DEWEY & LEBOEUF

Dewey & LeBoeuf LLP
99 Washington Avenue
Suite 2020
Albany, NY 12210-2820

tel +1 518 626 9311
fax +1 518 626 9010
nmkinsch@dl.com

November 28, 2007

VIA HAND DELIVERY

Honorable Jaclyn A. Brilling
Secretary
New York State Public Service Commission
Three Empire State Plaza
Albany, New York 12223

Re: Case 07-M-0906 - Joint Petition of IBERDROLA, S.A., Energy East Corporation, RGS Energy Group, Inc., Green Acquisition Capital, Inc., New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation for Approval of the Acquisition of Energy East Corporation by IBERDROLA, S.A.

Dear Secretary Brilling:

Pursuant to the October 4, 2007 Procedural Ruling in the above-referenced case, enclosed for filing please find an original and five (5) copies of the Direct Testimony of William H. Hieronymus.

If you have any questions regarding this filing, please contact us.

Respectfully submitted,

Noelle M. Kinsch
Brian T. FitzGerald

NMK:BTF:cd (98413)
Enclosure

cc: Active Parties (via e-mail and, if requested, First Class Mail)
Honorable Rafael A. Epstein
Pedro Azagra Blazquez
Paul K. Connolly, Jr.
Robert E. Rude
David L. Schwartz
Stanley W. Widger, Jr.
Andrew Gansberg

CERTIFICATE OF SERVICE

I hereby certify that I caused an original and five (5) copies of the Direct Testimony of William H. Hieronymus to be served, by hand delivery, upon the Honorable Jaclyn A. Brilling, Secretary to the New York State Public Service Commission.

I have also caused a copy to be served via e-mail on the active parties and a hard copy to be served by regular mail on representatives of the New York State Department of Public Service, the Independent Power Producers of New York, the New York State Consumer Protection Board, Multiple Intervenors and AES Eastern Energy, LP.

Dated this 28th day of November, 2007.

Carol Davis

BEFORE THE
NEW YORK STATE
PUBLIC SERVICE COMMISSION

Joint Petition of IBERDROLA, S.A.,
Energy East Corporation, RGS Energy Group, Inc.,
Green Acquisition Capital, Inc.,
New York State Electric & Gas Corporation and
Rochester Gas and Electric Corporation for
Approval of the Acquisition of
Energy East Corporation by IBERDROLA, S.A.

Case No. 07-M-0906

DIRECT TESTIMONY OF WILLIAM H. HIERONYMUS

William H. Hieronymus

November 28, 2007

DIRECT TESTIMONY OF WILLIAM H. HIERONYMUS

I. INTRODUCTION

Q. Please state your name, address and current position.

A. My name is William H. Hieronymus. I am Vice President of CRA International, Inc., an economic and management consulting firm with offices in various locations in the United States and internationally. My business address is 200 Clarendon St., T-33, Boston, MA 02116.

Q. Please summarize your background.

I am an economist by training and have spent more than 30 years analyzing and working to improve various aspects of the electricity industry. For the past 19 years, I have worked primarily on the restructuring of the electricity industry from a fully regulated to a more competitively oriented model, both in the United States and abroad. Much of my time has been spent on market power issues. I have developed and commented on market power-related regulatory rules and Regional Transmission Organization ("RTO") (or foreign equivalent) tariff provisions on market power mitigation and monitoring as well as on issues of market structure. I have testified before the Federal Energy Regulatory Commission ("FERC") and other regulatory bodies on market power on numerous occasions. This includes a number of mergers and acquisitions over the past dozen years, including more than 20 mergers among electric utilities and "convergence" mergers of electric utilities and natural gas pipelines as well as numerous major acquisitions. My resume is attached hereto as Exhibit WHH-1.

Q. Have you previously testified in other proceedings before the New York State Public Service Commission ("Commission")?

A. Yes. I have testified before the Commission on several occasions in connection with mergers and market power issues.

Q. Have you testified in any other jurisdictions regarding the proposed merger between Iberdrola, S.A. ("Iberdrola") and Energy East Corporation (" Energy East") that is the subject of this proceeding ("Proposed Transaction")?

A. I filed testimony at FERC in connection with the Proposed Transaction.

Q. What is the purpose of your testimony in this proceeding?

A. Almost a decade ago, the Commission expressed certain concerns regarding the affiliation between a transmission owner ("TO") and a generation owner in Case No. 96-E-0900 – *In the Matter of Orange & Rockland Utilities, Inc.'s Plans for Electric Rate Restructuring Pursuant to Opinion 96-12, et al., Statement of Policy Regarding Vertical Market Power,* (July 17, 1998), (the "VMP Policy Statement"). My testimony addresses the Commission's VMP Policy Statement in the context of the Proposed Transaction.

Q. Are you sponsoring any exhibits?

A. Yes. I am sponsoring Exhibits WHH-1, WHH-2, WHH-3 and WHH-4. Exhibit WHH-I is my resume. Exhibit WHH-2 is a map setting forth New York Independent System Operator ("NYISO") zones and transmission constraints. Exhibit WHH -3 summarizes average hourly prices for each NYISO zone for the

period January 2005 through September 2007. Exhibit WHH-4 is a schedule for NYSEG and RG&E generation operations.

Q. Were the materials included in the Exhibits WHH-1 through WHH-4 prepared by you or under your supervision?

A. Yes, they were, although I note that Exhibit WHH-2 is a map published by the New York State Reliability Council, L.L.C. ("NYSRC"), and not an original work by me.

Q. Please describe the organization of the rest of your testimony.

A. Section II provides an Executive Summary. Section III describes the Proposed Transaction. Section IV of my testimony explains the origins of the VMP Policy Statement and discusses subsequent developments in the electric industry. Section V of my testimony discusses why the Proposed Transaction rebuts the VMP Policy Statement's rebuttable presumption. Section VI explains how the Proposed Transaction promotes New York's stated policies on the development of renewable energy.

II. EXECUTIVE SUMMARY

Q. Would you please provide a brief summary of your testimony?

A. I conclude that the relevance of the VMP Policy Statement has been superseded by almost ten years of significant change in the electric industry in New York, and that, in any event, the specific facts of the Proposed Transaction successfully rebut the VMP Policy Statement's rebuttable presumption that ownership of generation by a TO affiliate would unacceptably exacerbate the potential for

vertical market power. I further conclude that vertical market power could not be exercised in these circumstances because New York State Electric & Gas Corporation ("NYSEG") and Rochester Gas and Electric Corporation ("RG&E") do not have the opportunity to exercise market power, and because reasonable means exist to mitigate any market power. Finally, based on other evidence in the record, the Proposed Transaction promotes New York's stated policies on the development of renewable energy.

III. DESCRIPTION OF THE PROPOSED TRANSACTION

Q. Please briefly describe your understanding of the Proposed Transaction.

A. The Proposed Transaction is a stock transaction occurring at the holding company level. On June 25, 2007, Energy East, the ultimate parent of NYSEG and RG&E, Iberdrola and Iberdrola's wholly-owned subsidiary Green Acquisition Capital, Inc. ("Merger Sub") entered into an Agreement and Plan of Merger (the "Merger Agreement"), whereby the acquisition of Energy East by Iberdrola would be accomplished by the merger of Merger Sub with and into Energy East. Energy East will be the surviving corporation and a wholly-owned subsidiary of Iberdrola. NYSEG and RG&E will continue to be wholly-owned subsidiaries of Energy East and will become indirect wholly-owned subsidiaries of Iberdrola.

Q. Given the nature of the Proposed Transaction are there any horizontal market power concerns raised by the Proposed Transaction?

A. No. As set forth in detail in the Affidavit of William H. Hieronymus attached as Exhibit 19 to the Joint Petition (which was also submitted at FERC), the Proposed

Transaction does not raise horizontal market power concerns since it does not involve further consolidation of New York transmission and distribution facilities and has a *de minimis* effect on concentration in the New York generation market.

Q. Does the Proposed Transaction raise vertical market power concerns?

A. No. As I explain in Sections IV and V of this testimony, the Proposed Transaction does not raise vertical market power concerns.

IV. ORIGINS OF THE COMMISSION'S VMP POLICY STATEMENT AND SUBSEQUENT EVENTS

Q. What is the history of the VMP Policy Statement?

A. Almost a decade ago, the Commission expressed certain concerns regarding the affiliation between a TO and a generation owner in Case No. 96-E-0900 – *In the Matter of Orange & Rockland Utilities, Inc.'s Plans for Electric Rate Restructuring Pursuant to Opinion 96-12, et al., Statement of Policy Regarding Vertical Market Power* (July 17, 1998).

Q. What types of vertical market power concerns was the VMP Policy Statement intended to address?

A. The VMP Policy Statement identifies, by example, two types of vertical market power concerns that could potentially arise as a result of such affiliation. First, the VMP Policy Statement notes that a TO may have an incentive to impede the entry of new generation that would compete with its affiliated generation. To that end, Appendix I to the VMP Policy Statement explains that a TO may attempt to delay the interconnection process or impose unreasonable interconnection requirements on an unaffiliated generator. Second, the VMP Policy Statement

notes that a TO's affiliation with generation on the high-price side of a constrained interface could give the TO an incentive to take steps to maintain or exacerbate the constraint. In particular, the VMP Policy Statement suggests that a TO could refuse to construct, or delay construction of, new transmission facilities so as to maintain high prices on the high-price side of the constraint where its affiliated generation is located. The VMP Policy Statement further suggests that a TO may have an incentive to operate its transmission facilities in a manner that increases the frequency of constrained conditions.

Q. Does the VMP Policy Statement create an absolute prohibition to a TO acquiring or being affiliated with generation in New York State?

A. No. The Commission concluded in the VMP Policy Statement only that "a rebuttable presumption will exist for purposes of [its] Section 70 review of the transfer of generation assets, that ownership of generation by a [TO] affiliate would unacceptably exacerbate the potential for vertical market power." The Commission also concluded that this presumption could be overcome upon a demonstration "that vertical market power could not be exercised because the circumstances do not give the [TO] an opportunity to exercise market power, or because reasonable means exist to mitigate market power."

Q. Were TOs required to divest generation in New York?

A. No. As Staff Witness Thomas D'Ambrosia testified in a prior proceeding, the Commission never attempted to require utilities to divest generation. Case 03-E-0765 – *Proceeding on Motion of the Commission as to the Rates, Charges, Rules*

and Regulations of Rochester Gas and Electric Corporation for Electric Service; Case 03-G-0766 – Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Rochester Gas and Electric Corporation for Gas Service, Tr. 2763 and 2974 (Feb. 19, 2004).

Q. To your knowledge, has the VMP Policy Statement been adopted by the Commission as a formal regulation?

A. No. It is my understanding that it is a policy statement of the Commission rather than a formal regulation.

Q. What were market conditions like at the time the Commission issued the VMP Policy Statement?

A. The VMP Policy Statement was drafted almost ten years ago, shortly after the Commission's orders establishing a framework for a competitive electric market. At that time, the Commission was addressing utility restructuring plans, several of the utilities were in the process of implementing plans to divest regulated generation, competitive electricity markets in New York had not yet formed, the NYISO was not yet operational, and there were no standardized interconnection requirements or standards of conduct for transmission providers in place. In the face of the then-existing high level of uncertainty regarding the future structure and effectiveness of the electric industry in New York, my understanding is that the Commission viewed a presumption in favor of divestiture as a way to diminish incentives to abuse market power.

Q. How do the market conditions today differ from those that existed when the VMP Policy Statement was first issued?

A. In almost a decade since the VMP Policy Statement was issued, the New York electric industry has changed dramatically. Many if not most of the market related uncertainties and opportunities for TOs to exercise vertical market power that formed the rationale for the VMP Policy Statement no longer exist, are mitigated or, at a minimum, are far better understood today. Given the numerous and significant economic and regulatory developments in the New York electric market since 1998, the VMP Policy Statement is now substantially outdated.

Q. Is it necessary for the VMP Policy Statement to be revoked or modified for the Proposed Transaction to proceed?

A. No. While I believe that the VMP Policy Statement is outdated and should not be applied to the Proposed Transaction, as my testimony demonstrates, the rebuttable presumption under the existing VMP Policy Statement is overcome by the Proposed Transaction.

V. VMP POLICY STATEMENT'S REBUTTABLE PRESUMPTION

Q. Does the Proposed Transaction rebut the presumption in the VMP Policy Statement that a TO's affiliation with generation "unacceptably exacerbates the potential for vertical market power"?

A. Yes. The VMP Policy Statement's presumption that a TO's affiliation with generation "unacceptably exacerbates the potential for vertical market power" is,

with respect to the Proposed Transaction, either inapplicable or is rebutted for the following reasons: 1) affiliates of Iberdrola currently own, and plan to construct, only *de minimis* amounts of generation in New York State; 2) all of this affiliated generation consists of intermittent wind power projects; 3) none of this affiliated wind generation would be located in the NYSEG or RG&E service territories; 4) all of this affiliated wind generation would be located on the low-price, unconstrained side of the Central-East transmission constraint; 5) RG&E and NYSEG would not otherwise be able to influence congestion; 6) the Proposed Transaction does not change the generation already owned by RG&E and NYSEG, and therefore, existing RG&E and NYSEG generation should be excluded from this analysis; 7) measures implemented by FERC relating to open access transmission, standardized interconnection procedures and standards of conduct eliminate any potential vertical market power concerns; 8) NYISO effectively controls all of the functions giving rise to the Commission's vertical market power concerns, including transmission system dispatch and generation redispatch, transmission planning and generation interconnection procedures; and 9) Iberdrola's wind generation promotes New York's stated policies in favor of renewable energy development.

Q. How much intermittent wind generation does Iberdrola currently own in New York State?

A. The amount of generation controlled by Iberdrola in New York State is very small and is available only on an intermittent basis. Therefore, the theoretical economic

incentive for NYSEG or RG&E to create, maintain or worsen transmission constraints to increase location-based marginal prices ("LBMPs") at the Iberdrola wind generators' locations, or to increase their capacity value, is, at most, *de minimis*. Even if NYSEG or RG&E had such an incentive (which they do not), numerous protections, processes and oversight mechanisms in place at NYISO and FERC substantially mitigate and, indeed, effectively eliminate their opportunity to exercise market power. Moreover, as Iberdrola cannot generally control when its wind facilities operate (except with respect to scheduling outages), such generation could not be used to affect transmission constraints.

Q. Can you be more specific about Iberdrola's current interest in operating generating facilities in New York?

A. Iberdrola's sole current interest in operating generating facilities in New York is an indirect 50% interest in the Maple Ridge wind farm in Lewis County, which has a nameplate rating of 321.8 MW. The remaining 50% interest in the Maple Ridge wind farm is held by Horizon Wind Energy, which is owned by Energías de Portugal, S.A. ("EDP"). Iberdrola, through its wholly-owned subsidiary IBERDROLA Portugal Electricidade e Gas, S.A., holds a 9.5% equity interest in EDP, but does not exercise voting rights associated with more than 5% of EDP's share capital. Iberdrola does not have any directors on EDP's board, and does not otherwise participate in EDP's management. Thus, it is appropriate to consider Iberdrola's ownership interest in operating generating facilities in New York as 160.9 MW, which is 50% of the nameplate rating of the Maple Ridge wind farm.

Its only pre-operational generation project in New York that has been substantially developed is the Jordanville wind farm in Herkimer County, which is scheduled to be completed in 2009 and will have a nameplate rating of 98 MW.

Q. Are Iberdrola's affiliates in the process of developing any additional generation projects?

A. Yes. Iberdrola's affiliates are in the process of developing the following generation projects that are in the NYISO interconnection queue: (i) the Hardscrabble wind farm in Herkimer County, rated at 80 MW, that is currently scheduled to come on line between 2008 and 2010; (ii) the Horse Creek wind farm in Jefferson County, rated at 126 MW, that is currently scheduled to come on line between 2008 and 2012; (iii) the Roaring Brook wind farm in Lewis County, rated at 80 MW, that is currently scheduled to come on line between 2009 and 2012; and (iv) the Dutch Gap wind farm in Jefferson County, rated at 250 MW, that is currently scheduled to come on line between 2010 and 2012. Taking into account all of these planned projects, Iberdrola's interest in generation in New York would only be approximately 795 MW of nameplate capacity.

Q. Is it likely that all of the planned Iberdrola generation will actually be constructed?

A. Not necessarily. It is not certain whether any of the projects other than Maple Ridge (which is the only Iberdrola project in New York that is operational) and Jordanville (which is scheduled to be completed in 2009) should even be taken

into account in evaluating the Proposed Transaction's potential vertical market impact as the completion of these projects is speculative at this point. Whether or not any of these projects will actually be constructed will be determined by a number of factors, including market conditions, regulatory approvals, available financing, *etc*. There are approximately 7,000 MW of wind projects in the NYISO interconnection queue, many of which will never be constructed. According to the NYISO interconnection queue documents, of the more than 250 interconnection requests since 1999, few projects have actually been placed in service, and more than 100 projects have been withdrawn.

Q. What is the significance of Iberdrola's planned capacity being all wind-powered?

A. The fact that all of Iberdrola's planned capacity in New York State is wind-powered has several implications when evaluating the potential for the exercise of vertical market power resulting from the Proposed Transaction. First, the nameplate ratings of Iberdrola's planned wind projects substantially overstate their fossil-equivalent generation capability. Wind power is energy-limited and typically has a maximum capacity factor (*i.e.*, average availability) of only about 30%. Therefore, the fossil-equivalent energy production capability of Iberdrola's operating and substantially completed generation in New York (*i.e.*, the Maple Ridge and Jordanville projects) is only about 77.7 MW, which is approximately 30% of the 259 MW of existing and substantially completed wind generation of Iberdrola in New York State. Hence, the theoretical incentive of NYSEG and RG&E to manipulate transmission to increase LBMPs at the Iberdrola wind

generators' locations would be far less than the already *de minimis* nameplate capacity of the Iberdrola generation suggests.

Q. Are Iberdrola's wind projects located in load pockets?

A. No. Iberdrola's wind projects are not located in load pockets, unlike the affiliated generation owned by certain other TOs in New York. For example, Consolidated Edison of New York and the New York Power Authority are TOs that also own or control generation within New York City, a load pocket with significant internal constraints.

Q. Do Iberdrola's wind projects have considerable capacity value?

A. No. As a result of the intermittent and unpredictable nature of wind power, Iberdrola's wind projects have little capacity value. Currently, the default capacity value of wind generation in NYISO is 10% of a project's rated capacity in summer and 30% in winter. This means that the maximum amount that Iberdrola could potentially sell into NYISO's unforced capacity ("UCAP") market, based on summer ratings, is only approximately 25.9 MW from Maple Ridge and Jordanville, and only approximately 79.5 MW from all of its existing and planned generation together. Thus, as with energy, there is very little (if not zero) economic incentive for NYSEG, RG&E and Iberdrola to affect transmission constraints in order to increase the value of capacity for this *de minimis* amount of generation. Under current capacity market rules, the economic incentive is zero. Since the supply of UCAP in the relevant geographic market is a function solely of the amount of installed capacity and its forced outage rates (*i.e.*, transmission

constraints neither define the market nor affect the quantity of supply), there is no vertical issue arising from the UCAP market.

Q. Are there other consequences resulting from the nature of Iberdrola's generation?

A. Another consequence of the unpredictable and intermittent nature of Iberdrola's generation is that electric energy from these wind projects cannot reasonably be sold in NYISO's day-ahead market, in which the substantial majority of New York electricity is bought and sold. If a wind generator were to sell into the day-ahead energy market, it would have to assume the risk of paying the unpredictable real-time price to cover the financially firm energy that it sold in the day-ahead market in the quite common event that it cannot produce the committed energy (*i.e.*, if the wind is not sufficient to run its turbines). Instead, wind projects must participate in NYISO's much smaller real-time market, meaning that Iberdrola's generation can have no impact on day-ahead prices. Therefore, a hypothetical strategy of creating, maintaining or enhancing transmission constraints tailored to the market in which Iberdrola's generation is sold (*e.g.*, sudden forced outages occurring after the day-ahead market closes) would have, at most, a minor impact on prices paid by New York consumers.

Q. What is the significance of zero fuel costs for wind powered generation?

A. As Iberdrola's projects are all wind-powered units, they have zero fuel costs. For this reason, it would be economically costly, and thus irrational and self-defeating, to withhold wind-powered energy from the real time market. Indeed, wind resources are typically bid into energy markets as a price taker to ensure that

they are dispatched when capable of producing energy. Hence, Iberdrola's generation would be ill-suited for the exercise of market power – either directly through affecting LBMPs by bidding strategy, or indirectly through impacting transmission constraints.

Q. Is there a theoretical possibility that Iberdrola's ownership of generation could increase the capability of creating transmission constraints?

A. No. While not addressed in the Commission's VMP Policy Statement, there is at least a theoretical possibility that owning generation could increase the capability of creating transmission constraints. Generation with a significant shift factor against a constrainable transmission element could affect constraints. However, the most common concern of this type is that a low cost resource on the inside of a constrainable interface could cause the constraint to bind by not running when it is in merit. This concern is not valid with respect to the Proposed Transaction as both Iberdrola's existing and planned generation – as well as the existing RG&E and NYSEG generation – is on the low-price side of the constraint, and does not have a shift factor with the sign or magnitude to be of concern.

Q. Can NYSEG and RG&E create, maintain or worsen transmission constraints in New York to benefit Iberdrola's generation located in a constrained area?

A. No. None of Iberdrola's existing or planned generation is located in a constrained area. Moreover, NYSEG and RG&E cannot create, maintain or worsen relevant transmission constraints in New York. As described by the NYISO Market Monitor in its 2006 State of the Market Report, one of the most important

constraints in New York is the Central-East constraint. All of Iberdrola's existing and planned generation is located in Zone E in central New York. A map setting forth NYISO zones and transmission constraints is set forth in Exhibit WHH-2. These projects are on the low-price side of the Central-East constraint and remote from other constrained areas in Eastern and Southeastern New York. Iberdrola's lack of generation inside of these constrained areas means that it cannot benefit from higher LBMPs that a TO controlling key elements of constrained interfaces could hypothetically cause. This means that, after the Proposed Transaction occurs, NYSEG and RG&E will have no incentive to maintain or worsen these known constraints to benefit Iberdrola's existing or planned generation since such generation is not located on the high-price side of these constraints.

Q. Given the location of Iberdrola's generation, does Iberdrola's proposed affiliation with NYSEG and RG&E fit the VMP Policy Statement facts and circumstances?

A. No. In particular, the concern raised in the VMP Policy Statement was that affiliation with generation on the high-price, constrained side of a constraint could give a TO capable of affecting the constraint an incentive to increase its frequency or severity so as "to retain the constraint to keep the market price high on the high cost side of the constraint." Since Iberdrola's existing and planned generation is on the low-price, unconstrained side of the Central-East constraint, the Commission's concerns are not present with respect to the proposed affiliation between Iberdrola and Energy East's TOs in New York. Even if the Commission were to determine that its rebuttable presumption with respect to the ownership of

generation by a TO affiliate continues to apply generally, it is overcome by the specific facts here.

Q. Do NYSEG or RG&E transmission facilities have the potential to be constraining elements of the Central-East interface or any other constraints further east and southeast of Central-East?

A. Neither NYSEG nor RG&E owns or maintains the transmission facilities that have the potential to be constraining elements of the Central-East interface, or any facilities relevant to constraints further east and southeast of Central-East. RG&E's transmission is all in Zone B; indeed, it is RG&E's service territory that defines Zone B. NYSEG's transmission system is significantly larger and less compact, with small areas in Zone A, the southern parts of Zones C and E, all of Zone D and small pockets of Zones F and H. All of Iberdrola's existing and planned generation facilities are in the northern part of Zone E.

Q. In what manner is the location of NYSEG and RGE's transmission systems relevant to a vertical market power analysis?

A. As an initial matter, it is clear that NYSEG's transmission facilities in Zones F and H are not relevant to vertical concerns, since Iberdrola's generation is on the low-price side of any constraints in these zones. Moreover, even if NYSEG and RG&E had any real economic incentive to affect these existing constraints (which they do not), they also lack the ability to do so. Therefore, the relevant vertical market inquiry is whether RG&E's and NYSEG's transmission facilities in Zones A through E comprise all or parts of a transmission constraint that can be

manipulated to increase LBMPs in the northern part of Zone E, where Iberdrola's generation is located. In order for this to be a concern, it would be necessary (but not sufficient) for Zone E to be on the high-price side of such constraint relative to NYSEG's and RG&E's transmission facilities. If this is the case, it would have to be true that the LBMPs in Zone E are higher than in areas on the other side of such transmission facilities. Hourly LBMPs for each zone are available on the NYISO website. The available data include the LBMP itself, as well as those portions of the LBMP that are attributable to marginal losses and congestion. If there are no material amounts of congestion (and hence no material congestion costs) within the zones in which the relevant transmission assets are located (*i.e.*, the "West super-zone"), there can be no valid concern that, in the words of the VMP Policy Statement, the TO "has the incentive to retain the constraint to keep the market price high on the high cost side of the constraint."

Q. Have you prepared a summary of the average hourly prices that illustrates this point?

A. Yes. Attached as Exhibit WHH-3 is a table that summarizes average hourly prices for each NYISO zone for the period January 2005 through September 2007.

Q. Why is Exhibit WHH-3 relevant?

A. As shown in the column labeled "LBMP," there is a significant price gradient across the West super-zone. However, this gradient is almost entirely a result of marginal losses, not congestion. This conclusion can be confirmed by looking at

the column labeled "LBMP minus Losses." The gradient of loss-adjusted LBMPs is very small, indicating that congestion has little impact on prices within the West super-zone. This conclusion can be confirmed directly by looking at the "Congestion" column. Congestion is slightly negative in Zones A, B and D (indicating that low cost generation is sometimes bottled in) and equivalently slightly positive in Zones C and E. Congestion in Zone E, where Iberdrola's generation is located, averages only $0.30 per MWh, less than half of a percent of the average price. The congestion spread between the Zone A, with the largest negative congestion cost, and Zone E is only about $0.60/MWh, or about 1% of the average LBMPs.

Q. Is the amount of congestion within the West super-zone that Iberdrola's generation hypothetically could influence quite small?

A. Yes. The truly minor amount of congestion within the West super-zone can be observed by contrasting it with congestion in the eastern zones. Crossing the Central-East constraint from Zone E into Zone F increases congestion cost by an order of magnitude, from $0.30/MWh to $3.40/MWh. Congestion cost then increases gradually toward the southeastern part of New York, rising to over $5.00/MWh in Zones H and I. It then jumps to $11.50 in Zone J (New York City) and $21.30 in Zone K (Long Island). Thus, there are valid concerns about congestion across the Central-East constraint and perhaps southward in the East super-region. Clearly, there are valid congestion concerns about the in-City and Long Island load pockets. Conversely, there is little congestion in the West

super-region containing Iberdrola's generation that hypothetically might be influenced by actions of RG&E and NYSEG.

Q. How else have you confirmed that RG&E and NYSEG are unable to create congestion that would favorably affect Iberdrola's generation?

A. First, it is worth noting that the upstate region is a "generation pocket", *i.e.,* there is insufficient transfer capability to export from a lower-priced region to a higher-priced region. Zones A through E contain almost 15,000 MW of generation (summer rating). The forecast summer peak for 2007 for these zones was only about 10,000 MW. RG&E's and NYSEG's inability to create congestion favorably affecting Iberdrola's generation can be further confirmed by reviewing NYISO data on congestion associated with individual lines for which they are the TO. RG&E and NYSEG own a small share of the lines that comprise the Total East constraint and outages on these lines can reduce the transfer capability on the interface. However, the effect of such an outage, or reduction in transfer capability, is to cause prices in the west and east to separate more frequently than if no such outages occur. Price separation between these two regions lowers, rather than raises, prices on the low-side of the constraint where the Energy East and Iberdrola generation is located.

Q. Please identify NYSEG and RG&E's generation operations.

A. NYSEG and RG&E's generation operations are set forth in my Exhibit WHH-4.

Q. Should this existing generation owned by NYSEG and RG&E be taken into account as part of a reasonable vertical market power analysis?

A. No. The existing generation assets of NYSEG and RG&E are not relevant for purposes of evaluating any vertical market power concerns resulting from the Proposed Transaction as they are not being transferred as part of the merger.

Q. Why else should the existing generation assets of NYSEG and RG&E be irrelevant for purposes of evaluating any vertical market power concerns resulting from the Proposed Transaction?

A. NYSEG's and RG&E's approximately 351 MW of existing generation is rate regulated. Both NYSEG and RG&E flow the market revenues earned from these resources back to their customers through the non-bypassable charge ("NBC"). At NYSEG, the NBC is subject to an annual true-up, providing no opportunity for NYSEG to profit from changes in the market price. Through 2008, RG&E could theoretically benefit by roughly 20% of any change in the market revenues earned by its resources; however, this incentive would further be shared 50/50 with customers (*i.e.*, RG&E's share would only be 10%). As a result of these mechanisms, NYSEG and RG&E would have little or no opportunity to profit from market sales from their existing generation.

Q. How have the concerns about a TO's opportunity to exercise vertical market power raised by the Commission almost a decade ago in the VMP Policy Statement been mitigated by subsequent regulatory developments?

A. When issuing its VMP Policy Statement in 1998, the Commission dismissed arguments raised by certain utilities that the NYISO and FERC would have sufficient control over the New York TOs to prevent the exercise of vertical

market power. At that time, the Commission observed that the degree to which the NYISO and FERC regulatory controls and enforcement mechanisms could be exercised to address the issue of vertical market power was "subject to debate." Indeed, as shown in *Central Hudson Gas & Electric Corp.*, 83 FERC ¶ 61,352 (1998), *order on reh'g*, 87 FERC ¶ 61,135 (1999), when the Commission issued its VMP Policy Statement in 1998, NYISO had only recently been conditionally established by FERC and was not yet fully operational (as shown in *Central Hudson Gas & Electric Corp.*, 86 FERC ¶ 61,062 (1999), *order on reh'g*, 88 FERC ¶ 61,138 (1999)). In addition, FERC had not yet accepted NYISO's Open Access Transmission Tariff ("OATT") or market rules. As my testimony illustrates, the concerns raised by the Commission in its VMP Policy Statement relating to these uncertainties of the New York electric industry have since been fully mitigated by subsequent regulatory developments at FERC and the NYISO.

Q. What is the importance of the NYISO OATT and the Agreement between NYISO and Transmission Owners ("NYISO/TO Agreement") to any vertical market power analysis?

A. The NYISO did not officially commence operations under its OATT and Market Administration and Control Area Services Tariff ("NYISO Services Tariff") until November 18, 1999. Pursuant to its OATT, NYISO offers open access to its transmission system to all market participants on a non-discriminatory basis. In particular, NYISO regulates the following operations pursuant to its OATT: (i) transmission dispatch; (ii) generation redispatch; (iii) curtailment; and (iv)

transmission line ratings (which might affect the amount of congestion). Additionally, all planning for new transmission required by the NYISO system is controlled by NYISO. In sum, while NYSEG and RG&E own their respective transmission assets, they have little of the operational discretion that they had over those assets when the VMP Policy Statement was issued. Indeed, Appendix I of the VMP Policy Statement suggests that satisfactory market power mitigation measures include "limitation on the degree of control over the constraining transmission interface held by the T&D utility." Under the current framework, it is difficult to conceive of any further limitation on NYSEG and RG&E given the high degree of NYISO control that has evolved since the VMP Policy Statement was written. Thus, even if NYSEG and RG&E had the incentive to reduce transmission availability in order to benefit an affiliated generator (which they do not), their ability to do so would be at most marginal because they have minimal control over their transmission assets.

Q. What was the NYISO OATT based upon?

A. The NYISO's OATT is based on FERC's pro forma OATT, was approved by FERC in *Central Hudson Gas & Electric Corp.*, 86 FERC ¶ 61,062 (1999), *order on reh'g*, 88 FERC ¶ 61,138 (1999) (conditionally accepting the NYISO OATT) and is regularly updated in compliance with FERC orders. FERC recently issued *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 118 FERC ¶ 61,119 (Feb. 16, 2007), in order to further reduce opportunities for the exercise of undue discrimination in its pro forma OATT,

make undue discrimination easier to detect, and further facilitate FERC enforcement. Accordingly, FERC's extensive oversight of NYISO's OATT and the activities thereunder offer an additional level of protection against the exercise of vertical market power.

Q. Can you identify and describe other limitations on operational control of lines and outage scheduling practices?

A. Yes. The NYISO/TO Agreement also contains provisions governing the operational control of lines and outage scheduling practices. Under Article 2.01 of the NYISO/TO Agreement, TOs have specified facilities over which NYISO has day-to-day operational control ("Transmission Facilities under ISO Operation Control" or "A1 List") and facilities that require TO notification to NYISO regarding actions related to these facilities ("Transmission Facilities Requiring ISO Notification" or "A2 List"). I understand that NYSEG and RG&E have placed all critical facilities, including those facilities that connect existing generation to the system, on these designated facilities lists. Article 2.02 of the NYISO/TO Agreement requires that "each Transmission Owner shall operate and maintain its facilities that are designated as Transmission Facilities Under ISO Control and Transmission Facilities Requiring ISO Notification in accordance with the terms of this Agreement and in accordance with all Reliability Rules and all other applicable operating instructions and ISO procedures."

Q. What other provisions of the NYISO/TO Agreement relating to scheduling maintenance or outages reduce TO operational control of transmission?

A. Article 2.08 of the NYISO/TO Agreement states: "Transmission Owners shall schedule maintenance of their facilities designated as Transmission Facilities Under ISO Operational Control and schedule any outages (other than forced transmission outages) of said transmission system facilities in accordance with outage schedules approved by the ISO. The Transmission Owners shall comply with maintenance coordinated by the ISO, pursuant to this Agreement, for Transmission Facilities Under ISO Operations Control. Each Transmission Owner shall be responsible for providing notification of maintenance schedules to the ISO for Facilities Requiring ISO Notification." The NYISO Outage Scheduling Manual also provides that NYISO will coordinate all requests for transmission outages based on their potential to impact system reliability. This evaluation considers outage impacts on system transfer capability which is directly related to market impacts and system congestion associated with transmission outages.

Q. What is the NYISO's Open Access Same-time Information System ("OASIS")?

A. NYISO maintains OASIS where it posts outage schedules, actual outage execution timelines, and the associated impacts of said outages on system transfer capability. To ensure that NYISO does not favor a particular market participant as a result of its maintenance schedule coordination practices and procedures, all criteria, procedures and implementation practices must be specific and available to market participants for audit.

Q. Are you aware of any FERC orders that relate to OATT reform?

A. As I testified previously, FERC issued Order No. 890 to implement OATT reform in *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 118 FERC ¶ 61,119 (Feb. 16, 2007). Key provisions of the revised OATT are aimed at system planning practices. In addition to FERC's previous focus on ISO-directed reliability planning, the new OATT adds requirements for economic planning with a goal of identifying and implementing projects to reduce or eliminate system congestion. The changes to the OATT further require increased visibility and market participant input on TO local planning activities that take place within the ISO planning processes.

Q. Please briefly summarize the impact of NYISO's general oversight of the New York transmission system on vertical market power concerns relating to the proposed transaction.

A. NYISO's general oversight includes the above-referenced NYISO requirements, protocols, safeguards and practices that mitigate and, indeed, eliminate, any potential ability of NYSEG and RG&E to exercise vertical market power or discriminate in favor of affiliated generation interests.

Q. What is the impact of NYISO's standardized interconnection procedures?

A. In the VMP Policy Statement, the Commission expressed concern that ownership of generation "located in the same market as the T&D company" could give the TO an incentive to impede entry, "by either delaying or imposing unrealistic interconnection requirements and thereby raising prices in the region." However, since the initial inception of NYISO, all of its interconnection procedures and

agreements have become standardized to prevent any attempts at such discriminatory treatment. In *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, 104 FERC ¶ 61,103 (2003), *order on reh'g*, Order No. 2002-A, 106 FERC ¶ 61,220 (2004), *order on reh'g*, Order No. 2003-C, 109 FERC ¶ 61,287 (2004), *order on reh'g*, Order No. 2003-C, 111 FERC ¶ 61,401 (2005), and the series of related orders ("Order No. 2003"), FERC required all RTOs, including NYISO, to adopt standard procedures and agreements for interconnecting with large generators in order to achieve additional transparency and to prevent transmission owners from favoring affiliated generators in the interconnection process. Among other things, FERC's Order No. 2003 (*see* Order No. 2003, 104 FERC ¶ 61,103 at P 35; *see also New York Independent System Operator, Inc. and New York Transmission Owners*, 108 FERC ¶ 61,159 at P 6 (2004)), mandated that NYISO control the interconnection application processes and procedures, and specified certain cost allocation methods for interconnection costs. Additionally, pursuant to FERC's Order No. 2003 (Order No. 2003, 104 FERC ¶ 61,103 at P 36; *New York Independent System Operator, Inc. and New York Transmission Owners*, 108 FERC ¶ 61,159 at P 7 (2004)), NYISO conducts all reliability-related studies during the interconnection process. FERC also accepted in *New York Independent System Operator, Inc. and New York Transmission Owners*, 108 FERC ¶ 61,159 (2004), the NYISO's Standard Large Facility Interconnection Procedures ("LFIP") and Large Facility Interconnection Agreement ("LFIA") as

Attachment X to the NYISO OATT. Pursuant to NYISO OATT, Attachment X, § 2.2 of the LFIP, NYISO "receives, processes and analyzes all Interconnection Requests ... with independence and impartiality." Accordingly, NYISO's LFIP and LFIA adopted pursuant to Order No. 2003 further ensure that TOs are not able to exercise vertical market power by favoring affiliated generators in the interconnection process. Regardless of whether a generator is affiliated or unaffiliated with a TO, the generator must participate in the same System Reliability Impact Study and Facilities Study, led by NYISO, as well enter into a final three-party Interconnection Agreement with NYISO based upon the same LFIA. The final Annual Transmission Reliability Assessment must comport with NYISO's requirements under Attachment S to the NYISO Services tariff. Thus, the LFIP and LFIA make it effectively impossible for a TO to favor its generation affiliates.

Q. How does the NYISO's market monitoring program impact vertical market power concerns?

A. Any abuse or exercise of vertical market power is further discouraged by NYISO's market monitoring function and FERC's remedies. NYISO employs a robust market monitoring program utilizing an in-house market monitoring unit as well as an Independent Market Advisor. NYISO's market power mitigation measures, which are codified in Attachment H of the NYISO Services Tariff, are designed to provide NYISO with the ability to mitigate market effects of any conduct that would substantially distort competitive market outcomes in NYISO-

administered markets. If NYISO determines that additional mitigation measures are necessary, it may file with FERC for approval to implement any such measures. Attachment H also provides NYISO with the ability to impose financial penalties for parties that engage in physical withholding. These penalties are designed to negate the impacts on market price that result from the exercise of market power.

Q. What authority does FERC have to enforce civil penalties?

A. In enacting the Energy Policy Act of 2005, Congress granted FERC significant additional authority to institute civil penalties. FERC has established an Office of Enforcement and is able to levy civil penalties of up to $1 million per violation for each day that the violation continues. Furthermore, pursuant to the Federal Power Act § 316A, 16 U.S.C. § 825o-1 (2001), FERC has the authority to refer matters to the Department of Justice for criminal prosecution. Accordingly, NYISO's market monitoring program and FERC's enforcement authority effectively eliminate the ability by Iberdrola and Energy East to distort competitive markets through an exercise of vertical market power.

Q. Does FERC have Standards of Conduct and, if so, why are they relevant?

A. In *Standards of Conduct for Transmission Providers*, Order No. 2004, FERC Stats. & Regs. ¶ 31,155 (2003), Order No. 2004-A, FERC Stats. & Regs. ¶ 31,161 (2004), Order No. 2004-B, FERC Stats. & Regs. ¶ 31,166 (2004), Order No. 2004-C, 109 FERC ¶ 61,325 (2004) and a series of related orders (together, "Order No. 2004"), FERC issued certain "Standards of Conduct for Transmission

Providers" ("Standards of Conduct") that govern the relationship between public utility transmission providers (including the New York TOs) and their generation affiliates. The Standards of Conduct offer additional protections against the potential exercise of vertical market power by NYSEG and RG&E with respect to Iberdrola's generation resources. In particular, pursuant to Order No. 2004, a transmission provider's employees engaged in transmission system operations must function independently from the employees of its generation affiliates. Furthermore, a transmission provider must treat all of its transmission customers (whether affiliated or unaffiliated) on a non-discriminatory basis, and must not operate its transmission system to benefit preferentially its generation affiliates.

Q. What are some other protections against the potential exercise of vertical market power by a New York TO?

A. NYISO's complete independence from Market Participants in New York offers further protection against the potential exercise of vertical market power by any TO. NYISO is a wholly-independent, non-profit corporation governed by a 10-member Board of Directors. The NYISO Board represents a broad spectrum of expertise, with Board members from the power industry, environmental organizations, and the fields of finance, academia, technology, and communications. The members of the NYISO Board, as well as all of its employees, are completely independent and have no business, financial, operating or other direct relationship to any Market Participant or other stakeholder. NYISO is also managed by three standing committees comprised of individuals from five

major sectors of the marketplace: TOs, generation owners, other suppliers, end-used customers, and public power and environmental parties. Thus, there is no opportunity for any TO (or any group of affiliated TOs) to exert undue influence over the NYISO governance process.

VI. THE PROPOSED TRANSACTION PROMOTES NEW YORK'S POLICIES ON THE DEVELOPMENT OF RENEWABLE RESOURCES

Q. How does Iberdrola's expertise and focus on wind generation provide ratepayer benefits?

A. This has been addressed in the Direct Testimony of the Benefits and Public Interest Panel submitted in this proceeding on August 1, 2007 (the "Benefits Testimony"). As described there, Iberdrola's expertise in and commitment to renewable generation development in New York State, when combined with the other valuable benefits of the Proposed Transaction, will result in "substantial ratepayer benefits" that should be sufficient to more than offset the at most trivial amount of vertical market power that hypothetically could be exercised. Iberdrola's focus on wind power development promotes New York's stated policies with respect to the development of renewable resources in New York. The State's 2002 Energy Plan warned of the possible consequences of New York's heavy dependence on fossil fuel, noting that the State's fossil fuel sources (*i.e.*, gas, coal and oil) are largely imported from abroad or out-of-state, have significant long-term negative environmental impacts, and ultimately face depletion. At the request of Governor George Pataki, the Commission began to explore the development of a Renewable Portfolio Standard ("RPS") in 2003. On

September 24, 2004, in its *Case 03-E-0188 – Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard* (issued and effective Sept. 24, 2004), the Commission voted to adopt an RPS, codifying the goal of increasing the proportion of renewable electricity used by New York consumers to at least 25% by 2013. The Commission noted the following primary benefits expected from implementing the RPS Program: (i) diversifying the generation resource mix to improve energy security and independence; (ii) attracting the economic benefits from renewable resource generators, manufacturers, and installers to the State; and (iii) improving New York's environment by reducing air emissions and other adverse environmental impacts of electricity generation.

Q. Are you aware of any recent gubernatorial statements of State policy highlighting the benefits associated with renewable generation resources?

A. Yes. On April 19, 2007, Governor Eliot Spitzer announced the "15 x 15" clean energy strategy to reduce the State's electricity consumption by 15% from forecasted levels by 2015. This strategy establishes the most aggressive energy conservation target in the nation. This decrease in demand will be achieved by (1) decoupling utilities' profits from the amount of energy being consumed; (2) strengthening efficiency standards in energy-intensive appliances; and (3) making the State government, by far the largest energy consumer in the State, more efficient. Governor Spitzer pointed out the State government's special role in the new strategy: "Likewise, if government buys wind power, we drive the

technology market for wind generators. By embracing ambitious energy efficiency standards and renewable energy goals throughout State government, we will catalyze the growth of the clean power industry." The "15 x 15" strategy also calls for the State to implement a new power plant siting law, which will fast-track only clean power plant proposals, *i.e.*, those with low or no emissions. Accordingly, Iberdrola's focus on the development of renewable generation in New York will help to satisfy New York's RPS goals, and will offer environmental benefits to New York ratepayers.

Q. Has the Commission also recently stated its support for renewable energy?

A. Yes. Chairwoman Patricia L. Acampora stated in a November 13, 2007 presentation to Lehman Brothers in Anaheim, California, that one of the Commission's top five priorities for the coming year is the "continuing implementation of the goals of the Renewable Portfolio Standard designed to increase to at least 25 percent by 2013 the electricity sold in New York State from renewable resources."

Q. Does this complete your testimony?

A. Yes, it does.

Exhibit WHH-1

WILLIAM H. HIERONYMUS

Vice President

Ph.D. Economics
University of Michigan

M.A. Economics
University of Michigan

B.A. Social Science
University of Iowa

William Hieronymus has consulted extensively to managements of electricity and gas companies, their counsel, regulators, and policymakers. His principal areas of concentration are the structure and regulation of network utilities and associated management, policy, and regulatory issues. Dr. Hieronymus has spent the last seventeen years working on the restructuring and privatization of utility systems in the U.S. and internationally. In this context he has assisted the managements of energy companies on corporate and regulatory strategy, particularly relating to asset acquisition and divestiture. He has testified extensively on regulatory policy issues and on market power issues related to mergers and acquisitions. In his thirty years of consulting to this sector, he also has performed a number of more specific functional tasks, including analyzing potential investments; assisting in negotiation of power contracts, tariff formation, demand forecasting, and fuels market forecasting. Dr. Hieronymus has testified frequently on behalf of energy sector clients before regulatory bodies, federal courts, and legislative bodies in the United States the United Kingdom and Australia.

EXPERIENCE

Electricity Sector Structure, Regulation, And Related Management And Planning Issues

U.S. Market Restructuring Assignments

- Dr. Hieronymus serves as an advisor to the senior executives of electric utilities on restructuring and related regulatory issues, and he has worked with senior management in developing strategies for shaping and adapting to the emerging competitive market in electricity. Related to some of these assignments, he has testified before state agencies on regulatory policies and on contract and asset valuation.

- For utilities seeking merger approval, Dr. Hieronymus has prepared and testified to market power analyses at FERC and before state commissions. He also has assisted in discussions with the Antitrust Division of the Department of Justice and in responding to information requests. The mergers on which Dr. Hieronymus has testified include both electricity mergers and combination mergers involving electricity and gas companies. Among the major mergers on which he has testified are Duke Energy-Cinergy, EEG (Exelon and PSE&G), Sempra (Enova and Pacific Enterprises), Xcel (New Century Energy and Northern States Power), Exelon (Commonwealth Edison and Philadelphia Electric), AEP (American Electric Power and Central and Southwest), Dynegy-Illinois Power, Con Edison-Orange and Rockland, Dominion-Consolidated Natural Gas, NiSource-Columbia Energy, E-on-PowerGen/LG&E and NYSEG-RG&E. He also submitted testimony in mergers that were terminated for unrelated reasons, including Entergy-Florida Power and Light, Northern States Power and Wisconsin Energy, KCP&L and Utilicorp and Consolidated Edison-Northeast Utilities. Testimony on similar topics has been filed for a number of smaller utility mergers and for numerous asset acquisitions. Dr Hieronymus has also assisted numerous clients in the pre-merger screening of potential acquisitions and merger partners.

- For utilities seeking to establish or extend market rate authority, Dr. Hieronymus has provided numerous analyses concerning market power in support of submissions under Sections 205 of the Federal Power Act.

- For utilities and power pools engaged in restructuring activities, he has assisted in examining various facets of proposed reforms. Such analysis has included features of the proposals affecting market efficiency and those that have potential consequences for market power. Where relevant, the analysis also has examined the effects of alternative reforms on the client's financial performance and achievement of other objectives.

- For generators and marketers, Dr. Hieronymus has testified extensively in the regulatory proceedings concerning the electricity crisis in the WECC that occurred during May 2000 and May 2001. His testimony concerned, inter alia, the economics of long term contracts entered into during that period, the behavior of market participants during the crisis period and the nexus between purportedly dysfunctional spot markets and forward contracts. In the context of investigations into economic and physical withholding, he prepared and sponsored analyses of the specific behaviors of client generating companies relating to the nature and causes of their activities and the profits earned from them.

- For the New England Power Pool (NEPOOL), Dr. Hieronymus examined the issue of market power in connection with NEPOOL's movement to market-based pricing for energy, capacity, and ancillary services. He also assisted the New England utilities in preparing their market power mitigation proposal. The main results of his analysis were incorporated in NEPOOL's market power filing before FERC and in ISO-New England's market power mitigation rules.

- On behalf of Consolidated Edison, he drafted and sponsored market power mitigation rules relating to energy and capacity sales in the New York City load pocket.

- For a coalition of independent generators, he provided affidavits advising FERC on changes to the rules under which the northeastern U.S. power pools operate.

- Dr. Hieronymus has contributed substantially to projects dealing with the restructuring of the California electricity industry. In this context he also is a witness in California and FERC proceedings on the subject of market power and mitigation and more recently before FERC in connection with transactions related to PG&E's bankruptcy and on the contracts signed between merchant generators and various buyers.

Valuation of Utility Assets in North America

- Dr. Hieronymus has testified in state securitization and stranded cost quantification proceedings, primarily in forecasting the level of market prices that should be used in assessing the future revenues and the operating contribution earned by the owner of utility assets in energy and capacity markets. The market price analyses are tailored to the specific features of the market in which a utility will operate and reflect transmission-constrained trading over a wide geographic area. He also has testified in rebuttal to other parties' testimony concerning stranded costs, and has assisted companies in internal stranded cost and asset valuation studies.

- He was the primary valuation witness on behalf of a western utility in an arbitration proceeding concerning the value of a combined cycle plant coming off lease that the utility wished to purchase.

- He assisted a bidder in determining the commercial terms of plant purchase offers as well as assisting clients in assessing the regulatory feasibility of potential acquisitions and mergers.

- He has testified in bankruptcy court and in arbitration proceedings concerning the value of terminated long term contracts in connection with contract defaults by bankrupt power marketers and merchant generators.

Other U.S. Utility Engagements

- Dr. Hieronymus has contributed to the development of several benchmarking analyses for U.S. utilities. These have been used in work with clients to develop regulatory proposals, set cost reduction targets, restructure internal operations, and assess merger savings.

- Dr. Hieronymus was a co-developer of a market simulation package tailored to region-specific applications. He and other senior personnel have conducted numerous multi-day training sessions using the package to help utility clients in educating management regarding the consequences of wholesale and retail deregulation and in developing the skills necessary to succeed in this environment.

- He has made numerous presentations to U.S. utility managements regarding overseas electricity systems.

- In connection with nuclear generating plants nearing completion, he has testified in Pennsylvania, Louisiana, Arizona, Illinois, Missouri, New York, Texas, Arkansas, New Mexico, and before the Federal Energy Regulatory Commission regarding plant-in-service rate cases on the issues of equitable and economically efficient treatment of plant costs for tariff-setting purposes, regulatory treatment of new plants in other jurisdictions, the prudence of past system planning decisions and assumptions, performance incentives, and the life-cycle costs and benefits of the units. In these and other utility regulatory proceedings, Dr. Hieronymus and his colleagues have provided extensive support to counsel, including preparation of interrogatories, cross-examination support, and assistance in writing briefs.

- On behalf of utilities in the states of Michigan, Massachusetts, New York, Maine, Indiana, Pennsylvania, New Hampshire, and Illinois, he has submitted testimony in regulatory proceedings on the economics of completing nuclear generating plants that were then under construction. His testimony has covered the likely cost of plant completion; forecasts of operating performance; and extensive analyses of the impacts of completion, deferral, and cancellation upon ratepayers and shareholders. For the senior managements and boards of utilities engaged in nuclear plant construction, Dr. Hieronymus has performed a number of highly confidential assignments to support strategic decisions concerning the continuance of construction.

- For an eastern Pennsylvania utility that suffered a nuclear plant shutdown due to NRC sanctions relating to plant management, he filed testimony regarding the extent to which replacement power cost exceeded the costs that would have occurred but for the shutdown.

- For a major Midwestern utility, Dr. Hieronymus headed a team that assisted senior management in devising its strategic plans, including examination of such issues as plant refurbishment/life extension strategies, impacts of increased competition, and available diversification opportunities.

- On behalf of two West Coast utilities, Dr. Hieronymus testified in a needs certification hearing for a major coal-fired generation complex concerning the economics of the facility relative to competing sources of power, particularly unconventional sources and demand reductions.

- For a large western combination utility, he participated in a major 18-month effort to provide the client with an integrated planning and rate case management system.

- For two Midwestern utilities, Dr. Hieronymus prepared an analysis of intervenor-proposed modifications to the utilities' resource plans. He then testified on their behalf before a legislative committee.

U.K. Assignments

- Following promulgation of the white paper that established the general framework for privatization of the electricity industry in the United Kingdom, Dr. Hieronymus participated extensively in the task forces charged with developing the new market system and regulatory regime. His work on behalf of the Electricity Council and the twelve regional distribution and retail supply companies focused on the proposed regulatory regime, including the price cap and regulatory formulas, and distribution and transmission use of system tariffs. He was an active participant in industry-government task forces charged with creating the legislation, regulatory framework, initial contracts, and rules of the pooling and settlements system. He also assisted the regional companies in the valuation of initial contract offers from the generators, including supporting their successful refusal to contract for the proposed nuclear power plants that subsequently were canceled as being non-commercial.

- During the preparation for privatization, Dr. Hieronymus assisted several individual U.K. electricity companies in understanding the evolving system, in developing use of system tariffs, and in enhancing commercial capabilities in power purchasing and contracting. He continued to advise a number of clients, including regional companies, power developers, large industrial customers, and financial institutions on the U.K. power system for a number of years after privatization.

- Dr. Hieronymus assisted four of the regional electricity companies in negotiating equity ownership positions and developing the power purchase contracts for a 1,825 megawatt combined cycle gas station. He also assisted clients in evaluating other potential generating investments including cogeneration and non-conventional resources.

- Dr. Hieronymus also has consulted on the separate reorganization and privatization of the Scottish electricity sector. Part of his role in that privatization included advising the larger of the two Scottish companies and, through it, the Secretary of State on all phases of the restructuring and privatization, including the drafting of regulations, asset valuation, and company strategy.

- He assisted one of the Regional Electricity Companies in England and Wales in the 1993 through 1995 regulatory proceedings that reset the price caps for its retailing and distribution businesses. Included in this assignment was consideration of such policy issues as incentives for the economic purchasing of power, the scope of price control, and the use of comparisons among companies as a basis for price regulation. Dr. Hieronymus's model for determining network refurbishment needs was used by the regulator in determining revenue allowances for capital investments.

- He assisted one of the Regional Electricity Companies in its defense against a hostile takeover, including preparation of its submission to the Cabinet Minister who had the responsibility for determining whether the merger should be referred to the competition authority.

Assignments Outside the U.S. and U.K.

- Dr. Hieronymus testified before the federal court of Australia concerning the market power implications of acquisition of a share of a large coal-fired generating facility by a large retail and distribution company.

- Dr. Hieronymus assisted a large state-owned European electricity company in evaluating the impacts of the 1997 EU directive on electricity that inter alia requires retail access and competitive markets for generation. The assignment included advice on the organizational solution to elements of the directive requiring a separate transmission system operator and the business need to create a competitive marketing function.

- For the European Bank for Reconstruction and Development, he performed analyses of least-cost power options and evaluated the return on a major investment that the Bank was considering for a partially completed nuclear plant in Slovakia. Part of this assignment involved developing a forecast of electricity prices, both in Eastern Europe and for potential exports to the West.

- For the OECD he performed a study of energy subsidies worldwide and the impact of subsidy elimination on the environment, particularly on greenhouse gases.

- For the Magyar Villamos Muvek Troszt, the electricity company of Hungary, Dr. Hieronymus developed a contract framework to link the operations of the different entities of an electricity sector in the process of moving from a centralized command- and-control system to a decentralized, corporatized system.

- For Iberdrola, the largest investor-owned Spanish electricity company, he assisted in development of their proposal for a fundamental reorganization of the electricity sector, its means of compensating generation and distribution companies, its regulation, and the phasing out of subsidies. He also has assisted the company in evaluating generation expansion options and in valuing offers for imported power.

- Dr. Hieronymus contributed extensively to a project for the Ukrainian Electricity Ministry, the goal of which was to reorganize the Ukrainian electricity sector and prepare it for transfer to the private sector and the attraction of foreign capital. The proposed reorganization is based on regional electric power companies, linked by a unified central market, with market-based prices for electricity.

- At the request of the Ministry of Power of the USSR, Dr. Hieronymus participated in the creation of a seminar on electricity restructuring and privatization. The seminar was given for 200 invited Ministerial staff and senior executives of the USSR power system. His specific role was to introduce the requirements and methods of privatization. Subsequent to the breakup of the Soviet Union, Dr. Hieronymus continued to advise both the Russian energy and power ministry and the government-owned generation and transmission company on restructuring and market development issues.

- On behalf of a large continental electricity company, Dr. Hieronymus analyzed the proposed directives from the European Commission on gas and electricity transit (open access regimes) and on the internal market for electricity. The purpose of this assignment was to forecast likely developments in the structure and regulation of the electricity sector in the common market and to assist the client in understanding their implications.

- For the electric utility company of the Republic of Ireland, he assessed the likely economic benefit of building an interconnector between Eire and Wales for the sharing of reserves and the interchange of power.

- For a task force representing the Treasury, electricity generating, and electricity distribution industries in New Zealand, Dr. Hieronymus undertook an analysis of industry structure and regulatory alternatives for achieving the economically efficient generation of electricity. The analysis explored how the industry likely would operate under alternative regimes and their implications for asset valuation, electricity pricing, competition, and regulatory requirements.

Tariff Design Methodologies And Policy Issues

- Dr. Hieronymus participated in a series of studies for the National Grid Company of the United Kingdom and for ScottishPower on appropriate pricing methodologies for transmission, including incentives for efficient investment and location decisions.

- For a U.S. utility client, he directed an analysis of time-differentiated costs based on accounting concepts. The study required selection of rating periods and allocation of costs to time periods and within time periods to rate classes.

- For EPRI, Dr. Hieronymus directed a study that examined the effects of time-of-day rates on the level and pattern of residential electricity consumption.

- For the EPRI-NARUC Rate Design Study, he developed a methodology for designing optimum cost-tracking block rate structures.

- On behalf of a group of cogenerators, Dr. Hieronymus filed testimony before the Energy Select Committee of the UK Parliament on the effects of prices on cogeneration development.

- For the Edison Electric Institute (EEI), he prepared a statement of the industry's position on proposed federal guidelines regarding fuel adjustment clauses. He also assisted EEI in responding to the U.S. Department of Energy (DOE) guidelines on cost-of-service standards.

- For private utility clients, Dr. Hieronymus assisted in the preparation both of their comments on draft FERC regulations and of their compliance plans for PURPA Section 133.

- For a state utilities commission, Dr. Hieronymus assessed its utilities' existing automatic adjustment clauses to determine their compliance with PURPA and recommended modifications.

- For DOE, he developed an analysis of automatic adjustment clauses currently employed by electric utilities. The focus of this analysis was on efficiency incentive effects.

- For the commissioners of a public utility commission, Dr. Hieronymus assisted in preparation of briefing papers, lines of questioning, and proposed findings of fact in a generic rate design proceeding.

Sales Forecasting Methodologies For Gas And Electric Utilities

- For the White House Sub-Cabinet Task Force on the future of the electric utility industry, Dr. Hieronymus co-directed a major analysis of "least-cost planning studies" and "low-growth energy futures." That analysis was the sole demand-side study commissioned by the task force, and it formed a basis for the task force's conclusions concerning the need for new facilities and the relative roles of new construction and customer side-of-the-meter programs in utility planning.

- For a large eastern utility, Dr. Hieronymus developed a load forecasting model designed to interface with the utility's revenue forecasting system-planning functions. The model forecasts detailed monthly sales and seasonal peaks for a 10-year period.

- For DOE, he directed development of an independent needs assessment model for use by state public utility commissions. This major study developed the capabilities required for independent forecasting by state commissions and provided a forecasting model for their interim use.

- For state regulatory commissions, Dr. Hieronymus has consulted in the development of service area-level forecasting models of electric utility companies.

- For EPRI, he authored a study of electricity demand and load forecasting models. The study surveyed state-of-the-art models of electricity demand and subjected the most promising models to empirical testing to determine their potential for use in long-term forecasting.

- For a Midwestern electric utility, he provided consulting assistance in improving the client's load forecast, and testified in defense of the revised forecasting models.

- For an East Coast gas utility, Dr. Hieronymus testified with respect to sales forecasts and provided consulting assistance in improving the models used to forecast residential and commercial sales.

Other Studies Pertaining To Regulated And Energy Companies

- In a number of antitrust and regulatory matters, Dr. Hieronymus has performed analyses and litigation support tasks. These cases have included Sherman Act Section 1 and 2 allegations, contract negotiations, generic rate hearings, ITC hearings, and a major asset valuation suit. In a major antitrust case, he testified with respect to the demand for business telecommunications services and the impact of various practices on demand and on the market share of a new entrant. For a major electrical equipment vendor, Dr. Hieronymus testified on damages with respect to alleged defects and associated fraud and warranty claims. In connection with mergers for which he is the market power expert, Dr. Hieronymus assists clients in Hart-Scott-Rodino investigations by the Antitrust Division of the U.S. Department of Justice and the Federal Trade Commission. In an arbitration case, he testified as to changed circumstances affecting the equitable nature of a contract. In a municipalization case, he testified concerning the reasonable expectation period for the supplier of power and transmission services to a municipality. In two Surface Transportation Board proceedings, he testified on the sufficiency of product market competition to inhibit the exercise of market power by railroads transporting coal to power plants.

- For a landholder, Dr. Hieronymus examined the feasibility and value of an energy conversion project that sought a long-term lease. The analysis was used in preparing contract negotiation strategies.

- For an industrial client considering development and marketing of a total energy system for cogeneration of electricity and low-grade heat, Dr. Hieronymus developed an estimate of the potential market for the system by geographic area.

- For the U.S. Environmental Protection Agency (EPA), he was the principal investigator in a series of studies that forecasted future supply availability and production costs for various grades of steam and metallurgical coal to be consumed in process heat and utility uses.

TESTIMONY AND REPORTS

Dr. Hieronymus has been an invited speaker at numerous conferences on such issues as market power, industry restructuring, utility pricing in competitive markets, international developments in utility structure and regulation, risk analysis for regulated investments, price squeezes, rate design, forecasting customer response to innovative rates, intervener strategies in utility regulatory proceedings, utility deregulation, and utility-related opportunities for investment bankers.

PROFESSIONAL HISTORY

Prior to rejoining CRA in June 2001, Dr. Hieronymus was a Member of the Management Group at PA Consulting, which acquired Hagler Bailly, Inc. in October 2000. He was a Senior Vice President of Hagler Bailly. In 1998, Hagler Bailly acquired Dr. Hieronymus's former employer, Putnam, Hayes & Bartlett, Inc. He was a Managing Director at PHB. He joined PHB in 1978. From 1973 to 1978 he was a Senior Research Associate and the Program Manager for Energy Market Analysis at CRA. Previously, he served as a project director at Systems Technology Corporation and as an economist while serving as a Captain in the U.S. Army

Figure A-9

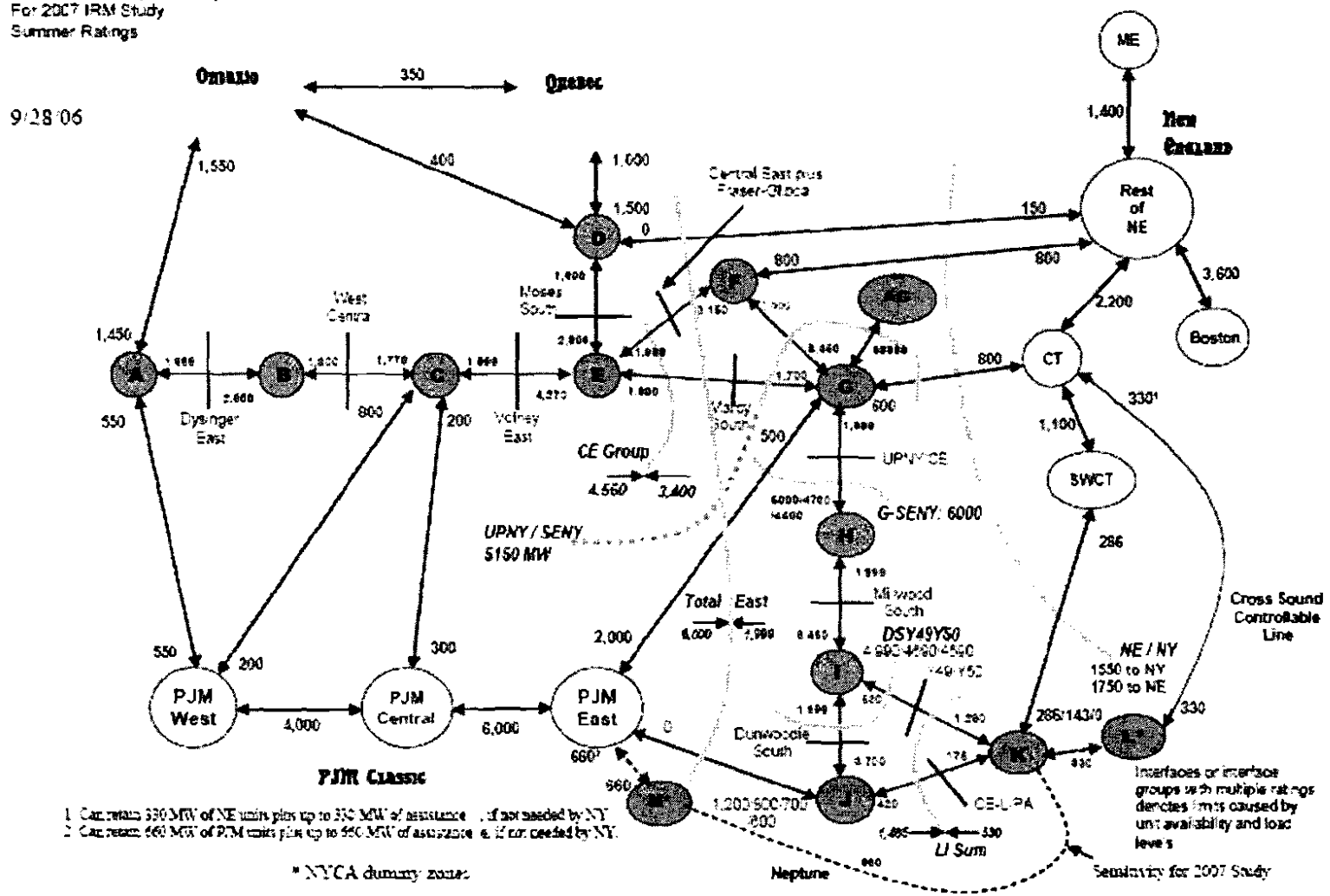
New York Control Area
Transmission System Representation
For 2007 IRM Study
Summer Ratings
9/28/06
Ontario
Quebec
350
400
1,550
1,450
550
1,000
1,500
0
Central East plus Fraser-Oneida
150
Rest of NE
ME
1,400
New England
800
800
3,600
Boston
2,200
CT
800
330
1,100
SWCT
286
West Central
Moses South
Dysinger East
Volney East
Marcy South
800
200
500
600
CE Group
4,550
3,400
UPNY/SENY
5150 MW
UPNY/CE
G-SENY: 6000
Total East
Millwood South
DSY49Y50
NE / NY
1550 to NY
1750 to NE
Cross Sound Controllable Line
286/1430
330
550
200
300
2,000
PJM West
PJM Central
PJM East
4,000
6,000
660
Dunwoodie South
CE-LIPA
1,200/600/700
200
1,485
330
LI Sum
Neptune
960
PJM Classic
1. Can retain 330 MW of NE units plus up to 330 MW of assistance, if not needed by NY
2. Can retain 660 MW of PJM units plus up to 660 MW of assistance, if not needed by NY.
* NYCA dummy zones
Interfaces or interface groups with multiple ratings denotes limits caused by unit availability and load levels
Sensitivity for 2007 Study

Exhibit WHH-3

Average Hourly Prices, by NYISO Zone
January 2005 through September 2007

Summary of Day Ahead Price Information
($/MWh, Simple average across all hours)

Zone	LBMP	Losses	Congestion	LBMP Minus Losses
A	55.8	-5.9	-0.3	61.7
B	58.6	-3.2	-0.3	61.8
C	60.8	-1.5	0.3	62.3
D	60.7	-1.3	-0.1	62.0
E	63.0	0.6	0.3	62.4
F	68.9	3.5	3.4	65.4
G	71.6	5.3	4.2	66.3
H	73.0	5.9	5.1	67.1
I	73.4	5.9	5.4	67.5
J	80.8	7.2	11.5	73.6
K	90.7	7.2	21.3	83.5

NERC Region	Control Area	Zone		Unit Name	Unit Type	Name-plate Rating (MW)	Summer Rating (MW)	Ownership Share	Net Interest (MW)	Purchases (Sales)	MW Owned or Purchased
NYISO											
NPCC	NYIS	C	NYSEG	Auburn-State Street	GT	7.4	5.7	100%	5.7	-	5.7
NPCC	NYIS	D	NYSEG	Cadyville 1-3	HY	5.5	4.8	100%	4.8	-	4.8
NPCC	NYIS	D	NYSEG	High Falls 1-3	HY	15.0	16.2	100%	16.2	-	16.2
NPCC	NYIS	D	NYSEG	Kent Falls 1-3	HY	12.4	11.9	100%	11.9	-	11.9
NPCC	NYIS	D	NYSEG	Lower Saranac 1-3	HY	6.7	3.9	100%	3.9	-	3.9
NPCC	NYIS	F	NYSEG	Mechanicville 1-2	HY	16.4	20.0	100%	20.0	-	20.0
NPCC	NYIS	D	NYSEG	Mill C 1-3	HY	6.0	5.3	100%	5.3	-	5.3
NPCC	NYIS	D	NYSEG	Rainbow Falls 1-2	HY	2.6	3.1	100%	3.1	-	3.1
NPCC	NYIS	E	NYSEG Energy Solutions	Carthage Energy	CC	62.9	56.5	100%	56.5	-	56.5
NPCC	NYIS	B	RG&E	Allegany GT	CT	42.0	40.3	100%	40.3	-	40.3
NPCC	NYIS	B	RG&E	Allegany ST	CW	25.0	21.9	100%	21.9	-	21.9
NPCC	NYIS	B	RG&E	Beebee GT	GT	19.0	15.0	100%	15.0	-	15.0
NPCC	NYIS	B	RG&E	Station 2, 26, 5	HY	53.3	47.5	100%	47.5	-	47.5
NPCC	NYIS	B	RG&E	Station 9	GT	19.0	14.0	100%	14.0	-	14.0
Generation Scheduled to be Off-Line from May 2008 to 2013											
NPCC	NYIS	B	RG&E	Russell 1-4	ST	252.6	236.4	100%	236.4	-	236.4
Long-Term Purchases (Contracts Terminating in 2007)											
NPCC	NYIS		NYSEG	New York Power Authority	HY					380.0	380.0
NPCC	NYIS	C	NYSEG	Lockport Cogen Pr	CT,CW					199.9	199.9
NPCC	NYIS		NYSEG	Citizens Lehman Power 2						55.0	55.0
NPCC	NYIS		RGE	New York Power Authority	HY					168.2	168.2
Long-Term Purchases (Contracts Terminating in 2008)											
NPCC	NYIS		NYSEG	Citizens Lehman Power 10						25.0	25.0
NPCC	NYIS	C	NYSEG	Waterloo	HY					2.0	2.0
NPCC	NYIS	C	NYSEG	Seneca Falls	HY					8.5	8.5
Long-Term Purchases (Other)											
NPCC	NYIS	C	NYSEG	Allegheny 8-9	HY					34.6	34.6
NPCC	NYIS	D	NYSEG	Saranac Energy 1-3	CT,CW					241.2	241.2
NPCC	NYIS	C	NYSEG	Nine Mile Point	Nuclear					185.0	185.0
NPCC	NYIS	C	NYSEG	Renovus Energy	HY					0.1	0.1
NPCC	NYIS	C	NYSEG	Finger Lakes Hydro	HY					0.1	0.1
NPCC	NYIS	H	NYSEG	Croton Falls Hydro	HY					0.2	0.2
NPCC	NYIS	C	NYSEG	Auburn Hydro - N Div St	HY					0.8	0.8
NPCC	NYIS	D	NYSEG	Chasm Hydro	HY					1.0	1.0
NPCC	NYIS	C	NYSEG	Goodyear Lake	HY					1.5	1.5
NPCC	NYIS	D	NYSEG	Alice Falls Hydro	HY					2.1	2.1
NPCC	NYIS	C	NYSEG	Broome Energy						2.5	2.5
NPCC	NYIS	D	NYSEG	Lower Saranac	CT, CW					6.4	6.4
NPCC	NYIS	C	RG&E	Nine Mile Point	Nuc					144.0	144.0
NPCC	NYIS	B	RG&E	Ginna [1]	Nuc					469.0	469.0
NYISO, Subtotal (exludes generation shutdown for repowering and LT contracts terminating by 2008)										1,088.4	1,354.5