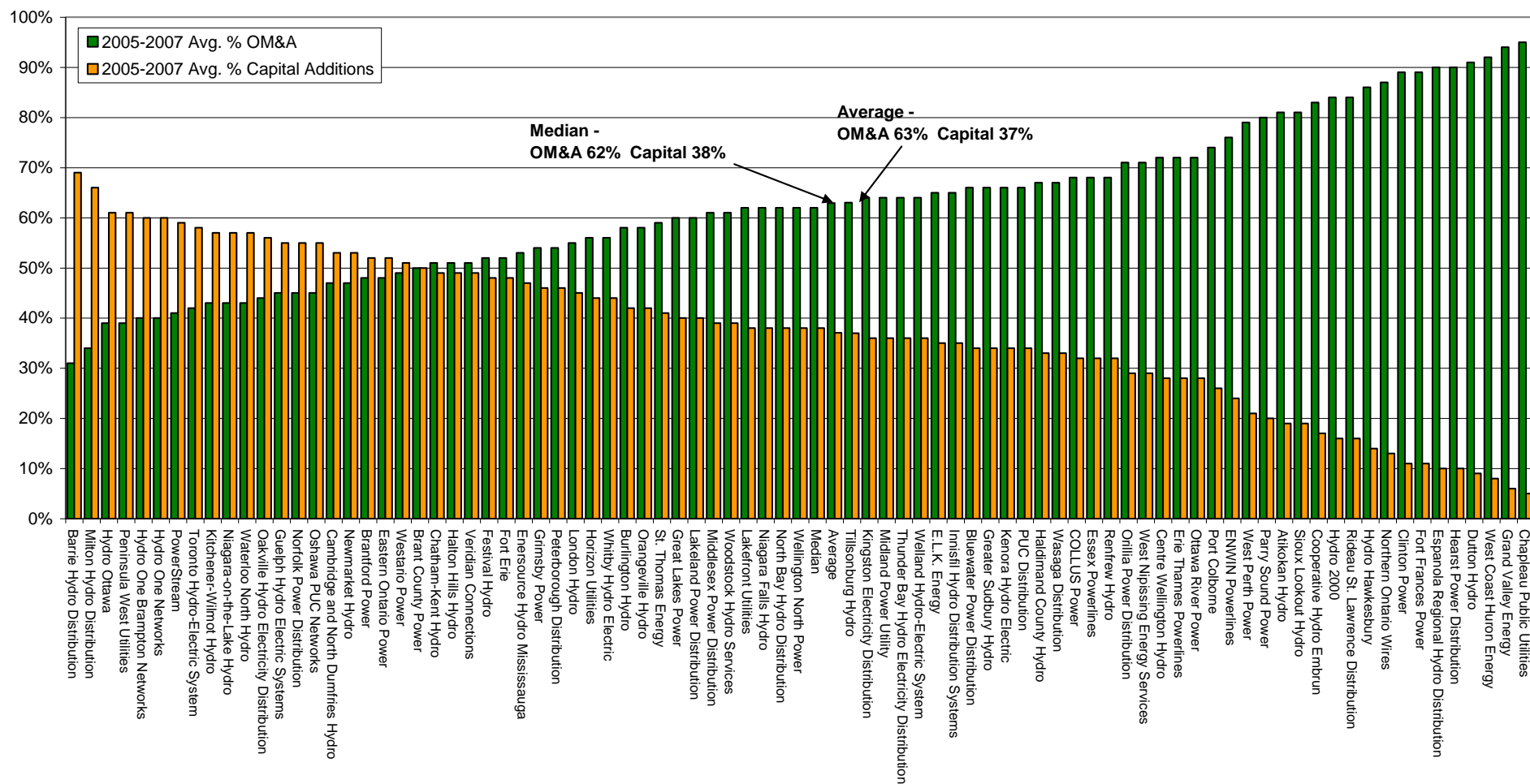
Top 5 LDCs	\$ Assets of HV	HV % in LDC
Kitchener-Wilmot Hydro	\$37,975,643	28%
Niagara-on-the-Lake Hydro	\$5,181,654	27%
Waterloo North Hydro	\$21,208,072	23%
Kenora Hydro	\$1,544,361	20%
PowerStream Inc.	\$88,054,589	19%

* The 18 are: Brant County Power, Brantford Power, Cambridge & North Dumfries Hydro, Enwin, Hydro Hawkesbury, Hydro One Brampton Networks, Hydro One Networks Inc., Hydro Ottawa, Kenora Hydro, Kitchener-Wilmot Hydro, Niagara Falls Hydro, Niagara-on-the-Lake Hydro, Norfolk Power, Northern Ontario Wires, PUC Distribution, PowerStream, Toronto Hydro, Waterloo North Hydro.

Source: OEB, Reporting and Record-keeping Requirements (RRR), 2005-2007.

Treatment of capital in IRM

(Figure 3 of submission)



Source: OEB, Reporting and Record-keeping Requirements (RRR), 2005-2007.

OM&A-based IRM and lifecycle of LDC capital



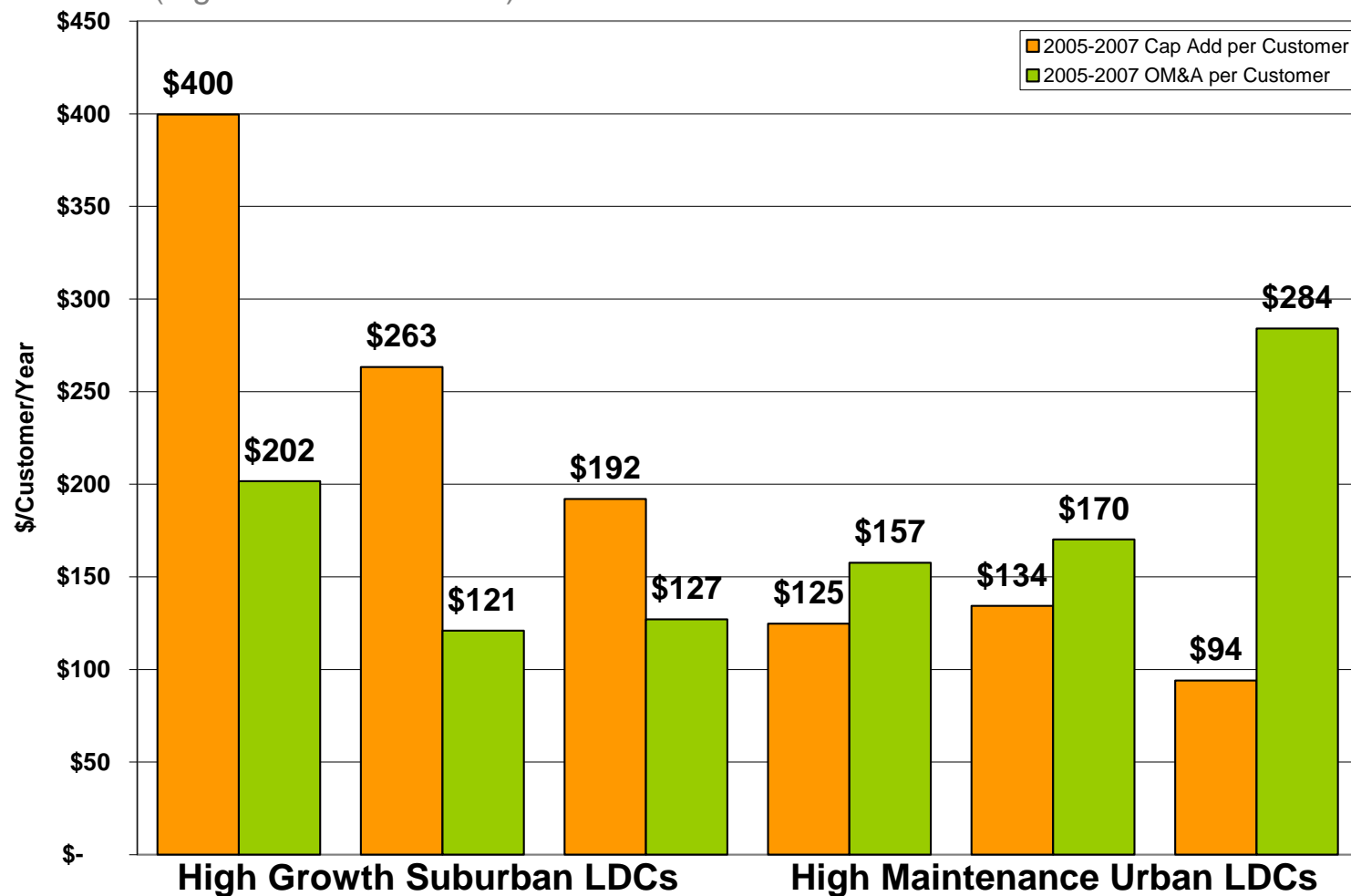
**Emerging Development –
Capital Intensive**



**Mature Development –
Maintenance Intensive**

Typical new suburban vs. old urban LDCs

(Figure 2 of submission)



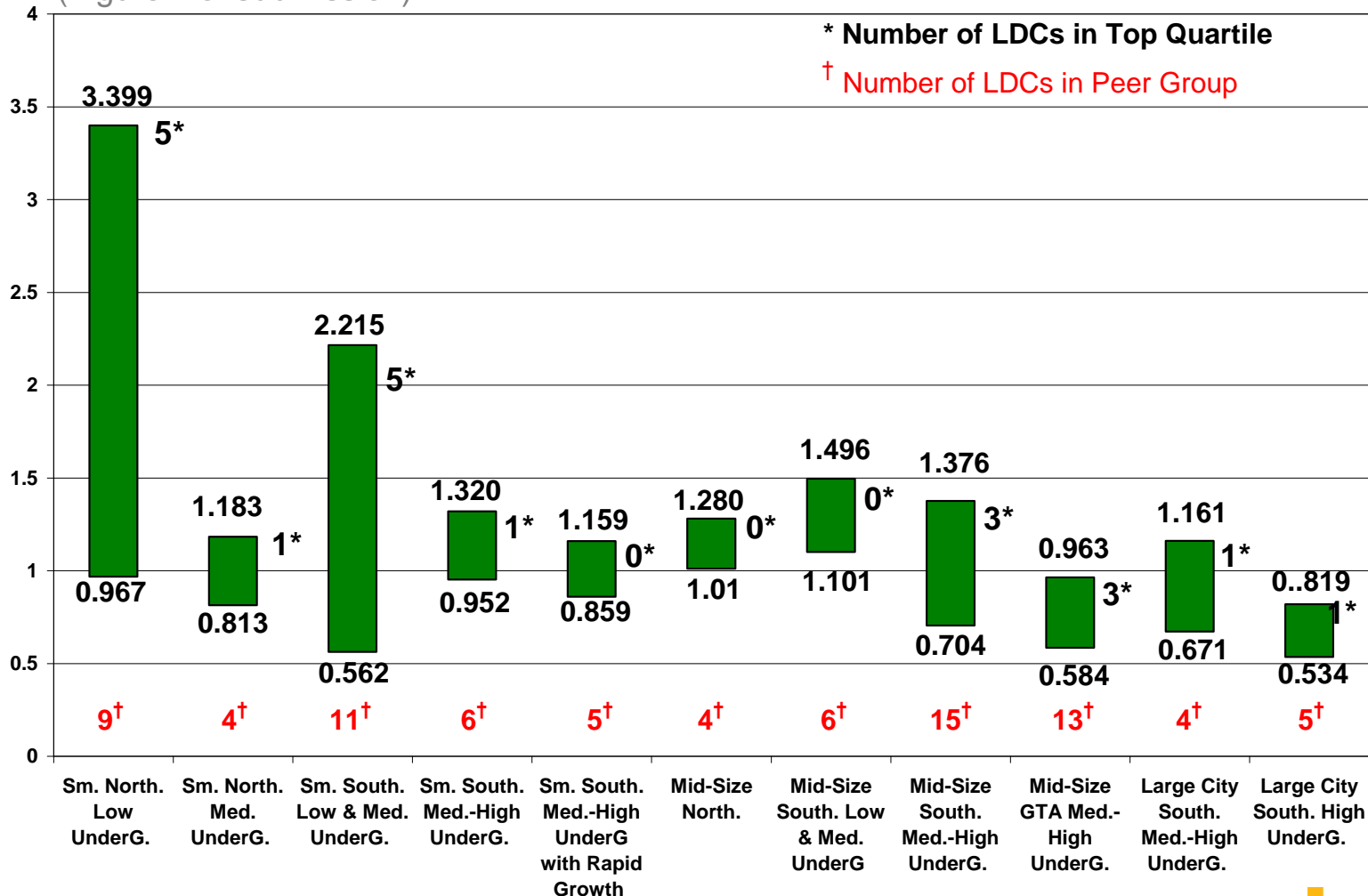
Source: OEB, Reporting and Record-keeping Requirements (RRR), 2005-2007.

Recommendations: Meaningful PEER Groups

4. Abandon scale as a criterion
5. Abandon undergrounding as a criterion
6. Adopt line density and Canadian Shield as new criteria

Current 12 peer groups – scale & undergrounding

(Figure 4 of submission)



Source: PEG, "Sensitivity Analysis on Efficiency Ranking and Cohorts for the 2009 Rate Year: Update". Dec. 3, 2008.

LDC Peer groups and peer group criterion

(Table 2 of submission)

Scale	Location	Degree of Undergrounding	LDCs
Small	Northern	Low Undergrounding (0-10%)	9*
Small	Northern	Medium Undergrounding (10-20%)	4*
Small	Southern	Low & Medium Undergrounding (0-20%)	11**
Small	Southern	Medium-High Undergrounding (20-50%)	6***
Small	Southern	Medium-High Ung. with Rapid Growth (20-50%)	5
Mid-size	Southern	Low & Medium Undergrounding (10-20%)	6
Mid-size	Southern	Medium-High Undergrounding (20-50%)	15
Mid-size	GTA [Southern]	Medium-High Undergrounding (20-50%)	13
Mid-size	Northern	N/A	4
Large	Southern	Medium-High Undergrounding (20-50%)	4
Large	Southern	High Undergrounding (>50%)	5
Large	Northern	N/A [Hydro One Networks]	1

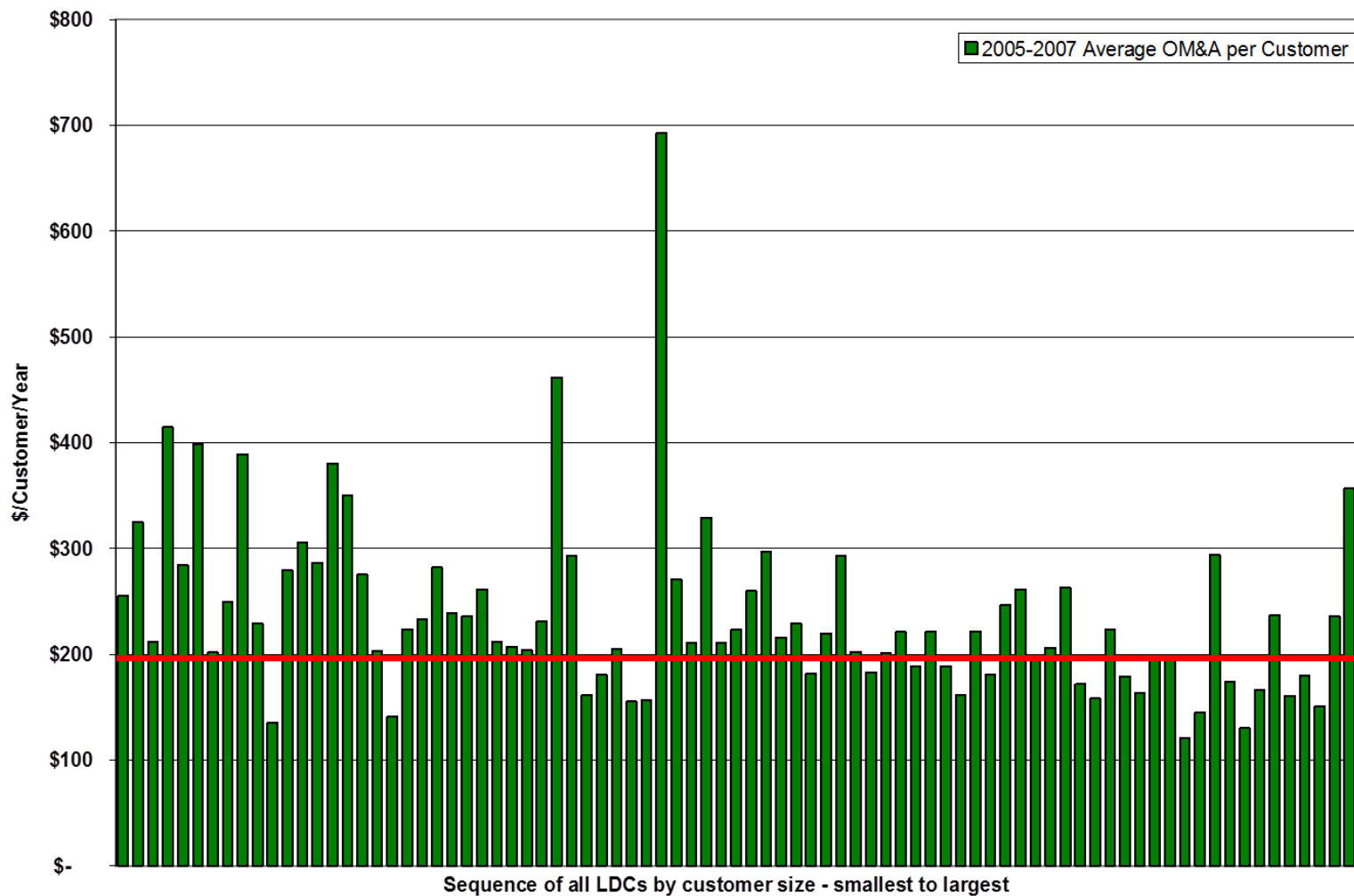
* One LDC has been included in small, but should have been in mid-size based on its number of customers

** Three of the LDCs in this group were sold or merged with others in 2007 and 2008, but are still in the 2007 data.

*** Two of these were sold or merged in 2008, but are still in the 2007 data.

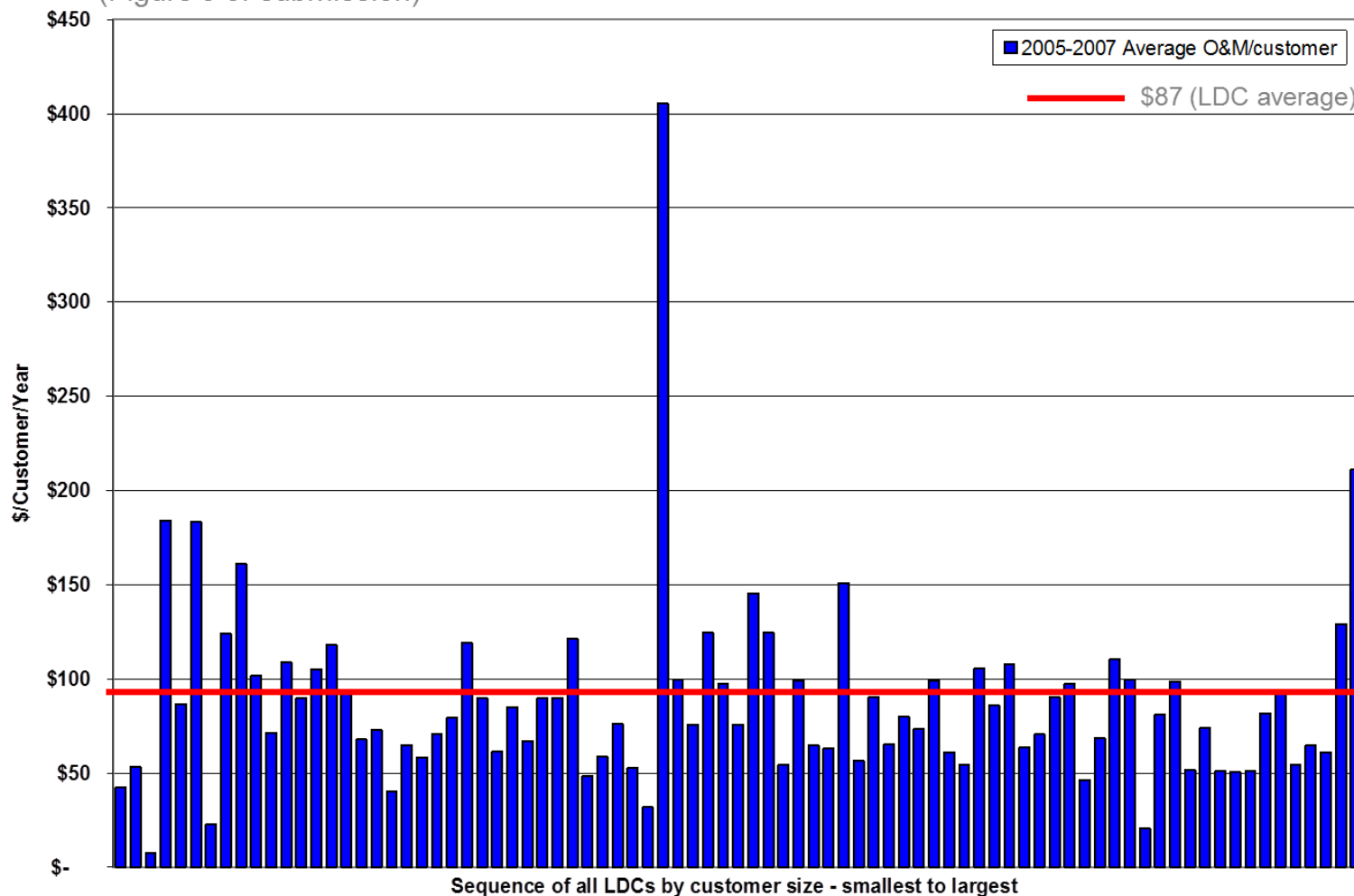
NB: Numbers and descriptors based on groupings in December 3, 2008, PEG Report, which is the most recently published data.

All LDCs average OM&A 2005-2007



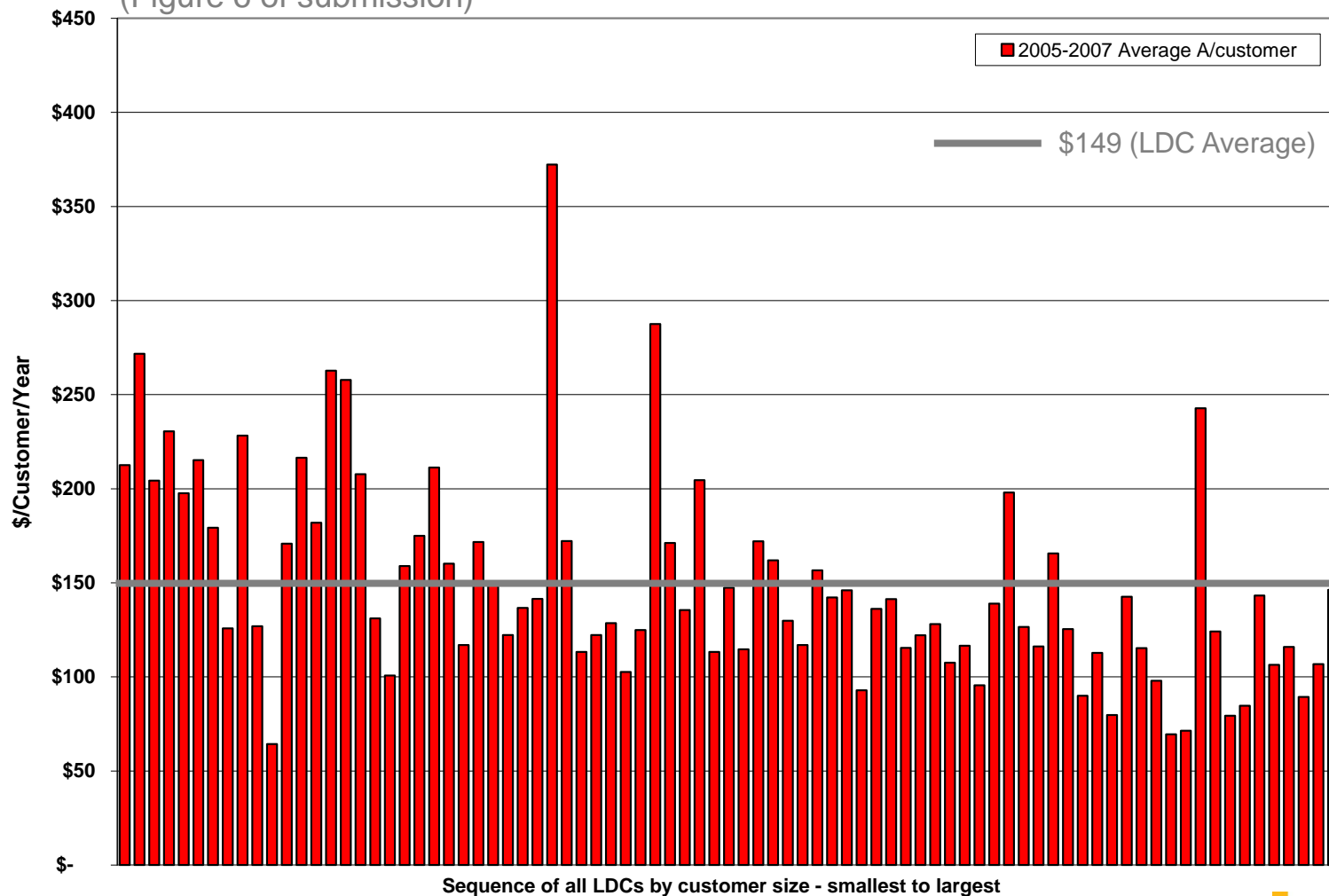
All LDCs average O&M 2005-2007

(Figure 5 of submission)



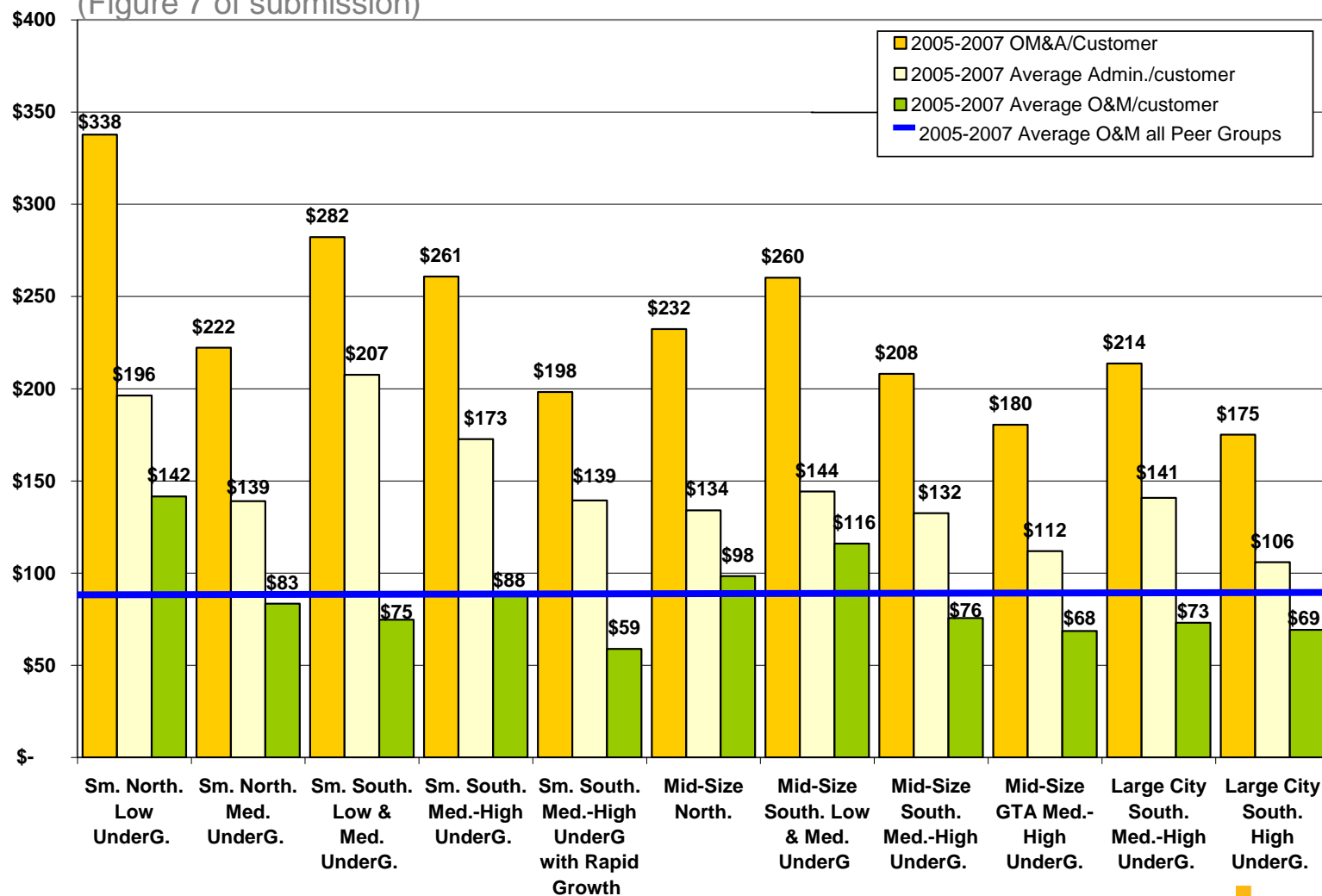
All LDCs average administration 2005-2007

(Figure 6 of submission)



Undergrounding is about O&M not Administration

(Figure 7 of submission)



Source: OEB, Reporting and Record-keeping Requirements (RRR), 2005-2007.

Peer group “rural” LDCs separately

(Table 5 of submission)

LDC Name	LDC Location	Line Density
Great Lakes Power	North	6.32
Hydro One Networks	North and South	9.76
Haldimand County Hydro	South	12.13
Sioux Lookout Hydro	North	13.05
Peninsula West Utilities	South	13.89
Halton Hills Hydro	South	15.04
Northern Ontario Wires	North	16.52
Eastern Ontario Power	South	18.12
Atikokan Hydro	North	18.60
Innisfil Hydro Distribution Systems	South	22.17
Niagara-on-the-Lake Hydro	South	23.08
Espanola Regional Hydro Distribution	North	24.20

Source: OEB, Reporting and Record-keeping Requirements (RRR), 2007.

Urban & suburban LDCs mixed in same groups

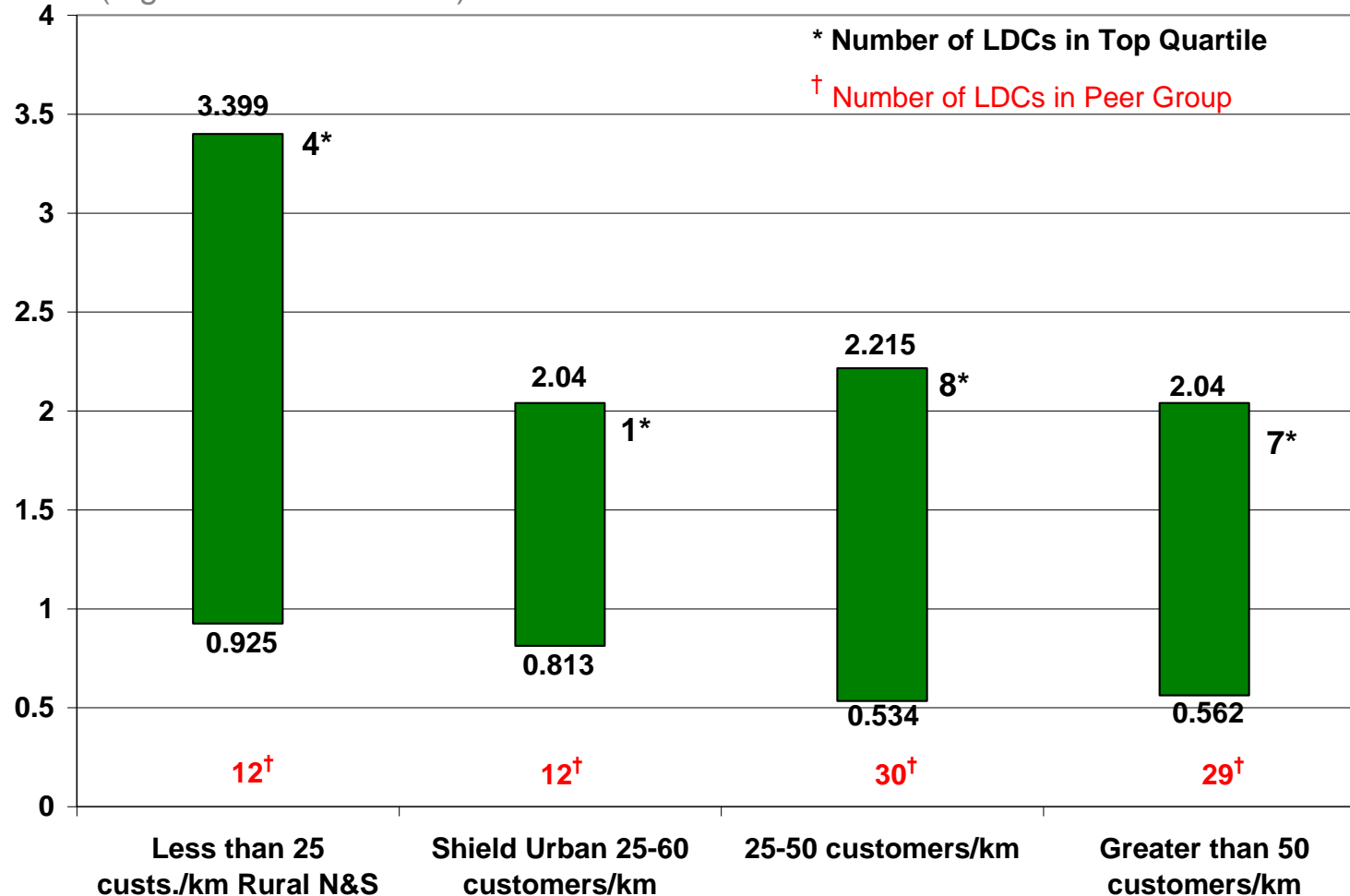
(Table 4 of submission)

LDC	Under-grounding	%	O&M / Customer	Line Density Cust./km	Growth / Output Index
ENWIN Powerlines	Med.-High	38.5%	\$51	74.81	1,332
Hydro Ottawa	Med.-High	36.7%	\$61	50.01	2,653
Toronto Hydro	Med.-High	45.5%	\$129	69.24	457
Veridian Connections	Med.-High	31.9%	\$50	52.87	2,837
Enersource Hydro	High	65.5%	\$94	35.47	2,511
Horizon Utilities	High	53.3%	\$54	69.55	1,302
Hydro One Brampton	High	69.8%	\$51	46.64	5,800
London Hydro	High	51.0%	\$82	54.47	2,265
PowerStream	High	69.0%	\$65	38.10	4,617

Source: OEB, RRR, 2005-2007, and, for grouping and growth index, PEG "Update" Report, December 3, 2008, Table 1.

4 peer groups - line density (cust./km) and Shield

(Figure 8 of submission)



Peer group results – current vs. line density

(Table 6 of submission)

Line Density Group	# LDCs	Superior Performers	%
Less than 25 Customers per Kilometre	12	3	25%
Shield Urban 25 to 60 Customers per Kilometre	12	1	8%
From 25 to 50 Customers per Kilometre	30	9	30%
Greater than 50 Customers per Kilometre	29	7	24%

(Table 7 of submission)

Scale and Undergrounding Group	# LDCs	Superior Performers	%
Small Northern Low Undergrounding	9	5	55%
Small Northern Medium Undergrounding	4	1	25%
Small Southern Low & Medium Undergrounding	11	5	45%
Small Southern Medium-High Undergrounding	6	1	17%
Small Southern Medium-High Un. with rapid growth	6	0	0%
Mid-Size Northern	4	0	0%
Mid-Size Southern Low & Medium Undergrounding	6	0	0%
Mid-Size Southern Medium-High Undergrounding	15	3	20%
Mid-Size GTA Medium-High Undergrounding	13	3	23%
Large City Southern Medium-High Undergrounding	4	1	25%
Large City Southern High Undergrounding	5	1	20%

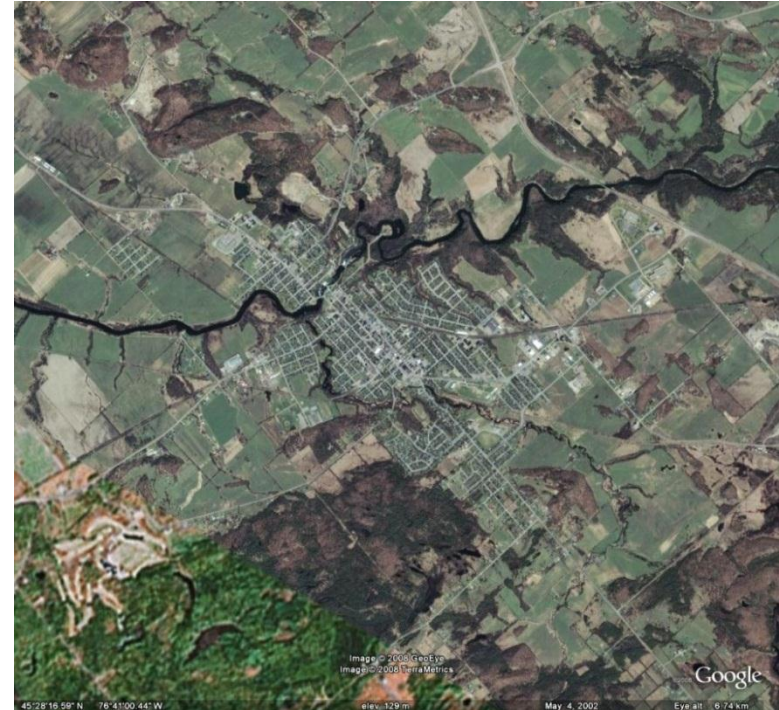
Recommendations: Data Quality Issues

7. Treatment of Canadian Shield
8. Wholesale market participants and throughput
9. Correcting identified data problems

IRM criteria for “northern” LDCs



Canadian Shield – ✓



Canadian Shield – ?

“The Shield is a physiographic region characterized by shallow, rocky soils and numerous lakes. Since the land receives considerable precipitation but is unsuited for agriculture, rural areas of the Shield are typically forested. We expect OM&A expenses to be higher on the Shield.” Source: PEG Report, March 20, 2008, p. 50.

Renfrew Hydro – higher “northern” costs?

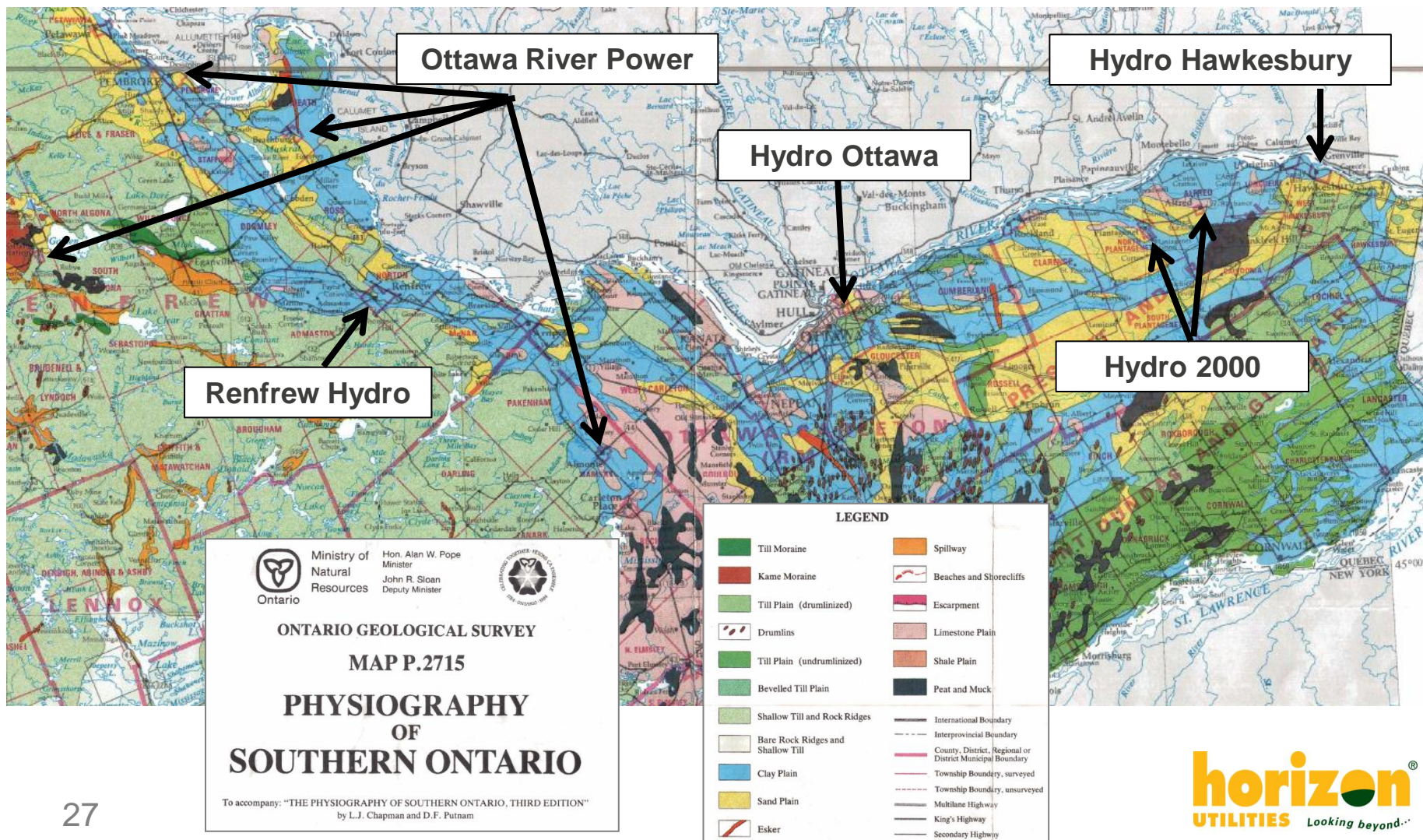


	2005	2006	2007
OM&A/Cust.	173	214	240
O&M/Cust.	55	82	82
Admin./Cust.	118	132	158



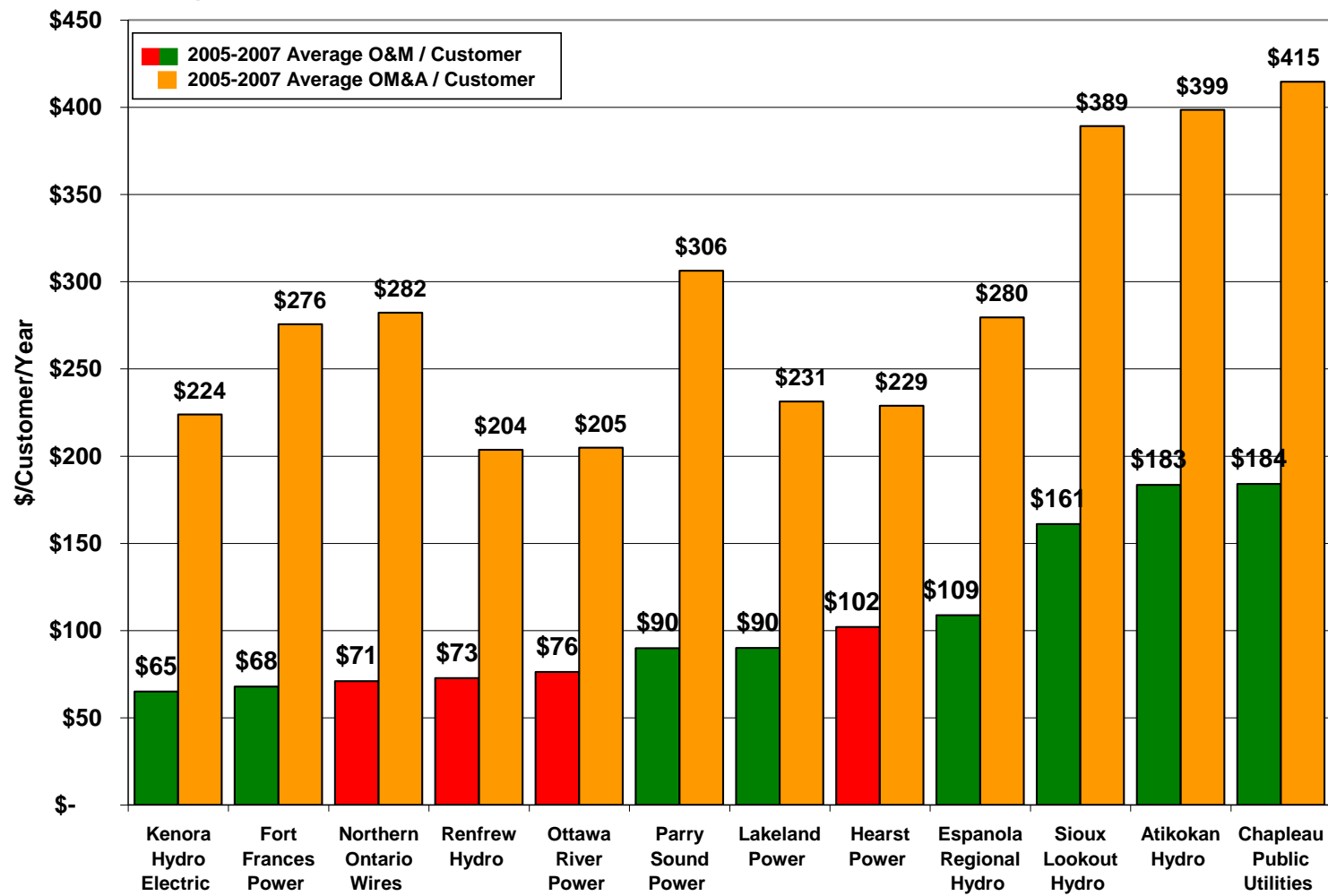
Renfrew Hydro and Ottawa River Power in north?

(Figure 10 of submission)



Misapplication of “northern” – O&M and OM&A

(Figure 9 of submission)



Source: OEB, Reporting and Record-keeping Requirements (RRR), 2005-2007.

Neither GLP nor Renfrew Hydro are “small northern”

Table 2

Unit OM&A Cost Indexes

	2002	2003	2004	2005	2006	2007	Average of Last 3 Available Years ²	Average / Group Average ² [A]	Percentage Differences ² [A - 1]	Implied Cost Surplus (Savings) per year ²
Small Northern Low Undergrounding										
Renfrew Hydro	0.928	0.996	0.921	0.809	0.999	1.094	0.967	0.584	-41.6%	-\$350,347
Espanola Regional Hydro Distribution	1.410	1.171	1.092	1.155	1.495	1.483	1.378	0.832	-16.8%	-\$156,347
Northern Ontario Wires	1.375	1.223	1.369	1.192	1.270	1.374	1.279	0.772	-22.8%	-\$395,437
Parry Sound Power	1.013	1.200	1.214	1.275	1.333	1.303	1.303	0.787	-21.3%	-\$215,508
Fort Frances Power	1.197	1.213	1.236	1.305	1.346	1.442	1.365	0.824	-17.6%	-\$192,252
Sioux Lookout Hydro	1.086	0.877	1.259	1.359	1.390	1.528	1.426	0.861	-13.9%	-\$149,138
Atikokan Hydro	1.443	2.729	1.758	1.618	1.619	2.022	1.753	1.058	5.8%	\$40,163
Chapleau Public Utilities	1.615	1.668	1.720	1.907	1.833	2.380	2.040	1.231	23.1%	\$128,185
Great Lakes Power	2.983	2.924	3.116	3.308	3.412	3.476	3.399	2.052	105.2%	\$8,371,020
GROUP AVERAGE							1.657			
Small Northern Medium Undergrounding										
Hearst Power Distribution	0.630	0.609	0.764	0.745	0.826	0.868	0.813	0.799	-20.1%	-\$127,595
Lakeland Power Distribution	1.076	1.296	0.905	0.909	1.083	0.977	0.990	0.972	-2.8%	-\$58,301
Ottawa River Power	0.940	1.043	1.020	0.989	1.070	1.200	1.087	1.067	6.7%	\$141,026
Kenora Hydro Electric	1.098	1.117	1.155	1.114	1.149	1.284	1.183	1.162	16.2%	\$208,696
GROUP AVERAGE							1.018			
Mid-Size Northern										
North Bay Hydro Distribution	1.126	1.005	0.991	0.878	1.147	1.007	1.010	0.906	-9.4%	-\$487,201
PUC Distribution	0.866	0.937	1.070	1.046	1.028	1.166	1.080	0.969	-3.1%	-\$225,144
Thunder Bay Hydro Electricity Distribution	1.087	1.178	1.130	1.016	1.070	1.179	1.088	0.976	-2.4%	-\$262,212
Greater Sudbury Hydro & West Nipissing	1.034	0.996	1.121	1.003	1.069	1.769	1.280	1.149	14.9%	\$1,743,696
GROUP AVERAGE							1.115			

- Renfrew Hydro should be in small southern
- GLP (now Algoma Power) is mid-size northern
- GLP should not be peered with urban LDCs

PEG's sensitivity test to “northern”

- Renfrew Hydro went up, not down, without “northern” benefit – counter-intuitive
- All other LDCs stayed in same order

July Results*			December Results**			Change
LDC	Metric	Rank	LDC	Metric	Rank	July/Dec.
Hydro Hawkesbury	0.643	1	Hydro Hawkesbury	0.644	1	0.001
Chatham-Kent Hydro	0.691	2	Chatham-Kent Hydro	0.694	2	0.003
Northern Ontario Wires	0.711	3	Northern Ontario Wires	0.714	3	0.003
Cambridge and N. Dum.	0.715	4	Cambridge and N. Dum.	0.718	4	0.003
E.L.K. Energy	0.729	5	E.L.K. Energy	0.733	5	0.004
Grimsby Power	0.764	6	Renfrew Hydro	0.752	6	-0.055
Oshawa PUC Networks	0.787	7	Grimsby Power	0.769	7	0.005
Lakeland Power	0.789	8	Oshawa PUC Networks	0.781	8	-0.006
Hydro One Brampton	0.793	9	Lakeland Power	0.787	9	-0.002
Kitchener-Wilmot Hydro	0.805	10	Hydro One Brampton	0.792	10	-0.001
Renfrew Hydro	0.807	11	Kitchener-Wilmot Hydro	0.804	11	-0.001
Barrie Hydro	0.814	12	Barrie Hydro	0.810	12	-0.004
Festival Hydro	0.822	13	Festival Hydro	0.827	13	0.005
Welland Hydro	0.834	14	Welland Hydro	0.839	14	0.005
Hydro 2000	0.840	15	Hydro 2000	0.845	15	0.005
Kingston Electricity	0.860	16	Kingston Electricity	0.868	16	0.008
Horizon Utilities	0.864	17	Horizon Utilities	0.872	17	0.008

(Table 8 of submission)

* PEG “Update” Report, December 3, 2008, Table 3. ** PEG “Update” Report, ibid., Table 11.

Throughput and wholesale market participants

2.1.5 Performance Based Regulation*

Wholesale kWh (kWh) is the total kWh that flows into the system from either the IESO controlled grid (either directly from the High Voltage transmission system or from host distributors) or embedded generators.

Retail kWh is the total kWh consumed within service territory.

- How to account for “Embedded Wholesale Market Participants (EWMP)”?
 - $\text{Throughput} = \text{Wholesale kWh} - (\text{Retail kWh} + \text{Losses kWh})$
- Sec. 2.1.5 does see IESO subtracts EWMP’s consumption from LDCs
 - IESO indicated 19 LDCs have EWMPs
 - OEB states “approximately 9” LDCs have EWMPs

* Source: OEB, RRR Submission Quick Tips for Distributors and Transmitters”, Dec. 31, 2007. p. 8.

LDC filed data integrity

Individual Electricity Distributors As of December 31st, 2007 (Alphabetically Listed)	Hearst Power Distribution Company Limited	Horizon Utilities Corporation	Hydro 2000 Inc.	Hydro Hawkesbury Inc.	Hydro One Brampton Networks Inc.	Hydro One Networks Inc.
GENERAL STATISTICS						
Population Served	5,635	560,668	2,520	10,500	444,158	2,892,713
Municipal Population	5,635	636,548	9,400	10,500	444,158	2,892,713
Seasonal Population	0	0	0	0	0	154,779
Total Customers	2,772	232,493	1,159	5,428	126,026	1,173,360
Residential Customers	2,330	210,358	1,001	4,775	117,024	1,064,172
General Service <50kW Customers	396	19,969	146	573	7,440	109,157
General Service >50kW Customers	46	2,154	12	79	1,556	0
Large User (>5000kW) Customers	0	12	0	1	6	31
Total Service Area (sq km)	93	426	9	8	269	650,000
Rural Service Area (sq km)	0	88	0	0	0	650,000
Urban Service Area (sq km)	93	338	9	8	269	0
Total km of Line	68	3,343	21	65	2,702	120,231
Overhead km of line	57	1,504	18	56	800	115,990
Underground km of line	11	1,839	3	9	1,902	4,241
Total kWh sold (excluding losses)	111,646,717	6,282,229,664	25,247,492	192,427,726	3,967,000,000	24,468,352,000
Total Distribution Losses (kWh)	-534,758	174,286,715	1,886,962	7,357,240	-4,200,000	1,784,308,000
Total kWh Purchased	111,111,959	6,456,516,379	27,134,454	199,784,966	3,962,800,000	26,252,660,000
Winter Peak (kW)	21,901	958,009	6,571	37,110	618,000	4,146,927
Summer Peak (kW)	19,067	1,161,891	4,253	33,120	772,100	3,365,195
Average Peak (kW)	18,375	975,908	4,498	32,628	637,700	3,399,384
Capital Additions in 2007	\$ 51,780	\$ 38,502,612	\$ 90,093	\$ 67,499	\$ 30,881,875	\$ 476,000,000

2007 Yearbook of Electricity Distributors Ontario Energy Board

Published on August 26, 2008



Data quality and rigour

- Devote additional effort and resources to reviewing data filing instructions
- Perform data sensitivity tests to ensure the highest level of data quality and rigour
- Rectify general data management issues that come to light in COS hearings
- Make use of IFRS exercise to improve data management and quality

Coalition for Effective IRM submission

- CEIRM's argument:
 - IRM has financial consequences – let's “get it right”
 - Flawed IRM framework will bog down EDR process
 - Misapplication of rewards can affect reliability
 -
- CEIRM's Objective:
 - Improve IRM's effectiveness rather than abandon IRM
 - Board to fix what it can for 2009 and move forward
 - Begin 2010 improvement process right away

Appendix: 4 peer groups – Line Density and Shield

Less than 25	Cust./km	From 25 to 50	Cust./km	Greater than 50	Cust./km	Shield Urban from 25 to 60	Cust./km
Great Lakes Power	6.32	Milton Hydro Distribution	27.38	Hydro Ottawa	50.01	Lakeland Power Distribution	25.73
Hydro One Networks	9.76	Norfolk Power Distribution	28.46	Veridian Connections	52.87	Parry Sound Power	26.29
Haldimand County Hydro	12.13	Brant County Power	29.18	Oshawa PUC Networks	53.49	North Bay Hydro Distribution	38.88
Sioux Lookout Hydro	13.05	Fort Erie	29.51	Woodstock Hydro Services	53.88	Hearst Power Distribution	40.76
Peninsula West Utilities	13.89	Port Colborne	29.55	London Hydro	54.47	Thunder Bay Hydro Electricity	42.6
Halton Hills Hydro	15.04	Newmarket Hydro	30.17	Hydro 2000	55.19	PUC Distribution	44.84
Northern Ontario Wires	16.52	Waterloo North Hydro	32.56	West Perth Power	56.5	Fort Frances Power	46
Eastern Ontario Power	18.12	Enersource Hydro Mississauga	35.47	Erie Thames Powerlines	56.5	Chapleau Public Utilities	49.56
Atikokan Hydro	18.6	Whitby Hydro Electric	37.49	Midland Power Utility	58.34	Greater Sudbury Hydro	51.82
Innisfil Hydro	22.17	PowerStream	38.1	Essex Powerlines	59.25	Kenora Hydro Electric	57.57
Niagara-on-the-Lake Hydro	23.08	Burlington Hydro	39.91	West Coast Huron Energy	59.28	Ottawa River Power*	70.07
Espanola Regional Hydro	24.2	Chatham-Kent Hydro	40.93	Peterborough Distribution	62.68	Renfrew Hydro*	75.44
		Grimsby Power	41.67	Orangeville Hydro	63.74		
		Orillia Power Distribution	41.88	Middlesex Power Distribution	65.63		
		Niagara Falls Hydro	42.37	St. Thomas Energy	66.33		
		Centre Wellington Hydro	42.73	Rideau St. Lawrence Distribution	67.4		
		Oakville Hydro Electricity	42.87	Toronto Hydro-Electric System	69.24		
		Tillsonburg Hydro	42.95	Horizon Utilities	69.55		
		Cambridge and N. Dumfries Hydro	44.45	Cooperative Hydro Embrun	69.7		
		COLLUS Power	44.49	Festival Hydro	70.3		
		Kitchener-Wilmot Hydro	44.89	Dutton Hydro	71.05		
		Guelph Hydro Electric Systems	46.33	E.L.K. Energy	73.42		
		Hydro One Brampton Networks	46.64	ENWIN Powerlines	74.81		
		Barrie Hydro Distribution	47.43	Grand Valley Energy	75.22		
		Wellington North Power	47.75	Brantford Power	75.73		
		Bluewater Power Distribution	48.13	Kingston Electricity Distribution	76.53		
		Welland Hydro-Electric System	48.83	Clinton Power	78.05		
		Westario Power	48.96	Lakefront Utilities	79.45		
		Wasaga Distribution	49.39	Hydro Hawkesbury	83.51		
		Newbury Power	49.75				

* Source: Line density figures are from 2007 RRR. The calculation is “Total Customers (not including Street & Sentinel Lighting Connections)” divided by “Total KM of Line”. ** NB: Renfrew Hydro and Ottawa River Power were not moved from the “northern” LDCs for the purposes of the peer grouping in the coalition submission only because the peer grouping and “northern” recommendations were treated separately. The “Urban Shield” group would not have LDCs above 60 customer kilometre.

Appendix: 22 signatory LDCs to CEIRM

	LDC	Contact	Customers*
1	Brantford Power	George Mychailenko, CEO, Heather Wyatt, Reg. Officer	37,108
2	Enersource Hydro Miss.	Jon Bonadie, Manager, Capital and Rates	183,715
3	ENWIN Powerlines	Andrew Sasso, Director, Regulatory Affairs	84,757
4	Erie Thames Powerlines	Graig Pettit, Manager of Regulatory Affairs	14,181
5	Guelph Hydro	Art Stokman, President	47,720
6	Greater Sudbury Hydro	Stan Pawlowicz, Vice President, Corporate Services	43,167
7	Halton Hills Hydro	Tracy Rehberg-Rawlingson, Regulatory Affairs Officer	20,214
8	Horizon Utilities	Cameron McKenzie, Director, Regulatory Affairs; Neil Freeman, VP, Business Development	232,493
9	Hydro Ottawa	Lynne Anderson, Chief Regulatory Affairs Officer	287,006
10	Innisfil Hydro Dist.	Laurie Ann Cooledge, CFO/Treasurer	14,120
11	Kenora Hydro	Dave Sinclair, President and CEO	5,642
12	London Hydro	Vinay Sharma, Vice President, Customer Services	142,105
13	Norfolk Power Dist.	Alvin Allim, Manager of Finance	18,641
14	North Bay Hydro	Todd Wilcox, President & Chief Operating Officer	23,642
15	Oakville Hydro	Cristina Birceanu, Manager, Regulatory Affairs	59,883
16	Oshawa PUC Networks	Vivian Leppard, Regulatory Analyst	50,980
17	PowerStream	Paula Conboy, Dir., Regulatory & Government Affairs	236,220
18	PUC Distribution	Terry Greco, Treasurer and Vice President, Finance	32,512
19	Thunder Bay Hydro	Robert Mace, President	49,421
20	Tillsonburg Hydro	Steve Lund, General Manager	6,571
21	Toronto Hydro	Colin McLorg, Manager, Regulatory Affairs	679,913
22	Veridian Connections	George Armstrong, Manager of Regulatory Affairs	109,225
	Total		2,379,236

NB: All signatory LDCs have provided email confirmation of their support for the CEIRM submission.

* Customer numbers taken from: OEB, 2007 Yearbook of Electricity Distributors.

http://www.oeb.gov.on.ca/OEB/Documents/Documents/2007_electricity_distributors.pdf