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1	Board Staff Interrogatory #136						
$\frac{2}{3}$	Ref: Ex. E1-T2-S1, page 3, lines 1-22						
4 5 6 7	lss Iss	ue Number: 9.2 ue: Is the hydroelectric incentive mechanism appropriate?					
8 9	Interrogatory						
10 11 12 13 14	The cor to dee for	e incentive mechanism generated incremental market revenues of \$23.2 million in 2009, npared to a forecast of \$12 million – a 93% increase. OPG expects these revenues to fall \$13.3 M in 2011 and \$16.3 M in 2012 because market price spreads are expected to cline relative to 2009. Actual hourly production at Niagara was 25% higher than forecast 2009.					
15 16 17	a)	What market price spread is OPG assuming for 2011 and 2012?					
17 18 19 20	b)	What are the major factors in OPG's expectations that market price spreads will decline?					
20 21 22 23	c)	What is OPG's forecast of total hourly production for the Niagara complex for 2011 and 2012?					
24 25 26 27	d)	If the actual market price spread were to equal the 2009 spread (\$14.8/MWh) in 2011 and 2012, what would be the total hourly volume required to result in \$12 M of annual incremental market revenues?					
28 29	<u>Re</u>	<u>sponse</u>					
30 31 32 33 34	a)	OPG's forecast market price spreads in 2011 and 2012 are \$10.37/MWh and \$10.56/MWh, respectively. These spreads represent the average difference between on-peak and off-peak prices in each calendar year.					
35 36 37 38 39 40 41 42 43	b)	 Relative to 2009, market price spreads are expected to decline primarily for two reasons: A significant drop in natural gas prices relative to coal prices is anticipated over the 2011 and 2012 period. A drop in natural gas prices reduces the price difference between natural gas-fired versus coal-fired generation. Lower natural gas generation costs result in lower on-peak prices which will decrease the spread between coal-fired, off-peak prices and on-peak prices. Significantly more baseload generation from the re-commissioning of Bruce Power units and the addition of wind generation. 					
44 45	c)	OPG understands this question to be asking for OPG's forecast of the total amount of energy to be time-shifted in 2011 and 2012 since this matches the information referenced					

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in the preamble. The forecasts of time-shifted energy for 2011 and 2012, respectively,
 are 1.13 TWh and 1.23 TWh.

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d) OPG cannot calculate the forecast quantity of energy in excess of the monthly average required to generate incremental revenues of \$12M in 2011 and 2012. OPG's forecast models are not configured to take market price spreads as a model input. These spreads are an output from the model. Reconfiguring the model to respond to this question would entail significant effort and cost.

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VECC Interrogatory #037

Ref: Ex. E1-T2-S1

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5 **Issue Number: 9.2**

- 6 **Issue:** Is the hydroelectric incentive mechanism appropriate?7
 - Interrogatory
- a) Please provide a comparison of the historical spreads between the market clearing price
 (MCP) and the regulated rate as used in the formula for determining the hydroelectric
 incentive mechanism (HIM) payments.
- b) Please provide OPG's expectations as to the relationship between the regulated rate and
 the MCP over the test period.
- 17 c) Please confirm that all else equal, an increase in the regulated rate will increase the HIM.
- d) Please explain fully why any incentive mechanism is needed to incent OPG to utilize the
 pump generating station in the (usual) manner for which it was designed.

Response

- a) The table below shows the difference between the average monthly market price and
- the hydroelectric regulated rate between December 1, 2008 and December 31, 2009.
- 26 27

		Hydroelectric Regulated rate	Difference (HOEP less
\$/MWh	Average HOEP	(including rider ¹)	Regulated rate)
December 2008	\$46.34	\$38.84	\$7.50
January 2009	\$53.22	\$38.84	\$14.38
February 2009	\$47.24	\$38.84	\$8.40
March 2009	\$28.88	\$38.84	-\$9.96
April 2009	\$18.40	\$38.84	-\$20.44
May 2009	\$27.77	\$38.84	-\$11.07
June 2009	\$22.84	\$38.84	-\$16.00
July 2009	\$18.99	\$38.84	-\$19.85
August 2009	\$26.07	\$38.84	-\$12.77
September 2009	\$20.76	\$38.84	-\$18.08
October 2009	\$29.22	\$38.84	-\$9.62

¹ Payment Rider D, Payment Amounts Order EB-2007-0905, Section 6

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November 2009	\$26.54	\$38.84	-\$12.30
December 2009	\$35.05	\$38.84	-\$3.79

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- b) There is no relationship between the regulated rate and HOEP.
- 5 c) There is no relationship between the regulated rate and the hydroelectric incentive 6 mechanism ("HIM") incremental market revenues.

8 The pump generation station is designed to move energy from periods of low value to d) 9 periods of higher value. The HIM provides OPG with clear market price signals with 10 which to efficiently and economically assess and base operational decisions. Absent an 11 incentive mechanism based on market price, OPG would rely on the regulated rate for 12 operational decisions. Using the regulated rate exclusively would result in OPG 13 operating its assets with a flatter production profile, relative to a production profile based 14 on market price signals, in order to maximize production. Absent the HIM, a lack of 15 linkage to market price signals could lead to situations where energy that could be 16 transferred to higher value peak hours is not.

A market-based incentive mechanism exposes OPG's operational decisions to market
 conditions and the intrinsic financial risk. The HIM is required to incent OPG to assume
 and manage these market risks.