

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

D.C. Energy, LLC	)	
	)	
Complainant	)	
	)	
vs.	)	Docket No. EL07-67-000
	)	
H.Q. Energy Services (U.S.) Inc.	)	
	)	
Respondent	)	

**COMMENTS OF THE NEW YORK INDEPENDENT  
SYSTEM OPERATOR, INC.**

Pursuant to Rule 211 of the Federal Energy Regulatory Commission’s (“Commission’s”) Rules of Practice and Procedure, 18 CFR § 385.211 (2006), the New York Independent System Operator, Inc. (“NYISO”) hereby submits these “Comments” addressing both the “Complaint” that was filed by D.C. Energy LLC (“DC Energy”) in the above-captioned docket on June 10, 2007 and the “Amendment” to the Complaint that was filed on June 22, 2007.

**I. Introduction**

**A. NYISO Position on the DC Energy Complaint and Amendment**

The NYISO has reviewed the allegations contained in the Complaint and Amendment submitted by DC Energy. The NYISO’s review did not identify any instances in which New York Market Participant H.Q. Energy Services (U.S.) Inc. (“HQ Energy”) violated any NYISO Tariff<sup>1</sup> provision or market rule, nor did the NYISO

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<sup>1</sup> Capitalized terms not expressly defined herein shall have the meaning ascribed to them in the NYISO’s Market Administration and Control Area Services Tariff (“Services Tariff”).

identify any Market Mitigation Measures (“MMM”)<sup>2</sup> that were triggered by HQ Energy’s actions.

DC Energy’s Complaint and Amendment do not identify or ask the Commission to remedy the consequences of a market design or implementation flaw. Rather, DC Energy requests that the Commission excuse a risky business decision that did not pay out as DC Energy had expected. When DC Energy voluntarily acquired “counterflow”<sup>3</sup> Transmission Congestion Contracts (“TCCs”) from the NYISO’s Reference Proxy Generator Bus at Marcy (“Marcy”) to the Chateaugay Import/Export Proxy Generator Bus, it knowingly accepted the risk that it could suffer the kind of financial losses described in its Complaint/Amendment. DC Energy apparently purchased its counterflow TCCs assuming that congestion patterns at the Chateaugay Interface would not change, but they did. Granting DC Energy’s request would open the door for other entities that take a risk and suffer a loss to come to the Commission for relief.

**B. Hydro Quebec’s Participation in the New York Market**

The Hydro-Quebec companies (collectively referred to hereafter as “HQ”),<sup>4</sup> are the dominant producer, transmitter and consumer of electric energy within the HQ Control Area. Under certain circumstances, HQ can leverage its position in Quebec to influence energy prices (and resulting congestion) at the Chateaugay Import/Export and

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<sup>2</sup> The MMM are set forth in Attachment H to the NYISO’s Services Tariff. Section 4.2.2(g) of the MMM states that default Bids “shall not be imposed on a Generator that is not in the New York Control Area and that is electrically interconnected with another Control Area.”

<sup>3</sup> “Counterflow” TCCs are TCCs that are awarded in order to make other TCCs that Market Participants desire to purchase feasible.

<sup>4</sup> For purposes of these Comments, the Hydro-Quebec companies include Hydro-Quebec, Hydro-Quebec Production (“Production”), Hydro-Quebec Distribution (“Distribution”), Hydro-Quebec TransEnergie (“TransEnergie”) and HQ Energy.

Wheels-Through Proxy Generator Buses that represent the NYISO's primary interface with the HQ Control Area.<sup>5</sup>

Although there are occasionally consequences to doing business with an entity that has the potential to exercise market power, as a whole the New York Control Area ("NYCA") gains both reliability and economic benefits from HQ's participation in the New York markets. The NYISO has limited the impact HQ's potential exercise of market power can have on New York consumers by implementing its Real-Time Rules for Non-Competitive Proxy Generator Buses.<sup>6</sup>

At times when HQ possesses more TCCs sourcing from the Chateaugay Interface than it has scheduled Imports to New York plus Wheels-Through, HQ has a financial incentive to cause congestion (constrain) the Interface and, when the Interface is constrained, an incentive to offer energy at low prices. At times when HQ does not possess a full hedge against congestion, it has an incentive to ensure that the Chateaugay Proxy Generator Buses does not become congested. These incentives are discussed in Sections II.E.1. and 2. below, and in the attached Affidavit of the NYISO's Independent Market Advisor, Dr. David Patton.

The NYISO cannot, however, be expected to insure its Market Participants against the consequences of their own decisions. Entities transacting with HQ in Quebec, or purchasing TCCs that are based on congestion at the Chateaugay Interface must exercise due diligence prior to taking such positions and either avoid transacting or employ appropriate protections.

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<sup>5</sup> See Affidavit of Dr. David Patton at PP. 16-17.

<sup>6</sup> See Affidavit of Dr. David Patton at P. 33. The Rule for Non-Competitive Proxy Generator Buses is set forth in Attachment B to the NYISO's Services Tariff. It starts on Sheet No. 335A.

As explained in Section II.A., below, the cost of serving load in New York was not increased by the behavior DC Energy describes in its Complaint or the Amendment thereto. In hindsight, the financial harm to DC Energy that resulted from its TCC position was both predictable and preventable.

DC Energy's Amendment raises concerns regarding the entities that purchased power in the HQ Control Area for import to New York. Such issues should be considered by Canadian regulators in the first instance, as they may affect both HQ Distribution's prospective ability to find third parties that are willing to purchase power that is made available for import to New York and the price HQ Distribution receives for such power.

Should the Commission determine that additional protections are necessary for New York Market Participants engaging in transactions involving the Chateaugay Interface, the NYISO recommends such protections be developed within its governance process and filed with the Commission by a date-certain.

### **C. Additional Concern**

Subsequent to the time period addressed in DC Energy's Complaint and Amendment, due to a confluence of circumstances that are not addressed in either the Complaint or Amendment, the NYISO identified an hour in which a technically correct, but inefficient Day-Ahead LBMP occurred at the Chateaugay Wheels-Through Proxy Generator Bus. The NYISO is adjusting ramp limits to minimize the possibility that the confluence of circumstances that resulted in the inefficient price will recur. Coincident with this filing, the NYISO expects to issue a revised Technical Bulletin informing Market Participants of changes it is making to address the newly identified concern. It

was this concern that led the NYISO to request an extension of time to file its Comments on the Complaint and Amendment.

## **II. Comments**

### **A. New York Consumers Benefit from HQ's Sales of Energy to New York**

HQ's sale of significant amounts of energy to New York at a price lower than or equal to the Marcy LBMP reduced wholesale energy prices in New York.

DC Energy claims that "NYISO ratepayers have suffered approximately \$13.44 million in opportunity losses" "due to the disproportionately low prices HQ Energy paid for the TCCs in contrast to the congestion rents they generated as a result of HQ Energy's manipulation of congestion."<sup>7</sup> DC Energy inaccurately suggest that New York consumers were harmed by HQ's purchase of TCCs at an unduly low price from May 1 to June 22, 2007. DC Energy speculates that if the price of TCCs HQ purchased in an already completed auction had reflected the actual congestion that was subsequently experienced at the HQ Proxy Generator Bus<sup>8</sup> over the relevant period, the TCCs would have cost HQ approximately \$13.44 million more to acquire than HQ actually paid for them (calculated on a daily basis covering only the May 1 to June 22 period).

The NYISO's Security Constrained Unit Commitment ("SCUC") program determines the Day-Ahead schedule for all energy suppliers that results in the least overall cost to New York loads. SCUC does not differentiate whether the overall cost to

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<sup>7</sup> Amendment at p. 25.

<sup>8</sup> From May 1, 2007 to June 22, 2007, there was one Proxy Generator Bus representing the Interface between the NYCA and the HQ Control Area.

load is due to the cost of energy, the cost of congestion, or modeled uplift costs.<sup>9</sup> DC Energy ignores the fact that the additional TCC congestion revenues (on the basis of which DC Energy calculated its inflated TCC prices) were only available because the Day-Ahead LBMP at Chateauguay was substantially lower than the LBMP at Marcy. DC Energy's calculation of "harm" inappropriately failed to offset the reduction in wholesale energy prices (LBMPs) against the increased congestion costs DC Energy utilized to calculate its inflated TCC prices.

DC Energy alleges that, in the past, HQ generally offered the MW it desired to sell to New York on an hourly basis at a price that approximated the Marcy price, so that there was not substantial Day-Ahead congestion between the HQ Proxy Generator Bus and Marcy.<sup>10</sup> However, in May and June of 2007, the NYISO accepted significant amounts of Day-Ahead energy at the Chateauguay Interface at an LBMP below the Marcy LBMP, which increased congestion from Quebec into New York. Setting aside the obligations of entities that voluntarily acquired counterflow TCCs, HQ received no more than the Marcy LBMP for its Imports in the Day-Ahead Market ("DAM").

At times when HQ does not hold a full hedge against congestion in New York, HQ has an incentive to offer its energy and structure its bids in a manner that prevents the Chateauguay Proxy Generator Bus from becoming congested because, if the bus becomes congested, a portion of the TCC congestion rents generated would not be recovered by HQ. HQ's decision to purchase a full TCC congestion hedge from Chateauguay to

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<sup>9</sup> Regardless of whether New York loads would have to pay \$25/MWh for energy and \$25/MWh in congestion costs at the Chateauguay Proxy Generator Bus, or \$50/MWh for energy with no charge for congestion, at the Bus, SCUC would produce a near-identical commitment solution because the overall impact on loads would be, more or less, identical.

<sup>10</sup> Complaint at p. 4.

Marcy created economic incentives for HQ to sell additional, economic power to New York in some hours. Since HQ acquired a full TCC hedge against congestion the NYISO has accepted more imports from the HQ Control Area, at prices below or equal to the Marcy price.<sup>11</sup> These additional purchases from Quebec displace more expensive options and reduce the price of serving New York loads.

**B. HQ's Efforts to Secure the Marcy Price for its Energy Are Not Evidence of Market Manipulation**

DC Energy's Complaint and Amendment suggest that HQ Energy's efforts to recover the Marcy price for its power, including its acquisition of TCCs to achieve this purpose, are somehow inappropriate, improper or manipulative.<sup>12</sup> The NYISO has found no basis to support DC Energy's position on this issue.

First, as explained above, New York loads are not harmed when HQ sells additional energy to New York and receives the Marcy LBMP.

Second, HQ is not like generators located in the NYCA. At times when HQ is able to economically produce more than 1200 MW of energy at a marginal cost below the relevant market clearing price in New York, if HQ offers all of its economic energy into the NYISO's Day-Ahead Market at its marginal cost of production, HQ's offer will

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<sup>11</sup> The potential that HQ may have an incentive to congest the interface to an inefficient degree (below HQ's marginal cost of production) is addressed below and in PP. 29-31 of the attached Affidavit of Dr. David Patton. As Dr. Patton explains in his Affidavit, this incentive may actually benefit New York customers, although it will tend to result in additional costs to holders of counter-flow TCCs.

<sup>12</sup> See, e.g., Complaint at 17 ("Even when HQ Energy has placed low energy bids at the HQ Node, the NYISO market still suffers. Superficially, it might appear as though NYISO Load Serving Entities ("LSEs") benefit from the lower prices at the HQ Node, but these buyers will have to pay HQ Energy for the value of the congestion differential between the Marcy and HQ Nodes ... thereby erasing any possible benefit that the low energy prices may have afforded the market."), Amendment at 24 ("In addition, despite the appearance of low prices at the HQ Node, the benefit of these low prices to NYISO ratepayers is non-existent. Load in New York ends up paying the higher Marcy price for the energy sold into the NYISO market at the HQ Node...").

constrain the Chateauguay Proxy Generator Import/Export Bus and likely set the price at Chateauguay equal to HQ's Bid.

Under the posited circumstances, HQ would be paid its Bid for its energy and there would be congestion between Chateauguay and the rest of the NYCA. In order to receive the same price that the NYISO is paying internal generators to produce energy, HQ must either:

- (1) structure its offer into New York in a manner that ensures that the Chateauguay Proxy Generator Bus will not become constrained (sell slightly less energy to New York than is economically efficient, given HQ's posited low marginal cost), so that the price at the Chateauguay Interface will be the same as the price at the nearby New York internal Proxy Generator Buses; or
- (2) acquire TCCs so that HQ may receive congestion revenues. At times when HQ possesses a TCC hedge against congestion that is equal to its scheduled imports, HQ is able to offer all of its economic energy to New York at its marginal cost<sup>13</sup> because it will recoup any difference between the market clearing prices at Chateauguay and Marcy via congestion rents, should the Chateauguay Import/Export Proxy Generator Bus become congested.

### **C. DC Energy's TCC Position**

DC Energy alleges it is losing money due to its decision to accept the compensation provided in the NYISO's TCC markets to hold counterflow TCCs from the Marcy Reference Bus to the Chateauguay Proxy Bus. Again, "Counterflow" TCCs are TCCs that are awarded in order to make other TCCs that Market Participants desire to purchase feasible.<sup>14</sup> DC Energy had access to publicly available information at the time

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<sup>13</sup> The NYISO does not know what HQ's marginal cost of producing energy is and takes no position on whether or not HQ offered its energy into New York at, above, or below its marginal cost of production. However, if and to the extent HQ offered energy in New York at a price below its marginal cost of production, any additional energy that HQ sold due to its sub-marginal cost bids would be expected to reduce the cost of wholesale power in New York.

<sup>14</sup> See Open Access Transmission Tariff ("OATT") Attachment M, Sheet Nos. 564-565 ("In the Auction, bidders will place Bids specifying the maximum amount they are willing to pay for the TCCs they wish to purchase. The objective of the Auction will be to maximize the value of the TCCs awarded to the bidders, as valued by their Bids, subject to the Constraint that the set of all outstanding TCCs and Grandfathered



it purchased its TCCs that should have been considered when deciding whether or not to purchase counterflow TCCs from Marcy to Chateaugay. That is, DC Energy knew or should have known that its TCC purchase presented a risk of loss.

**1. DC Energy’s Counterflow TCC Position was Inherently Risky**

Participants in the New York markets know or should know that when they decide to accept compensation to hold counterflow TCCs, they are assuming an investment risk. Attachment M to the NYISO’s Open Access Transmission Tariff requires the NYISO to “maximize the value of the TCCs awarded to the bidders, as valued by their Bids” while at the same time ensuring that all outstanding TCCs are simultaneously feasible.<sup>15</sup> Entities participating in the NYISO’s TCC auctions are only paid to hold counterflow TCCs if the counterflow TCCs will make other TCCs that are desired by other auction participants feasible (thus maximizing the overall value of TCCs awarded to bidders without compromising the feasibility of the overall solution). DC Energy should have known that it was directly or indirectly betting against other Market Participants’ TCC positions when it was compensated for acquiring its counterflow TCC position.

**2. Posted Auction Information**

After each round of an Initial TCC Auction (at which the NYISO auctions both one-year and six-month TCCs), the NYISO posts a list of all of the TCCs that were acquired in that round (it does not identify the acquiring Market Participant(s)). By reviewing publicly posted auction results DC Energy should have been able to see that auction participants were actively and steadily acquiring one-year and six-month TCCs

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Rights identified in Section 9.7 of this Attachment M must correspond to a simultaneously feasible security-constrained Power Flow in each time period.”).

<sup>15</sup> *Id.*

from the Chateauguay Proxy Generator Bus to Marcy Reference Bus (and to the ISO New England Proxy Generator Bus) at the same time DC Energy was acquiring its counterflow Marcy to Chateauguay position.

**3. Additional Offers to Import Energy at Chateauguay Could Lower Energy Prices or Affect Bidding Behavior**

DC Energy's Amendment indicates that DC Energy was not aware that HQ Distribution was publicly offering to sell up to 350 MW of power in Canada for export to New York and other neighboring markets for a period of time that overlapped the time period during which DC Energy acquired its counterflow TCC position.<sup>16</sup> DC Energy's Amendment does not address the effect that an additional 350 MW of potential Day-Ahead offers at the Chateauguay Interface would have on its counterflow TCC position in the relevant months, or how the impact of the other entities seeking to sell power into New York at Chateauguay might have affected DC Energy's TCC-related financial obligations. If the additional energy import offers would/should have competitively disciplined HQ's offers (as DC Energy suggests in its Amendment), then the LBMP at the Chateauguay Interface would be expected to decline, potentially creating congestion between Chateauguay and Marcy that would have adverse financial consequences to holders of counterflow TCCs.

**4. DC Energy Effectively Asks the Commission to Guarantee that Other Market Participants Will Not Change their Bidding Behavior**

If DC Energy had not voluntarily elected to acquire counterflow TCCs from the Marcy Reference Bus to the Chateauguay Interface, it would not have suffered the

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<sup>16</sup> Amendment at p. 2 ("DC Energy has discovered new facts which are directly relevant to the anticompetitive market manipulation that is the subject of the Complaint.... [T]he new evidence demonstrates that other suppliers were competing with HQ Energy to sell energy into the NYISO market...").

financial losses described in its Complaint/Amendment. DC Energy's Complaint and Amendment neither identify a market design or implementation flaw nor request that the Commission remedy the consequences of such a flaw. Rather, DC Energy asks the Commission to remedy the harm it apparently suffered due to an inherently risky business decision. DC Energy's TCC position was, apparently, based on an assumption that the congestion patterns seen at Chateaugay in past periods would continue.<sup>17</sup> Granting DC Energy's request would open the door for other entities that take a risk and suffer a loss to come to the Commission for relief.

#### **D. Competition in the HQ Control Area**

In its Amendment, DC Energy suggests that HQ "has impeded competition for sales of energy into the NYISO energy markets by impairing certain power supply arrangements between [HQ Distribution] and competitive suppliers in the NYISO.... Before the bidding strategy eliminated competitive supplies at the HQ-NYISO interface, HQ Energy's 1,500 MW TCC position provided HQ Energy with substantial profits on each MWh sold into the NYISO at a loss by other suppliers."<sup>18</sup>

First, as Dr. Patton explains in his attached Affidavit, the HQ Control Area is not a competitive market.<sup>19</sup> HQ controls 91% of the generation in its Control Area, serves 96% of the load and, consequently, is responsible for a large share of the energy Imports

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<sup>17</sup> See, e.g., Complaint at p. 4 ("Up until recently, HQ Energy tended to offer energy at the HQ Node so that there was not substantial congestion between the HQ Node and the Marcy Node because HQ Energy was offering to sell its energy in the NYISO market at the HQ Node at approximately the same price as the clearing price at the Marcy Node.")

<sup>18</sup> Amendment at p. 3.

<sup>19</sup> Affidavit of Dr. David Patton at PP. 9-17.

scheduled at Chateauguay. The fact that HQ Distribution chose<sup>20</sup> to solicit offers to purchase a small fraction of its available capacity on a one-time basis, covering a six month period does not alter Dr. Patton's conclusion.

Second, it is not at all clear that HQ Energy has caused the entities that purchased power in HQ Distribution's Call for Tenders ("CFT")<sup>21</sup> to abandon their efforts to import energy at Chateauguay. Instead, it is possible that there were no, or only limited CFT sales scheduled to New York in June. Third-party imports at Chateauguay appear to have picked back up in early July, with several entities other than HQ Energy offering to import power at Chateauguay, in both the Day-Ahead and in Real-Time Markets.

The NYISO agrees with DC Energy<sup>22</sup> that HQ Energy's actions may depress the offers its affiliate HQ Distribution may receive in response to future CFTs (if any are conducted), but that may be the case because the third-party suppliers will better understand the congestion-related risks associated with importing power to New York at Chateauguay and recognize the need to include in their CFT offers a margin to either (a) cover the cost of acquiring appropriate TCCs in New York, so that they will possess the same congestion hedge as HQ Energy, or (b) compensate for the risk of holding a position in New York that does not include a hedge against congestion.

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<sup>20</sup> The Final Decision of the Regie de l'Energie du Quebec ("Regie") that is included as Exhibit E to DC Energy's Amendment (the "Final Decision") permits and recommends, but does not require, HQ Distribution to sell 350 MW of the available 600 MW it is purchasing from HQ Production pursuant to a term contract. Final Decision at 15. The Order did not, on its face, preclude HQ Energy from submitting a response to any Call for Tenders that HQ Distribution issued/may issue. The Final Decision does not address periods beyond December 31, 2007. HQ Distribution's CFT covered the period from April 1, 2007 to September 30, 2007.

<sup>21</sup> The CFT was a request by HQ Distribution for offers to purchase up to 350 MW of baseload capacity at HQ's interfaces with several of its neighbors, including the NYCA. See pp. 9 and 10 of DC Energy's Amendment and Exhibit F thereto.

<sup>22</sup> Amendment at pp. 23-24.

**E. Financial Incentive to Entities that Both Import Energy and Hold TCCs**

There is an inverse relationship between the energy (LBMP) and TCC revenues available at/sourcing from Proxy Generator Buses in the DAM. For Market Participants that both schedule External Transactions in the DAM and possess substantial TCC holdings, this inverse relationship between LBMP and TCC revenues can present two differing sets of financial incentives that require consideration. Below the NYISO explains Market Participant's financial incentives (1) when its TCCs exceed its hourly Day-Ahead energy schedule, and (2) when its hourly Day-Ahead energy schedule exceeds its TCC holdings.

**1. Incentive when TCC Holdings are Greater than Hourly Energy Schedule**

At times when a Market Participant holds more TCCs that source at an external Proxy Generator Bus than the energy it expects to schedule into the NYISO Day-Ahead, depending on the LBMPs at the TCC sink(s), the Market Participant may have a financial incentive to congest the source external Proxy Generator Bus in order to maximize its TCC rents and total revenues. The incentive can be illustrated using a simple example.

**Simplifying Assumptions** (1) the example covers one hour,<sup>23</sup>  
(2) there are no losses to account for,  
(3) the import capability of External Proxy Generator Bus E is 100 MW,  
(4) Market Participant A holds 120 TCCs from Bus E to Reference Bus R,  
(5) Market Participant B holds 20 counterflow TCCs from Bus R to Bus E,  
(6) the LBMP at Bus R is \$50/MWh,<sup>24</sup>  
(7) Market Participant A is the only entity transacting at Bus E.

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<sup>23</sup> Because DAM energy schedules may change from hour-to-hour, the described financial incentive, which is dependent on the relationship between a Market Participant's Day-Ahead energy schedules and its TCC holdings, may also vary on an hourly basis. The incentive to create Day-Ahead congestion may exist in some hours but not in others, depending on the Market Participant's TCC holdings. *See* DC Energy's Amendment at 19.

<sup>24</sup> Because Bus R is the Reference Bus there cannot, by definition, be any congestion component to the LBMP at Bus R.

**Scenario**

If Market Participant A offers to import 101 MW<sup>25</sup> of economically desirable energy for \$30/MWh in the DAM, Bus E will become congested and the LBMP at Bus E will separate from the NYCA (Bus R) price.

- The LBMP at Bus E will be set at \$30/MWh and Market Participant A will receive \$3000 ( $\$30/\text{MWh} * 100 \text{ MWh}$ ) for its energy.
- The value of congestion at Bus E will be equal to the LBMP at Reference Bus R minus the LBMP at Bus E.
  - $\$50/\text{MWh}$  (LBMP at Bus R) -  $\$30/\text{MWh}$  (LBMP at Bus E) =  $\$20/\text{MWh}$  (value of congestion between Buses E and R)

Because there is congestion between Buses E and R and Market Participant A holds TCCs from Bus E to Bus R, Market Participant A will receive congestion rents equal to the difference between the congestion components of LBMP at Buses E and R, multiplied by the number of TCCs that Market Participant A holds (120).

- $\$20/\text{MWh}$  (value of congestion) \* 120 TCCs = \$2,400

Because Market Participant B holds 20 counterflow TCCs, it will pay \$400 in congestion rents.

- $\$20/\text{MWh}$  (value of congestion) \* -20 TCCs = -\$400

Market Participant A's total compensation will be \$3000 (LBMP revenues) + \$2,400 (congestion rents) = \$5,400

Viewed in terms of cost to the New York market, subtracting out the \$400 in congestion rents paid by Market Participant B to settle its counterflow TCC position, Market Participant A's \$5,000 compensation equals the \$50/MWh LBMP at Reference Bus R times the 100 MWh of energy Market Participant A sold.

If Market Participant A were to reduce its energy Bid to \$5/MWh in the next hour but all other facts remained the same:

- Market Participant A's LBMP revenues would be \$500 for the hour
- Market Participant A's congestion rents would be \$5,400 for the hour
- Market Participant A's total compensation would be \$5,900 for the hour; \$500 more than A received in the prior hour
- Market Participant B would pay \$900 in congestion rents for the hour, \$500 more than it paid in the prior hour
- Again, viewed in terms of cost to the New York market, subtracting out the \$900 in congestion rents paid by Market Participant B to settle its counterflow TCC position, Market Participant A's \$5,000 compensation equals the \$50/MWh LBMP at Reference Bus R times the 100 MWh of energy Market Participant A sold.

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<sup>25</sup> One MW more than the 100 MW import capability of the Proxy Generator Bus.

The above example illustrates one way a Market Participant that possesses a TCC hedge that exceeds its expected Day-Ahead energy schedule may be able to increase its overall revenues by constraining, or increase congestion at, an external Proxy Generator Bus. The NYISO does not have any market rule that prohibits Market Participants located in external Control Areas from holding TCCs in excess of their hourly energy schedules<sup>26</sup> or submitting Bids that constrain external Proxy Generator Buses.<sup>27</sup>

Until July 1, 2007 the Chateauguay Interface was subject to a single, 1,500 MW transfer limit in the DAM, which equaled HQ's total TCC holdings (1,339 MW Import TCCs plus 161 MW Wheel-Through TCCs).<sup>28</sup> Like other Market Participants, in any hour HQ's TCC holdings could exceed its energy schedule(s). However, given the manner in which the NYISO was implementing the Chateauguay Interface Total Transfer Capability limit in its DAM, HQ's position was not "over-hedged."<sup>29</sup>

## **2. Incentive when Hourly Energy Schedule is Greater than TCC Holdings**

At times when a Market Participant expects to have more MW of energy scheduled into New York in the DAM than it holds TCCs that source at an appropriate

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<sup>26</sup> Energy schedules may vary by hour. It is not possible to impose a similarly dynamic limit on TCC holdings. *See* Footnote 23, above.

<sup>27</sup> Designing rules that limit TCC holdings involving external Proxy Generator Busses, or that constrain bidding practices at External Proxy Generator Buses, in a manner that provide appropriate market incentives is extremely complicated, in part because they interact with the rules that apply to the TCC market. For this reason, the NYISO recommends that if the Commission wants the NYISO to develop new Tariff rules, it permit the NYISO to do so through its governance process.

<sup>28</sup> Until July 1, 2007 the Chateauguay Interface was subject to a 1,500 MW net limit on Day-Ahead transactions flowing into New York. The 1,500 MW limit applied to any combination of economically desirable Import and Wheel-Through transactions sourcing at Chateauguay. At times when SCUC would have scheduled more than 1,500 net MW of Import plus Wheel-Through transactions into New York at Chateauguay, the Bus became congested and the price at the Bus separated from the market prices in New York. On July 1, 2007 the NYISO implemented two separate Proxy Generator Buses at the Chateauguay Interface, one for Import and Export External Transactions and the other for Wheels-Through.

<sup>29</sup> *See* Complaint at pp. 8-9, 17.

external Proxy Generator Bus, the Market Participant will have a financial incentive to avoid or prevent congesting the source external Proxy Generator Bus in order to maximize its total revenues.<sup>30</sup> If the Proxy Generator Bus becomes congested, a portion of the congestion rents generated (the MW that are not covered by a TCC hedge) would not be recovered by the Market Participant that scheduled the energy. Instead, other TCC holders or the New York Transmission Owners would receive the congestion revenues. Under the circumstances described, an entity that possesses market power in an external Control Area would have an incentive to exercise its market power to preclude others from scheduling Imports at the Proxy Generator Bus. In his attached Affidavit Dr. Patton concludes that HQ's response to this incentive is not likely to substantially alter the efficiency of market operations in New York.<sup>31</sup>

**F. Response to Other Arguments in DC Energy's Complaint/Amendment**

**1. HQ Arbitrage of On-Peak/Off-Peak Price Differential**

On pages 21 through 23 of the Amendment and in Attachment D thereto, DC Energy questions HQ's purchase of power from the NYCA in off-peak hours so that it could sell more power into New York on-peak, and suggests that HQ may have been engaging in predatory pricing (intentionally selling power at a price below HQ's marginal cost in order to drive off potential competitors). However, DC Energy's analysis focuses solely on LBMPs at the Chateaugay Proxy Generator Bus and ignores the fact that HQ held TCCs that would permit it to effectively recoup the Marcy LBMP when there was congestion. When the NYISO compared an unweighted, average, of the on-peak Marcy

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<sup>30</sup> See the Affidavit of Dr. David Patton at P. 21.

<sup>31</sup> *Id.* at PP. 22-24.



LBMPs for the days in question with the “Total Cost of Purchase” DC Energy alleged in Attachment D to its Amendment, the NYISO found that HQ would likely have made money on five of the six days DC Energy identifies and would have sustained a minor loss on the other day.

<b>Date</b>	<b>Marcy LBMP*</b>	<b>Total Cost of Purchase (from Att. D)</b>	<b>Estimated Gain/Loss from transaction (in \$/MWh)</b>
5/14/2007	48.95	52.86	-3.91
5/15/2007	69.42	54.13	15.29
5/17/2007	62.52	57.68	4.84
5/24/2007	76.39	54.95	21.44
6/4/2007	71.86	58.49	13.37
6/8/2007	69.3	60.41	8.89

\* Straight Average of Peak Hours (7-22) - Generally the hours when HQ was selling energy to New York.

While the NYISO agrees with DC Energy’s suggestion that HQ’s off-peak power purchases provide some indication of HQ’s marginal cost of production in off-peak hours, the NYISO does not agree with DC Energy’s suggestion that the evidence it presents supports a claim of predatory pricing or present clear competitive concerns. Rather, the information appears to suggest that HQ may be successfully arbitraging the differential between off-peak and on-peak New York LBMPs.

## **2. DC Energy’s Proposed Remedies**

In Paragraphs 36 through 38 of his attached Affidavit, Dr. Patton recommends against abrogating or retroactively changing the settlement of existing TCCs that were freely entered into because such remedies would alter Market Participants’ participation in future TCC auctions. Dr. Patton states that if the Commission were to abrogate or retroactively change TCC settlements, Market Participants would be less certain that

TCCs would provide them with a secure congestion hedge. In addition, Dr. Patton does not support DC Energy's request that the Commission suspend HQ's participation in the TCC market at the Chateaugay Interface.

### **III. Explanation of the Additional Concern That Caused the NYISO to Request an Extension of Time to Submit These Comments**

Subsequent to the time period addressed in DC Energy's Complaint and Amendment, due to a confluence of circumstances that are not addressed in either the Complaint or Amendment, the NYISO identified an hour in which a technically correct, but inefficient Day-Ahead LBMP occurred at the Chateaugay Wheels-Through Proxy Generator Bus. The "confluence of circumstances" that the NYISO identified includes (a) the NYISO's implementation of the dual Proxy Generator Bus arrangement at Chateaugay, (b) economically rational Bidding strategies engaged in by Market Participants that predated the implementation of the dual-Proxy configuration and continued after the dual-Proxy configuration was implemented, and (c) a dearth of offers at the Chateaugay Wheels-Through Proxy Generator Bus.

The NYISO is adjusting ramp limits to minimize the possibility that the confluence of circumstances that resulted in the inefficient price will recur. The NYISO will issue a revised Technical Bulletin informing Market Participants of changes it made to address the newly identified concern coincident with this filing. Increased Day-Ahead and Real-Time Market ramp limits are expected to take effect at Chateaugay for the July 25, 2007 market day. It was this concern that led the NYISO to request an extension of time to file its Comments on the Complaint and Amendment.

### **IV. Documents Submitted**

The NYISO submits the following documents:

1. These Comments;
2. a Certificate of Service; and
3. the Affidavit of the NYISO's Independent Market Advisor, Dr. David B. Patton, addressing overall efficiency impacts on the New York Markets (Attachment I).<sup>32</sup>

**V. Conclusion**

WHEREFORE, for the foregoing reasons, the NYISO respectfully requests that the Commission reject each of DC Energy's requested remedies and consider the NYISO's Comments, including the attached Affidavit of Dr. David Patton, in reaching its decision.

Respectfully submitted,

/s/ Alex M. Schnell

Robert E. Fernandez  
General Counsel and Secretary  
Alex M. Schnell  
New York Independent System Operator, Inc.

Dated: July 23, 2007

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<sup>32</sup> In accordance with Rule 2005(b) of the Commission's Rules of Practice and Procedure (18 CFR § 385.2005(b) (2006)), the NYISO has submitted Dr. Patton's executed Affidavit in electronic format. Both the NYISO and Dr. Patton will retain executed originals of his Affidavit until after such time as all administrative and judicial proceedings in the relevant matter are closed and all deadlines for further administrative or judicial review have passed.

## **CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document upon each person designated on the official service lists compiled by the Secretary in this proceeding in accordance with the requirements of Rule 2010 of the Rules of Practice and Procedure, 18 C.F.R. § 385.2010.

Dated at Rensselaer, New York this 23<sup>rd</sup> day of July, 2007.

*/s/ Alex M. Schnell* \_\_\_\_\_

Alex M. Schnell  
New York Independent System Operator, Inc.  
10 Krey Boulevard  
Rensselaer, NY 12144  
518-356-8707

**ATTACHMENT I**

**AFFIDAVIT OF DR. DAVID PATTON  
INDEPENDENT MARKET ADVISOR TO THE  
NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.**

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**New York Independent System Operator, Inc.**

**Docket No. EL07-67-000**

**AFFIDAVIT OF DAVID B. PATTON, PH.D.**

Qualifications and Purpose

1. My name is David B. Patton. I am an economist and President of Potomac Economics. Our offices are located at 9990 Fairfax Boulevard, Fairfax, Virginia 22030. Potomac Economics is a firm specializing in expert economic analysis and monitoring of wholesale electricity markets.
  
2. I currently serve as the Independent Market Advisor for the New York Independent System Operator, Inc. (“NYISO”), and as the Independent Market Monitor for the ISO-New England, Inc. (“ISO-NE”) and the Midwest ISO (“MISO”). In these roles, I am responsible for assessing the competitive performance of the markets administered by the ISOs, including assisting in the implementation of monitoring plans to identify and remedy market design flaws and abuses of market power. I also provide recommendations regarding market mitigation measures and other market rules. I have served in this capacity for the NYISO since May 1999.
  
3. I have worked as an energy economist for seventeen years, focusing primarily on the electric utility and natural gas industries. I have provided strategic advice,

- analysis, and expert testimony in the areas of electric power industry restructuring, pricing, mergers, and market power. I have also advised other existing and prospective RTOs on transmission pricing, market design, and congestion management issues. With regard to competitive analysis, I have provided expert testimony and analysis regarding market power issues in a number of mergers and market-based pricing cases before the Federal Energy Regulatory Commission (“FERC”), state regulatory commissions, and the U.S. Department of Justice.
4. Prior to my experience as a consultant, I served as a Senior Economist in the Office of Economic Policy at the Federal Energy Regulatory Commission, advising the Commission on a variety of policy issues including transmission pricing, open-access policies and electric utility mergers.
  5. Before joining the Commission, I worked as an economist for the U.S. Department of Energy. During this time, I helped to develop and analyze policies related to investment in oil and gas exploration, electric utility demand side management, residential and commercial energy efficiency, and the deployment of new energy technologies. I hold a Ph.D. and M.A. in Economics from George Mason University and a B.A. in Economics with a minor in Mathematics from New Mexico State University.
  6. On May 1, 2007, the ownership of Transmission Congestion Contracts (“TCCs”) sourcing at the Chateaugay Interface changed, which affects their incentives to schedule of external import, export and wheel-through transactions through that

interface. The Hydro-Quebec companies (collectively referred to hereafter as “HQ”)<sup>1</sup> acquired 1339 MW of import TCCs sourcing at the Chateauguay Interface<sup>2</sup> between the New York Control Area (“NYCA”) and the Hydro Quebec Control Area and 161 MW of Wheels-Through TCCs between New York and New England. HQ was able to acquire more TCCs than the NYISO’s capability to receive imports over the Chateauguay Interface because several market participants, including DC Energy, purchased TCCs in the opposite direction (“counterflow” TCCs). Since May 1, 2007, congestion on flows between the Chateauguay Proxy Generator Bus(es) and the rest of NYCA. This has resulted in significant payments to HQ for its TCCs and charges to DC Energy and other holders of counterflow TCCs.

7. The purpose of this affidavit is to evaluate the incentives of HQ as it participates in the New York market, how the incentives of HQ are affected by its ownership of TCCs, and how the resulting behavior affects market efficiency and the welfare of consumers in New York.
8. Section II of this affidavit provides a competitive analysis of the expected conditions in the market to transact over the Chateauguay Interface. Section III discusses how the incentives of HQ depend on its TCC holdings and how these incentives affect the New York market.

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<sup>1</sup> For purposes of these Comments, the Hydro-Quebec companies include Hydro-Quebec, Hydro-Quebec Production (“Production”), Hydro-Quebec Distribution (“Distribution”), Hydro-Quebec TransEnergie (“TransEnergie”) and HQ Energy.

<sup>2</sup> Capitalized terms not defined in this Affidavit shall have the meaning ascribed to them in the NYISO’s Market Administration and Control Area Services Tariff (“Services Tariff”).



Analysis of Competitive Conditions at the Chateauguay Interface

9. To assess competitive conditions at the Chateauguay Interface, I have computed (i) the concentration of supply that can support real-time transactions between the HQ Control Area and the NYCA, and (ii) the concentration of load that can support real-time transactions between the HQ Control Area and the NYCA.

**A. Supply Concentration**

10. To estimate the market concentration of both the supply and demand in Quebec, I utilized publicly available information on the entities owning or controlling generation in Quebec, and on entities serving load in Quebec.<sup>3</sup>
11. The first issue in estimating market concentration is to define the relevant geographic area. The factors that would naturally limit the extent of the relevant market would be physical transmission constraints, transmission losses, and barriers to scheduling transactions. For purposes of this analysis, I make the conservative assumption that transmission constraints and losses will not limit the geographic market (this assumption should err on the side lower market concentration by defining a relatively broad geographic market).
12. I define the relevant geographic area for purposes of calculating the market concentration of supply to be the province of Quebec. Based on this definition, roughly 91 percent of the generating capacity is owned or controlled by HQ.<sup>4</sup>

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<sup>3</sup> Information on supply resources is derived from POWERdat. Information on load serving entities is from the National Energy Board of Canada, *Outlook for Electricity Markets, 2005-2006*.

<sup>4</sup> Platts (2006) POWERdat Database, Platts, Inc., Boulder, Colo.

This translates into a Herfindahl-Hirschman Index (“HHI”) level of approximately 8400.

13. By comparison, the Horizontal Merger Guidelines promulgated by the Federal Trade Commission and the Antitrust Division of the U.S. Department of Justice classify markets with an HHI greater than 1800 as “highly concentrated.” Based on these results, I conclude that HQ faces limited competition in delivering supplies to and from the Chateaugay Interface to transact with New York.

#### **B. Load Concentration**

14. While the concentration of supply is relevant for determining whether there is sufficient competition, the concentration of load is also important in determining the level of competition to transact with New York over the Chateaugay Interface.
15. HQ serves approximately 96 percent of the load in Quebec with the remaining load served by one cooperative and nine municipal utilities.<sup>5</sup> These shares correspond to a HHI of more than 9000. Therefore, I conclude that HQ faces very little competition to transact with New York.

#### **C. Conclusion**

16. I conclude that the high concentration of load and supply likely confer substantial market power on HQ related to its real-time imports and exports at the HQ Proxy

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<sup>5</sup> National Energy Board (2005), *Outlook for Electricity Markets, 2005-2006*, Calgary, Alberta, p. 53.

- Generator Bus(es).<sup>6</sup> Furthermore, its market power within the HQ footprint gives HQ the ability to affect prices in New York at the Proxy Generator Bus(es) that are at the Chateaugay Interface. Since the market power of HQ is limited to the Chateaugay Interface, it cannot profitably raise prices within New York. The most that HQ can gain from the New York market is the retention of the revenues resulting from congestion on the interface between Quebec and New York.
17. The market power that HQ has at the Chateaugay Interface is effectively similar to the locational market power that a supplier has when its generator is connected to the transmission system by a radial line. Such a supplier has the ability to affect prices at its location, but cannot profitably influence prices in the rest of the transmission system. Since there are no load customers at the location where the supplier has market power, this type of market power is essentially not addressed by market power mitigation measures. In the same way, market power at the HQ Proxy Generator bus can affect the price and associated congestion at that proxy bus, but not the prices within New York.

#### Discussion of HQ's Incentives

18. Because the incentives of HQ depend on its ownership of TCCs, this section is divided into three parts. The first part discusses HQ's incentives when it does not own TCCs, the second part discusses HQ's incentives when it owns TCCs, and

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<sup>6</sup> I focus on the real-time market because the ability of participant to physically import and export power across the HQ Proxy Generator Bus ultimately determines HQ's control of the price at the bus. Others may have the ability to import or export power over the HQ interface in the Day-Ahead market, but will only do so rationally to the extent that it causes the Day-Ahead prices to converge with the expected real-time prices.

the third part discusses several remedies that have been proposed to address the concerns raised in DC Energy's complaint.

**A. HQ's Incentives When It Does Not Own TCCs**

19. HQ schedules transactions between Quebec and New York to arbitrage differences between the marginal cost of generation in Quebec and the LBMP at the New York Reference Bus ("Marcy"). The marginal cost of serving load at Marcy is equal to the Marcy LBMP. The line from HQ terminates near Marcy so the Marcy LBMP is reasonably representative of the value to load customers in New York of imports from Quebec.
20. When the Marcy LBMP is higher than the marginal cost of generation in Quebec, HQ will increase energy transaction flows to New York until the transfer capability between regions is fully utilized or there is no more economic generation in Quebec. Likewise, when the Marcy LBMP is lower, HQ will reduce its net imports into New York. Thus, the gain from trading between Quebec and New York is directly related to the difference between the Marcy LBMP and the marginal cost of generation in Quebec.
21. When it does not own TCCs HQ has an incentive to avoid causing congestion when it imports power into New York. When economic energy transactions exceed the available transmission capability at the Chateaugay Interface, congestion arises in the form of a lower price at the Proxy Generator Bus (and, hence, lower payments for the imported power). Hence, HQ receives the full

- value of energy transactions at the Marcy LBMP for its imports when there is no congestion at the Chateauguay Interface.
22. Although HQ has an incentive to avoid causing congestion at the Chateauguay Interface, it still has an incentive to fully utilize the interface when it has supply that would be economic in New York. Thus, the use of market power by HQ to prevent congestion at the Chateauguay Interface should not result in: (i) higher electricity prices for New York consumers or (ii) inefficient market operations.
23. The internal prices paid by New York consumers are not substantially affected when HQ prevents congestion at the Chateauguay Interface. These prices are determined by the marginal cost of supply in New York. When power is imported from Quebec to New York, it replaces more expensive generation in New York, thereby reducing the prices paid by consumers. Since HQ has an incentive to arbitrage between Quebec and New York, the level of energy transaction flows between control areas should not be significantly affected because it still has the incentives to maximize its imports when prices are higher within New York. Thus, conduct by HQ to utilize the interface while minimizing the value of congestion at the interface should not raise prices to consumers within New York.
24. Additionally, to the extent that HQ prevents congestion from occurring at the HQ Proxy Generator Bus, it should not undermine the efficiency of market operations. When the Marcy LBMP is different from (higher or lower) than the marginal cost of generation in Quebec, it is efficient to schedule energy transactions from one

area to the other until either the transfer capability between regions is fully utilized or the difference between the Marcy LBMP and the marginal cost of generation in Quebec is zero. Since HQ has an incentive to arbitrage these differences, the interface is likely to be used efficiently.

25. This evaluation of HQ's incentives applies when HQ owns a quantity of TCCs that is substantially less than the limits of the interface into the NYCA. The next sub-sections describes HQ's incentives when in owns more TCCs that its capability to import power over the HQ Proxy Generator Bus(es).

#### **B. HQ's Incentives When It Owns Excess TCCs**

26. When the amount of TCCs that HQ owns sourcing at the Chateauguay Interface exceed the Import or overall capability of that interface to bring power into New York, it substantially alters HQ's incentives. HQ's profit is equal to the profit from energy transactions scheduled into New York (i.e. the quantity of flows times the difference between the LBMP at the appropriate Chateauguay Proxy Generator Bus and the marginal cost of generation in Quebec) plus the payment/charge associated with the Import or Wheel-Through TCCs sourcing at the Chateauguay Interface (i.e. the quantity of TCCs times the difference between the LBMP at the sink location and the LBMP at the appropriate Chateauguay Proxy Generator Bus). When the LBMP at the corresponding Chateauguay Proxy Generator Bus declines due to congestion, it reduces the profit from energy transaction flows between control areas, but increases the profit from TCCs sourcing at the Chateauguay Interface. Thus, if the quantity of TCCs held by HQ

- exceeds the flow level that causes congestion at the interface, HQ will have an incentive to increase the amount of congestion.
27. Because of its dominant position in Quebec, HQ can affect prices at the Chateauguay Interface. I use the following three scenarios to evaluate the effect on the New York market when HQ's TCC holdings provide an incentive to cause congestion on energy transaction flows into New York at the Chateauguay Interface. For this evaluation, I consider the effects on market efficiency and the consumers in New York.
28. First, when the LBMP at one or both of Proxy Generator Buses at the Chateauguay Interface is congested below the Marcy LBMP, the outcome is efficient as long as the marginal cost of generation in Quebec is lower than the Marcy LBMP. This is true because the interface between control areas is fully utilized to transfer power from the low priced region to the high priced region. Moreover, New York consumers realize the benefit of the full amount of imports from Quebec, which will reduce prices in New York by displacing more expensive alternatives.
29. Although this outcome is economically efficient, if the price at the HQ Proxy Generator bus falls below its marginal cost of producing electricity, it will result in an economic transfer from the holder of the counterflow TCC to HQ. In this case, HQ would actually earn negative profit on the energy scheduled between control areas, but these negative profits would be more than compensated by the additional revenue paid to the TCCs.

30. Second, HQ could profit by importing to New York even when the marginal cost of generation in Quebec exceeds the Marcy LBMP. Under this scenario, the transfer capability would be fully utilized from Quebec to New York, although it would be more efficient to reduce the net imports into New York. The excess imports would decrease LBMPs in New York by displacing economic internal generation. Hence, these excess imports are inefficient, although they would tend to benefit New York consumers.
31. In both of the cases above, the additional congestion caused by HQ harms market participants that (i) own counterflow TCCs that sink at the congested Proxy Generator Bus(es) at the Chateauguay Interface or (ii) contract to sell power into New York from the congested Proxy Generator Bus(es) at the Chateauguay Interface. However, these market participants willingly enter into such arrangements. Further, the competitive situation at the HQ Proxy Generator bus is well-known and has been the subject of a number of filings and special tariff rules.
32. It is important to recognize that the NYISO lacks the information necessary to determine whether HQ has scheduled energy transactions from Quebec that were either inefficient or unprofitable. Such an analysis would require detailed information about the cost of production in Quebec that the NYISO does not possess.
33. The extent to which HQ is able to cause congestion at the Chateauguay Interface is limited by the Non-Competitive Proxy Bus Pricing Rule. When there is



congestion on flows into New York at the Chateaugay Interface in the Real-Time Market, the Non-Competitive Proxy Bus Pricing Rule prevents the LBMPs of the affected Proxy Generator Buses from being set below \$0/MW (except when the LBMP in the NYCA is negative due to an internal New York constraint). By preventing HQ from setting negative prices in the Real-Time Market, it also limits the ability of HQ to set negative prices in the Day-Ahead Market. If HQ attempts to cause the Day-Ahead Price to be set at a negative level, other market participants have strong incentives to schedule counterflow transactions because they can be relatively certain that the Real-Time Price will be greater than or equal to \$0/MW regardless of the energy transaction offers scheduled by HQ. Hence, HQ's ability to create artificial congestion in the Day-Ahead and Real-Time market are limited.

34. The analysis of congestion above generally applies to flow limits that bind at the Proxy Generator Buses at the Chataeuquay Interface. However, congestion can also be caused by the ramp rate constraints that are applied to these buses. The ramp constraints limit the rate of change in flows at each Proxy Generator Bus. As a result, congestion may arise at the Proxy Generator Bus even when the Total Transfer Capability is not fully utilized. The effect of the ramp rate constraint on the incentives of HQ is comparable to a Total Transfer Capability constraint at the Chateaugay Interface. If a ramp constraint occurs at a time when the Total Transfer Capability of the interface is not being used, the number of TCCs that HQ must hold to benefit from congestion at the interface is correspondingly reduced.

35. On July 8, 2007 after DC Energy filed its complaint, a binding ramp constraint led to significant congestion at the Chateauguay Wheel-Through Proxy Generator Bus. To reduce the probability of a similar occurrence, the NYISO is in the process of increasing the ramp rate limits at both of the Proxy Generator Buses at the Chateauguay Interface.

### **C. Evaluation of Remedies**

36. DC Energy suggests that remedies are necessary to address the conduct of HQ and similar conduct that might occur in the future. While I do not propose any remedies, I will comment on several remedies that were proposed by DC Energy. First, I recommend against any action that would abrogate or retroactively change the settlement of existing TCCs that were freely entered into. This includes the disgorgement of profits, the refund of losses, or the nullification of existing TCCs. Such remedies would alter the incentives of market participants in future TCC auctions. Market participants would be less certain that TCCs would provide them with a secure congestion hedge.
37. Moreover, there has been no change in circumstances that could not be foreseen by D.C. Energy. Finally, I believe that it is unlikely that the congestion currently prevailing at the HQ interface is inefficiently high given the relatively low-cost hydroelectric resources available to HQ. The conduct by HQ that might be considered less competitive is the conduct that caused the congestion levels to be very low prior to DC Energy's purchase of the counterflow TCCs.

38. Second, I recommend against a suspension of HQ's activity in the TCC market at the Chateauguay Interface. One could argue that its incentives to import power into New York are improved by owning TCCs, although I see reason for them to own a higher quantity of TCCs than the capability of the interfaces.
  
39. This concludes my affidavit.

ATTESTATION

I am the witness identified in the foregoing Affidavit of David B. Patton, Ph.D. dated July 23, 2007 (the "Affidavit"). I have read the Affidavit and am familiar with its contents. The facts set forth therein are true to the best of my knowledge, information, and belief.

/s/ David B. Patton

David B. Patton

July 23, 2007

Subscribed and sworn to before me  
this 23<sup>rd</sup> day of July, 2007

/s/ Sara Elena Contreras Ochoa

Notary Public

My commission expires: 6/30/2008