



2 Bloor Street West
 Suite 2005
 Toronto, ON M4W 3E2
 416-927-1641 phone
 416-927-0541 fax

Memorandum

To: Kenneth Russell, Counsel, Ontario Electricity Financial Corporation

From: Stephen Cartwright

Date: September 7, 2005

Re: Final 2004 and Interim 2005 DCR_{new} Calculations

Introduction

OEFC is required to calculate and publish the Final DCR_{new}(2004) when final market data is available and the Interim DCR_{new}(2005) within 60 days of the end of the previous half-year period. This mid-year update was delayed due to the refinement of 2002 and 2003 estimates as explained in the memo entitled *Refinement to 2002 and 2003 DCR_{new} Calculations* which can be found on the OEFC website. OEFC has asked Navigant Consulting to perform these calculations and this memo outlines the methodology used and results of these calculations.

Results

The Final DCR_{new}(2004) and Interim DCR_{new}(2005) values for both 115kV and 230kV are given in Table 1. Supporting information on the calculations involved is provided in the sections that follow.

Table 1: Final DCR_{new}(2004) and Interim DCR_{new}(2005) Values (cents per kWh)

Voltage	2004 Final	2005 Interim
115 kV	6.0848	6.3174
230 kV	6.0790	6.3174

TMC Calculations

The calculated 115kV and 230kV final Total Market Cost (TMC) for 2004 is 6.0428 cents/kWh, as shown in Table 2. Note that for all years subsequent to 2002, TMC values for 115kV and 230kV are equal.

Table 2: Calculation of Final TMC(2004) for 115kV and 230kV

		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total Average
MONTHLY STATISTICS														
MARKET RATES														
HOEP	c/kWh	6.622	5.274	4.890	4.592	4.806	4.669	4.558	4.351	4.957	4.911	5.228	5.082	4.9950
WMSC	c/kWh	0.584	0.487	0.525	0.482	0.508	0.455	0.592	0.425	0.465	0.434	0.539	0.457	0.4962
Tx network	\$/kWmth	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83	
Tx line connection	\$/kWmth	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	
DRC	c/kWh	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	
Rebate	c/kWh	(0.779)	(0.634)	(0.634)	(0.634)	(0.559)	(0.559)	(0.559)	(0.551)	(0.551)	(0.551)	(0.878)	(0.878)	
TOTAL MARKET COST CALCULATION														
Total market cost per month	c/kWmth	5,668	4,421	4,443	4,066	4,423	4,156	4,302	4,029	4,376	4,452	4,389	4,354	
Total annual market cost	c/kWmth													53,080
TMC = total market cost	c/kWh													TMC 6.0428

The Interim TMC(2005) is 6.7605 cents/kWh, as shown in Table 3.

Table 3: Calculation of Interim TMC(2005) for 115kV and 230kV

MONTHLY STATISTICS		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total Average
MARKET RATES														
HOEP	c/kWh	5.790	4.958	5.987	6.193	5.305	6.599	-	-	-	-	-	-	5.8053
WMSC	c/kWh	0.474	0.410	0.482	0.619	0.490	0.602	-	-	-	-	-	-	0.5128
Tx network	\$/kWhmth	2.830	2.830	2.830	2.830	2.830	2.830	-	-	-	-	-	-	
Tx line connection	\$/kWhmth	0.820	0.820	0.820	0.820	0.820	0.820	-	-	-	-	-	-	
DRC	c/kWh	0.700	0.700	0.700	0.700	0.700	0.700	-	-	-	-	-	-	
BPPR Rebate	c/kWh	(0.878)	(0.894)	(0.894)	-	-	-	-	-	-	-	-	-	
ONPA Rebate	c/kWh	-	-	-	(0.392)	(0.392)	(0.392)	-	-	-	-	-	-	
Global Adjustment	c/kWh	0.144	0.278	0.201	(0.540)	(0.155)	(0.706)	-	-	-	-	-	-	
TOTAL MARKET COST CALCULATION														
Total market cost per month	c/kWhmth	5.000	4.029	5.183	5.103	4.790	5.263	-	-	-	-	-	-	
Total annual market cost	c/kWhyr													29,368
TMC = total market cost	c/kWh													6.7605

115kV DCR_{new} Calculations

The final 115kV DCR_{new}(2004) is the greater of (i) the simple average of the historic TMC(2002), TMC(2003), and the final TMC(2004) as calculated in Table 2, and (ii) 115kV DCR_{new}(2003). Based on this approach, the final 115kV DCR_{new}(2004) is 6.0848 cents/kWh as shown in Table 4.

The first interim 115kV DCR_{new}(2005) is the greater of (i) the average of the 115kV TMC for the six half-year periods from July 2002 through June 2005 inclusive, based on the number of days in each period, and (ii) the final 115kV DCR_{new}(2004). Based on this approach, the first interim 115kV DCR_{new}(2005) is 6.3174 cents/kWh as shown in Table 4.

Table 4: Final 115kV DCR_{new}(2004) and First Interim 115kV DCR_{new}(2005)

	2002 Final	2003 Final	2004 Final	2005 Interim
Regulated DCR (P) @ 115 kV	5.7369			
Avg annual HOEP	5.2013	5.4236	4.995	
TMC (P)				
Current, based on actual HOEP WMSC, regulated tariffs, estimated rebate, etc.	6.1295	6.0820	6.0428	6.7605
Final 6 months of 2002 TMC	6.8944			
DCR	5.8678	5.9828		
DCR _{new} (2004) = greater of:				
i) Average TMC (2004, 2003, 2002)	6.0848			
ii) DCR _{new} (2003)	5.9828			
Therefore, DCR _{new} (2004)			6.0848	
Interim DCR _{new} (2005) = greater of:				
i) TMC(July 2002 to June 2005)	6.3174			
ii) Final DCR _{new} (2004)	6.0848			
Therefore, Interim DCR _{new} (2005)				6.3174

230 kV DCR_{new} Calculations

The final 230kV DCR_{new}(2004) is the greater of (i) the simple average of the historic TMC(2002), TMC(2003), and the final TMC(2004) as calculated in Table 2, and (ii) 230kV DCR_{new}(2003). The final 230 kV DCR_{new}(2004) is 6.0790 cents/kWh as shown in Table 5.

The first interim 230kV DCR_{new}(2005) is the greater of (i) the average of the 230 kV TMC for the six half-year periods from July 2002 through June 2005 inclusive, based on the number of days in each period, and (ii) the final 230kV DCR_{new}(2004). The first interim 230kV DCR_{new}(2005) is 6.3174 cents/kWh as shown in Table 5.

Table 5: Final 230kV DCR_{new} 2004 and First Interim 230kV DCR_{new} 2005

	2002 Final	2003 Final	2004 Final	2005 Interim
Regulated DCR (P) @ 230 kV	5.6848			
Avg annual HOEP	5.2013	5.4236	4.995	
TMC (P) Current, based on actual HOEP WMSC, regulated tariffs, estimated rebate, etc.	6.1121	6.0820	6.0428	6.7605
Final 6 months of 2002 TMC	6.8944			
DCR	5.8272	5.9596		
DCR _{new} (2004) = greater of:				
i) Average TMC (2004, 2003, 2002)	6.0790			
ii) DCR _{new} (2003)	5.9596			
Therefore, DCR _{new} (2004)			6.0790	
Interim DCR _{new} (2005) = greater of:				
i) TMC(July 2002 to June 2005)	6.3174			
ii) Final DCR _{new} (2004)	6.0790			
Therefore, Interim DCR _{new} (2005)				6.3174

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

Background on the DCR

A significant number of NUG 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 non-utility generators on the basis set out in the draft working paper dated June 24, 2002 prepared by the working committee of OEFC representatives and 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 Wholesale Market Service Charges 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. Monthly uplift charges (Navigant Consulting is working with the IESO to arranged publication of finalized data from Section 8 of the IESO monthly report);
3. IESO Administration Charge (amount in \$/MWh as determined by the OEB); and,
4. Rural and Remote Electricity Rate Protection (amount in \$/MWh, as determined by the OEB)

The Wholesale Market Service Charges published in IESO monthly reports (currently Section 8 of that report) are not used for TMC calculations, since they are based on unfinalized hourly uplift settlement charges.

The OPGI Market Power Mitigation Rebate ("MPMR") was applied from May 1, 2002 through to April 30, 2003 and was incorporated into the calculation of TMC. Effective May 1, 2003, the MPMR was replaced by the more transparent Business Protection Plan Rebate ("BPPR") after the introduction of Bill 210, the Electricity Pricing, Conservation and Supply Act 2002.

Once again the rebate mechanism is being changed and the calculation of TMC was updated to reflect this change. A new rebate mechanism was enabled under the Electricity Restructuring Act 2004 (Bill 100) called the global adjustment. The global adjustment will reflect 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 temporary OPG Non-Prescribed Assets rebate has been established. This rebate requires OPG to make a one-time payment to consumers for 85% of the revenues generated over \$47/MWh through its non-prescribed assets for the 13 month period beginning April 1st, 2005 and ending April 30th, 2006. More detail on these rebates and how they are reflected in the calculation of TMC can be found in the memo entitled *TMC Calculation - The Global Adjustment and OPG Non-Prescribed Asset Rebate*.