

Memorandum

**To: Kenneth Russell, Counsel, Ontario Electricity Financial Corporation**

**From: Todd Williams**

**Date: August 1, 2012**

**Re: Final (2011) 115-230kV DCR<sub>new</sub> Calculations**

**Introduction**

The Ontario Electricity Financial Corporation (“OEFC”) is required to calculate and publish the Final (2011) TMC and DCR<sub>new</sub> for 115-230kV as soon as market data are available. The data for both calculations are now available and OEFC has asked Navigant Consulting to perform these calculations.

The calculation of the 115-230kV TMC has been adjusted to reflect changes to rates resulting from the updated EB-2010-0002 Ontario Uniform Transmission Rate Order, issued by the Ontario Energy Board (“OEB”) on January 17, 2011.

Additionally, the calculation of the 115-230kV TMC has been adjusted to include settlement amounts to recover certain costs incurred by distribution companies for the connection of new renewable generation to their distribution systems. The costs for 2011 will be assessed for the period January to December 2011 and will be charged to participants based on their proportion of Allocated Quantity of Energy Withdrawn (“AQEW”) for the month<sup>1</sup>. The recovery of these costs was enabled by Regulation 330/09<sup>2</sup>, and the monthly amounts are approved by the OEB.

The Renewable Generation Connection – Monthly Compensation Settlement Credit has been added to the Wholesale Market Service Charges (“WMSC”) component of the 115-230kV TMC, and has been broken out for reference in the background section of this memo.

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<sup>1</sup> IESO – Recovering the Cost of Renewable Energy Connections; July 22, 2010  
<http://www.ieso.ca/imoweb/news/newsItem.asp?newsItemId=5300>

<sup>2</sup> Ontario Regulation 330/09  
[http://www.e-laws.gov.on.ca/html/regs/english/elaws\\_regs\\_090330\\_e.htm](http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_090330_e.htm)

The Independent Electricity System Operator (“IESO”) also introduced a Daily Uplift Charge as of October 2011, which has been added to the WMSC component of the 115-230kV TMC<sup>3</sup>. Further, the IESO operating surplus (which was a rebate that was paid to market participants based on their proportionate quantity of energy withdrawn from the grid excluding exports) is not included in the Final (2011) TMC and DCR<sub>new</sub> calculation as the IESO will not be submitting a business plan and consequently will not be rebating the 2011 surplus this year due to the proposed IESO and Ontario Power Authority (“OPA”) merger to form the Ontario Electricity System Operator (“OESO”)<sup>4</sup>. It is expected that the treatment of this surplus amount will be discussed and accounted for when the OESO presents its revenue requirement and business plan before the OEB in 2013.

### Changes in the Global Adjustment Allocation

Beginning in 2011, the way that the Global Adjustment is allocated to consumers has been changed. Prior to 2011, the Global Adjustment was allocated to all consumers based on their energy use. Ontario Regulation 398/10<sup>5</sup> changed this by amending Ontario Regulation 429/04<sup>6</sup>. The amended regulation establishes two classes of consumers: Class A consumers, with average monthly demand greater than 5 MW; and Class B consumers.

TMC is calculated to reflect the allocation of the Global Adjustment to wholesale market participants at a 100% load factor under the amended regulation. More information about the allocation of the Global Adjustment can be found in the Navigant Consulting memo to the OEFC dated July 7, 2011 which is posted on the OEFC website.

### Methodology and Results

The Final (2011) DCR<sub>new</sub> values for 115-230kV are given in Table 1. Supporting information on the calculations involved is provided in the sections that follow.

**Table 1: Final (2011) 115-230kV DCR<sub>new</sub> Values (cents/kWh)**

Voltage	2011 Final
115-230kV	7.7539

<sup>3</sup> IESO – Electricity Charges Explained  
<http://www.ieso.ca/imoweb/role/wholesaleCharges.asp>

<sup>4</sup> Bill 75 Ontario Electricity System Operator Act; April 26, 2012  
[http://www.ontla.on.ca/web/bills/bills\\_detail.do?locale=en&BillID=2622&detailPage=bills\\_detail\\_the\\_bill](http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=2622&detailPage=bills_detail_the_bill)

<sup>5</sup> Ontario Regulation 398/10  
[http://www.e-laws.gov.on.ca/html/source/regs/english/2010/elaws\\_src\\_regs\\_r10398\\_e.htm](http://www.e-laws.gov.on.ca/html/source/regs/english/2010/elaws_src_regs_r10398_e.htm)

<sup>6</sup> Ontario Regulation 429/04  
[http://www.e-laws.gov.on.ca/html/tables/regulationsannotations/elaws\\_t\\_re\\_an\\_h040429.htm](http://www.e-laws.gov.on.ca/html/tables/regulationsannotations/elaws_t_re_an_h040429.htm)

**Total Market Cost Calculations**

The Final (2011) TMC values for 115-230kV TMC is 7.2933 cents/kWh, as shown in Table 2.

**Table 2: Calculation of Final (2011) 115-230kV TMC**

		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total /
<b>MONTHLY STATISTICS</b>														
days		31	28	31	30	31	30	31	31	30	31	30	31	365
total hours		744	672	744	720	744	720	744	744	720	744	720	744	8760
														<b>Weighted Average</b>
<b>MARKET RATES</b>														
HOEP	c/kWh	3.192	3.329	3.123	2.837	2.442	3.209	3.529	3.262	3.118	2.853	2.797	2.518	3.0152
WMSC	c/kWh	0.507	0.514	0.503	0.527	0.640	0.663	0.535	0.514	0.564	0.520	0.550	0.525	0.5467
Tx network	\$/kW-mth	3.220	3.220	3.220	3.220	3.220	3.220	3.220	3.220	3.220	3.220	3.220	3.220	
Tx line connection	\$/kW-mth	0.790	0.790	0.790	0.790	0.790	0.790	0.790	0.790	0.790	0.790	0.790	0.790	
DRC	c/kWh	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	
Global Adjustment (Class A)	c/kWh	2.582	2.398	2.354	2.505	2.742	2.407	2.156	2.345	2.226	2.514	2.565	2.974	
<b>TOTAL MARKET COST CALCULATION</b>														
Total market cost per month	c/kW-mth	5,595	5,066	5,371	5,131	5,255	5,426	5,549	5,476	5,159	5,302	5,162	5,399	
Total annual market cost	c/kW-yr													63,890
TMC = total market cost	c/kWh													<b>7.2933</b>

**Final (2011) 115-230kV DCR<sub>new</sub> Calculations**

The Final (2011) 115-230kV DCR<sub>new</sub> is the greater of (i) the average of the 115-230kV TMC for the three calendar-year periods from January 2009 through December 2011 inclusive, based on the number of days in each period and (ii) the Final (2010) 115-230kV DCR<sub>new</sub>. The Final (2011) 115-230kV DCR<sub>new</sub> is 7.7539 cents/kWh, as shown in Table 3.

**Table 3: Final (2011) 115-230kV DCR<sub>new</sub>**

	2009 Final	2010 Final	2011 Final
Avg annual HOEP	2.9518	3.6255	3.0152
TMC (P)			
Current, based on actual HOEP	7.8553	8.1132	7.2933
WMSC, regulated tariffs, estimated rebate, etc.			
DCR <sub>new</sub>	7.1725	7.6383	
DCR <sub>new</sub> = greater of:			
i) Average of TMC (2009, 2010, 2011)	7.7539		
ii) Final (2010) DCR <sub>new</sub>	7.6383		
Therefore, Final (2011) DCR <sub>new</sub>			7.7539

The documentation supporting the values used in the calculation shown herein is all publicly available via the IESO, the OEB, and Hydro One Networks, Inc.

### **Background on the DCR**

A significant number of Non-Utility Generator (“NUG”) Power Purchase Agreements (“PPAs”) contain provisions that provide for annual contract price adjustment based on the Ontario Hydro Direct Customer Rate (“DCR”). Since the DCR ceased to exist upon market opening it was necessary to establish a replacement index. The Board of Directors of OEFC approved the replacement of the DCR in the PPAs between OEFC and NUG’s on the basis set out in the draft working paper dated June 24, 2002 prepared by the working committee of OEFC representatives and Independent Power Producers Society of Ontario (“IPPSO”) representatives (“*working paper*”). This replacement index is based on the fully loaded cost of 100% load factor power that the typical direct customer would pay going forward in the restructured market, at the voltage provided. Values for  $DCR_{new}(P)$  and  $TMC(P)$  in this paper are calculated in accordance with the *working paper*, for year P.

It should be noted that Calculation of the WMSC for a given month currently includes the following components:

1. Hourly uplift settlement charges (amount in \$/MWh from IESO data identified as being ‘final’);
2. Daily uplift charges (amount in \$/MWh from IESO data identified as being ‘final’);
3. Monthly uplift charges (amount in \$/MWh from IESO data identified as being ‘final’);
4. IESO Administration Charge (amount in \$/MWh as determined by the OEB);
5. Rural and Remote Electricity Rate Protection (amount in \$/MWh, as determined by the OEB);
6. OPA Administration Charge (amount in \$/MWh, as determined by the OEB); and,
7. Renewable Generation Connection Monthly Compensation Settlement Credit.

The WMSC published in IESO monthly reports (currently Section 7 of that report) are not used for Final TMC calculations, since they are based on preliminary hourly uplift settlement charges.

At market opening, the Market Power Mitigation Agreement (“MPMA”) rebate framework applied to all Ontario consumers, and as such, is incorporated in  $DCR_{new}$  calculations. Bill 210 replaced the MPMA rebate with the more transparent Business Protection Plan Rebate (“BPPR”) insofar as customers are concerned. While the MPMA rebate was used in the TMC calculations for May 1, 2002 to April 30, 2003, the BPPR was used in the TMC calculation for subsequent periods.

Once again the rebate mechanism changed and the calculation of TMC was updated to reflect this change. Under the Electricity Restructuring Act 2004 (Bill 100), a new rebate mechanism was created called the global adjustment. The global adjustment reflects the difference between total payments made to contracted assets (including NUGs and RFP generators), load reduction contracts and regulated OPG generators (prescribed assets) and any offsetting market revenues. The global adjustment is calculated and paid each month and can be either positive or negative.

In addition to the global adjustment, the new regulation includes the OPG Non-Prescribed Assets (“OPNA”) rebate, which ended April 30, 2009, but was last paid to market participants for the period ending January 31, 2009.

Additional details on these rebates and their treatment in the calculation of total market cost can be viewed in the updated Navigant Consulting letter to OEFC dated April 27, 2006 and posted on the OEFC website.

### **Recovering the Cost of Renewable Energy Generation Connections**

The recovery of certain connection costs incurred by distribution companies with respect to renewable generation was enabled by Ontario Regulation 330/09. Navigant has included the Renewable Generation Connection Monthly Compensation Settlement Credit amounts in the monthly Wholesale Market Service Charges component of the TMC; however, for clarity, the monthly rates have been provided in Table 4 below. These values are also published within Section 7 of the IESO monthly reports.

**Table 4: Renewable Energy Generation Connection Monthly Compensation Settlement Credit**

Month (2011)	Rate (\$/MWh)	Preliminary / Final
January	\$ 0.1234	Final
February	\$ 0.1389	Final
March	\$ 0.1328	Final
April	\$ 0.1507	Final
May	\$ 0.1530	Final
June	\$ 0.1481	Final
July	\$ 0.1258	Final
August	\$ 0.1329	Final
September	\$ 0.1494	Final
October	\$ 0.1504	Final
November	\$ 0.1486	Final
December	\$ 0.1361	Final