

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

New York Independent System Operator, Inc.)

Docket No. ER20-1718-000

**COMMENTS AND PROTEST OF
INDEPENDENT POWER PRODUCERS OF NEW YORK, INC.**

Pursuant to Rule 211 of the Federal Energy Regulatory Commission’s (the “Commission”) Rules of Practice and Procedure¹ and the Commission’s April 30, 2020 Combined Notice of Filings #2, Independent Power Producers of New York, Inc. (“IPPNY”)² hereby submits the following comments and protest on the New York Independent System Operator, Inc.’s (“NYISO”) proposed revisions to the Part A Exemption Test under its buyer-side market power mitigation measures (“BSM Measures”) in Attachment H to the Market Administration and Control Area Services Tariff (“Services Tariff”) filed on April 30, 2020 in the above-captioned docket.³

In its April 30 Filing, the NYISO proposed tariff revisions that would “place ‘Public Policy Resources’ (“PPRs”), *i.e.*, resources that are more likely to actually be constructed given New York State laws, regulations, and policies, ahead of non-PPRs in evaluations under the Part A Exemption Test.”⁴ The NYISO also proposed how it would coordinate its performance of the various exemption tests. Specifically, the NYISO proposed that it would, *inter alia*, conduct the

¹ 18 C.F.R. § 385.211 (2020).

² IPPNY filed a doc-less motion to intervene in this docket on May 5, 2020.

³ Docket No. ER20-1718-000, *New York Indep. Sys. Operator, Inc.*, Proposed Enhancements to the “Part A Exemption Test” Under the “Buyer-Side” Capacity Market Power Mitigation Measures (Apr. 30, 2020) (“April 30 Filing”). Capitalized terms that are not otherwise defined herein shall have the meaning specified in the Services Tariff and the NYISO’s proposed modifications thereto.

⁴ April 30 Filing at 2.

Part A Exemption Test after determining any Renewable Exemptions pursuant to its proposed tariff revisions pending in Docket No. ER16-1404-002,⁵ reallocate Renewable Exemption MWs that had been granted to a resource to a different resource if the first resource also passed the Part B Exemption Test, and perform the Part A Exemption Test for the nested Locality (*i.e.*, the Zone J Locality) before the nesting Locality (*i.e.*, the G-J Locality).⁶

As demonstrated below and in the affidavit of Mark D. Younger, President of Hudson Energy Economics, LLC, attached hereto as Exhibit 1, the NYISO recognizes the important interaction between the Renewable Exemption and the Part A Exemption Test and appropriately proposed to grant any Renewable Exemptions to eligible resources prior to conducting the Part A Exemption Test. However, the NYISO's other proposals regarding its coordination of the exemption tests are flawed and will cause suppression of capacity prices in contravention of the Commission's directive that the Renewable Exemption not have a significant impact on market prices. Accordingly, the Commission should direct the NYISO to modify its proposed tariff language to:

- require that that NYISO retain an Examined Facility's Renewable Exemption MWs if it also passes the Part B Exemption Test and not grant the Renewable Exemption MWs to another resource; and
- prohibit the NYISO from applying the Part A Exemption Test for the G-J Locality to, and award exempted MWs available thereunder for, Examined Facilities in the Zone J Locality.

⁵ Docket No. ER16-1404-002, *New York Indep. Sys. Operator, Inc.*, Compliance Filing and Request for Commission Action No Later Than June 8, 2020 (Apr. 7, 2020) ("April 7 Filing").

⁶ April 30 Filing at 9.

The Commission should also direct the NYISO to modify its proposed definition of PPRs to provide that PPRs are Examined Facilities that are Energy Storage Resources or Tier 1 resources as defined by the New York Public Service Commission (“NYPSC”) in its Clean Energy Standard program or successor thereto.⁷

I. COMMENTS

In its February 2020 Order, the Commission directed the NYISO to develop a new renewable exemption cap that: (1) is narrowly tailored to the mitigated capacity zones, and not based on the entire New York Control Area (“NYCA”); (2) is based on UCAP rather than ICAP; and (3) will limit the risk that the renewable exemption will significantly impact market prices.⁸ Specific to this last criterion, critical to the development of a new cap is the Commission’s explicit recognition that “a MW cap limits the risk that the renewable resources exemption will significantly impact market prices and it is such limitation that makes this tariff revision just and reasonable.”⁹ To ensure its holding was implemented, the Commission emphasized that the NYISO must “be mindful of the relationship between: (1) the size of the MW cap; and (2) the limit the MW cap imposes on the renewable resource exemption’s impact to market prices.”¹⁰

In its April 7 Filing, the NYISO proposed a cap, called the Renewable Exemption Limit, that would be calculated and used in connection with the renewable exemption component of the mitigation exemption test conducted in each final Interconnection Study.¹¹ Assuming the

⁷ NYPSC Case 15-E-0302 *et al*, *Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard*, Order Adopting a Clean Energy Standard (April 1, 2016) (“CES Order”).

⁸ February 2020 Order at P 48.

⁹ *Id.*

¹⁰ *Id.*

¹¹ The proposed Renewable Exemption Limit would be set for the mitigation exemption test conducted in each final Interconnection Study comparing two MW limits, the latter of which would be based on a four-part formula (the “Formula”) that encompasses the Unforced Capacity (“UCAP”) MW associated with the change in forecasted peak

Commission accepts the proposed Renewable Exemption Limit, the NYISO proposed in its April 30 Filing that it would first grant exemptions to eligible resources up to the Renewable Exemption Limit, applying the proposed pro-ration rules as necessary.¹² The NYISO proposed that it would then perform the Part A Exemption Test for any remaining capacity that did not receive a Renewable Exemption while including the UCAP MW that qualified for a Renewable Exemption in the forecasted supply.¹³ The NYISO would then conduct the Part B Exemption Test for all remaining capacity that had not qualified for a Renewable or Part A Exemption while including all of capacity that had been awarded the renewable and Part A exemptions in the forecasted supply.¹⁴ If the resource also passes the Part B test, the NYISO will not “go back” and revise the Part A Test results.

As Mr. Younger demonstrates in his affidavit, the proper interaction between the Renewable Exemption, the Part A Exemption and Part B Exemption is necessary to ensure that the clearing prices in the NYISO’s capacity market are not significantly impacted.¹⁵ As the NYISO stated in its April 30 Filing, “[c]onducting the Renewable Exemption test before the Part A Exemption Test is therefore necessary to ensure that the amount of PPRs separately available for a Renewable Exemption (and thus expected to enter) is properly accounted for when applying

load and the UCAP MW of generator retirements caused by direct regulatory action. The NYISO also proposed that the Formula include the increase in the annual minimum reliability margin that is caused by the addition of renewable resources to the system and any unused UCAP MWs that remain after exemptions were granted in previous final Interconnection Studies. To set the first limit, the NYISO proposed as a default mechanism a Minimum Renewable Exemption Limit that would reflect the amount of UCAP MW that would be forecasted to cause a \$0.50/kW-month impact on ICAP prices for the Mitigated Capacity Zone. The NYISO proposed that the Renewable Exemption Limit be the greater of the Formula as calculated or a default Minimum Renewable Exemption Limit. April 7 Filing at 6–7.

¹² April 30 Filing at 9.

¹³ *Id.*

¹⁴ *Id.*

¹⁵ Younger Aff. ¶ 6–25.

the Part A Exemption Tests for each Locality.”¹⁶ The Renewable Exemption must be completed first. The Part A and Part B Exemption Tests must then be subsequently completed to ensure that the level of exemptions granted to intermittent renewable resources do not exceed the Renewable Exemption Limit.

II. PROTEST

A. **The Commission Should Require the NYISO to Modify Its Proposed Tariff Provisions Such That an Examined Facility Will Retain Its Renewable Exemption MWs If It Also Passes the Part B Exemption Test and Not Grant Them to Another Resource.**

While the NYISO’s proposed tariff revisions in its April 30 Filing provide that the NYISO will conduct the Renewable Exemption test before the Part A Exemption, the NYISO’s written presentation to stakeholders at the April 14, 2020 Installed Capacity Working Group (“ICAP”) meeting revealed that it would conduct the Part B Exemption Test for resources that had been granted a Renewable Exemption or a Part A Exemption.¹⁷ If the resource passed the Part B Exemption Test, the NYISO would grant the resource a Part B Exemption in place of the formerly granted Renewable Exemption.¹⁸ The NYISO’s presentation materials established that the Part B Exemption granted to the resource would not change any Part A Exemptions that had been granted but were silent as to whether and how any Renewable Exemptions would be affected. The NYISO stated at the meeting, however, that if the resource that received the Renewable Exemption also passed the Part B Exemption Test, the NYISO would essentially perform a “do-over” and go back to its already completed Renewable Exemption analysis in

¹⁶ April 30 Filing at 9.

¹⁷ Part A Exemption Test Proposal: Supplemental Example, at 30–31, <https://www.nyiso.com/documents/20142/11904936/Part%20A%20Exemption%20Test%20Proposal%20Supplemental%20Example.pdf/8e43b735-09f9-532f-f266-d1e36cadfffa>.

¹⁸ *Id.*

order to reallocate the Renewable Exemption MWs that had previously been granted to the resource to other Renewable Resources in the Class Year (“Reallocation Proposal”).¹⁹ While the NYISO’s proposed tariff revisions do not provide that the NYISO can reallocate a resource’s Renewable Exemption MWs to other resources if it passes the Part B Exemption Test, and, therefore such treatment would be unauthorized, the fact that the NYISO interprets its tariff in this manner is troubling. The Commission should prohibit the NYISO from performing its Reallocation Proposal.

As Mr. Younger demonstrates in his affidavit, the NYISO’s Reallocation Proposal is flawed because it will increase the level of Renewable Exemptions improperly and cause capacity price suppression contrary to the Commission’s directives.²⁰ The Reallocation Proposal is fundamentally flawed because a renewable resource technology that could pass the Part B Exemption Test is, by definition, economic and therefore does not require a Renewable Exemption.²¹ The Commission’s rationale for requiring the NYISO to implement a Renewable Exemption was that renewable resource technologies that could meet State public policy initiatives and that could not enter the market without out-of-market payments (*i.e.*, they were uneconomic) therefore should be permitted to participate in the capacity markets to the extent that their entry did not significantly suppress prices. If a resource qualifies for a Renewable Exemption but also passes the Part B Exemption Test, that resource technology type should not be included in the test of the technologies that qualify to receive a Renewable Exemption in the first place. Thus, from a straight policy perspective, this result should not be permitted.

¹⁹ Younger Aff. ¶ 10.

²⁰ *Id.* ¶ 14–25.

²¹ *Id.* ¶ 15.

As Mr. Younger demonstrates in his affidavit, the Reallocation Proposal is also flawed because it would improperly increase the number of MWs of exemptions that are granted to Renewable Resources beyond the NYISO's proposed Renewable Exemption Limit, and, thus, it would contravene the Commission's express holdings in the February 2020 Order.²² For example, assume the NYISO granted two 300 MW resources, Resources X and Y, 150 MWs of Renewable Exemptions each and determined that one of the resources, Resource Y, with a \$9.00/kW-month Unit Net CONE, passed the Part B Exemption Test for all of its 300 MW because the test resulted in clearing price of \$9.10/kW-month. If the NYISO reallocated the 150 MW of Renewable Exemptions initially granted to Resource Y to Resource X, both resources would receive exemptions for all of their capacity and 600 MW would be exempted.²³

However, if the NYISO properly reflected in Resource Y's Part B Exemption Test that it had granted its 150 MW of additional Renewable Exemptions to Resource X, the resulting clearing price after accounting for 300 MW of exemptions for Resource X and another 300 MW of Resource Y would fall below Resource Y's \$9.00/kW-month Unit Net CONE. Resource Y would incorrectly receive a Part B Exemption because the price that results from exempting all 300 MW from both resources is below Resource Y's net CONE.²⁴ The NYISO's Reallocation Proposal would inappropriately cause it to grant an additional 150 MW of exemptions to resources through the Renewable Exemption and the flawed Part B Exemption Test.²⁵

Thus, the NYISO's Reallocation Proposal should be rejected because it is contrary to the Commission's directive that the Renewable Exemption not have a significant impact on market

²² *Id.* ¶ 16.

²³ *Id.* ¶ 16–18.

²⁴ *Id.* ¶ 19.

²⁵ *Id.* ¶ 20–21.

prices. The Commission should require the NYISO to revise its tariff provisions consistent with language that the NYISO proposed to clarify the interplay between recipients of Part A Exemptions that also pass the Part B Exemption Test.²⁶ The NYISO proposed that:

For the sole purposes of evaluating other Examined Facilities under the Part A Exemption Test and Part B Exemption Test, the capacity associated with the Examined Facility will continue to be treated as having received a Part A Exemption in order to ensure that another Examined Facility will not receive a Part A Exemption for the capacity of the Examined Facility that was awarded the Part B Exemption after having passed both the Part A and Part B Exemption Tests.²⁷

The revised tariff language should provide that an Examined Facility's Renewable Exemption will be retained if it also passes the Part B Exemption Test and not granted to another resource.

B. The Commission Should Direct the NYISO to Modify its Proposal to Prohibit the NYISO from Applying the Part A Exemption for the Zones G-J Locality to Resources in the Zone J Locality.

In its April 30 Filing, the NYISO proposed that, for each resource, it would perform the Part A Exemption Test for the nesting Locality (*i.e.*, the G-J Locality) after it performs the test for the nested Locality (*i.e.*, Load Zone J).²⁸ The NYISO stated that “[t]his will allow Examined Facilities to receive an exemption under the Part A Exemption Test if the market signal in any Locality where they are located indicates a need for new capacity.”²⁹ The NYISO asserted that its proposal to allow a Zone J resource to be granted an exemption under the G–J Locality Part A Exemption Test (the “Nesting Proposal”) is consistent with the nesting rules that are applied to

²⁶ April 30 Filing at 18.

²⁷ *Id.* at 18.

²⁸ *Id.* at 10.

²⁹ *Id.* The NYISO's claim that the Part A Exemption Test level is an indication of a need for new capacity is inconsistent with the NYISO's Installed Capacity Demand Curves being set on the assumption that the long-term equilibrium in the market is at levels much closer to the minimum capacity requirement.

the Localities. As Mr. Younger demonstrates in his affidavit, the NYISO's interpretation of the nesting rules is flawed and its Nesting Proposal would impermissibly exempt Zone J Locality resources by evaluating them against irrelevant Zone G–J Locality Demand Curve parameters, suppressing the Zone J Locality capacity prices below the Zone J Locality Part A Exemption Test default price level.³⁰

The NYISO similarly misinterpreted its nesting rules with respect to its application of the Renewable Exemption in its April 7 Filing. Prior to its April 7 Filing, the NYISO advised market participants during the stakeholder process that it will address pro rata allocation of the Renewable Exemption Limit sequentially, *i.e.*, the Renewable Exemption Limit for Zone J will be applied on a pro rata basis to renewable resources in the New York City Mitigated Capacity Zone and then, if all MWs have not been exempted, these resources can be awarded Renewable Exemptions made available by the Renewable Exemption Limit calculated for the G–J Locality on a pro rata basis with eligible resources in Zones G–I after the Renewable Exemption Limit for New York City has been exhausted.³¹ In its protest of the April 7 Filing, IPPNY demonstrated that, if the NYISO were permitted to implement the Renewable Exemption Limit to the Mitigated Capacity Zones in this manner, it would cause the cumulative Zone J Locality Renewable Exemptions to exceed the Zone J Locality Renewable Exemption Limit that the NYISO separately calculated as being necessary for the Zone J Locality to limit the risk that exemptions will significantly impact market clearing prices.³²

³⁰ Younger Aff. ¶ 26–37.

³¹ See Christina Duong, *Part A Exemption Test Proposal: Example*, NYISO ICAP/MIWG/PRLWG Meeting (Apr. 10, 2020) at 6–7, <https://www.nyiso.com/documents/20142/11907110/2020%20April%2010%20Part%20A%20Exemption%20Test%20Proposal%20Example.pdf/5a6e0c2b-1ad4-6d07-c038-533e21e1fb54>.

³² Docket No. ER16-1404-002, *New York Indep. Sys. Operator, Inc.*, Comments and Protest of Independent Power Producers of New York, Inc. (Apr. 28, 2020) (“IPPNY Protest”) at 13–16.

As demonstrated below and in Mr. Younger's affidavit, the NYISO's Nesting Proposal would result in excessive market price impacts. For the Class Year 2017, the summer Default Offer Floor for Zone J for the 2020/2021 capability year was \$13.62/kW-month while the Default Offer Floor for Zones G–J was \$11.33/kW-month.³³ A resource passes the Part A Exemption Test if the addition of the resource does not cause the price to drop below the Default Offer Floor. The Zone J Locality and Zone G–J Locality Summer Default Offer Floors are approximately 643 MW and 775 MW beyond the minimum capacity requirements for the Zone J and Zone G–J Localities, respectively.³⁴

Under the NYISO's Nesting Proposal, 643 MW of Zone J resources would receive a Part A Exemption based on the Zone J Part A Mitigation Exemption Test and up to another 132 MW of Zone J resources would receive a Part A Exemption under the Zone G–J Part A Exemption Test if both Localities started the Class Year evaluation at the relevant Minimum Capacity requirement. The Zone J summer capacity price would drop to \$11.79/kW-month.³⁵ As this price is significantly lower than the level set by the Zone J Part A Exemption Test of \$13.62/kW-month, Zone J resources that had offered into the Zone J Locality at \$13.62/kW-month would not be able to clear against a price of \$11.79/kW-month in the G–J Locality.³⁶

Thus, to ensure that exemptions do not have a significant impact on clearing prices in the NYISO capacity markets, Part A Exemptions awarded to Zone J Locality resources must be limited to resources that pass the Part A Exemption Test for the Zone J Locality only. The

³³ Younger Aff. ¶ 28.

³⁴ *Id.* ¶ 29.

³⁵ *Id.* ¶ 30.

³⁶ *Id.* ¶ 33.

NYISO should then determine whether any resources in Zones G-I pass the Part A Exemption Test for the G–J Locality.³⁷

C. The Commission Should Direct the NYISO to Modify Its Proposed Definition of PPRs to Provide that PPRs Are Examined Facilities that Are Energy Storage Resources or Tier 1 Resources as Defined By the NYPSC In Its Clean Energy Standard Program or Successor Thereto.

In its April 30 Filing, the NYISO proposed tariff language that would adjust how Examined Facilities are ordered for evaluation under the Part A Exemption Test. Instead of analyzing Examined Facilities analyzed in sequential cost order, lowest to highest based on their Unit Net CONE, the NYISO would place PPRs ahead of non-PPRs in its evaluation.³⁸ The NYISO proposed to place resources first that “are more likely to actually be constructed” due to New York’s laws, rules and policies to “eliminate an inefficiency with the existing BSM Rules that could encourage investments in non-Public Policy Resources that are not likely to enter the market in the future.”³⁹ The NYISO defined PPRs as Intermittent Power Resources that are solely wind or solar, energy storage resources, and other Examined Facilities that the NYISO determines would be zero-emitting resources.⁴⁰

While IPPNY takes no position on the NYISO’s proposed ranking of PPRs in its Part A Exemption Test analysis, the NYISO’s proposed definition of PPRs is too broad because it may include zero-emitting resource technologies that are not consistent with the State’s policy favoring the new entry of certain generating technologies over others. The NYPSC implements State policy through its Clean Energy Standard program, which pertinent here, requires load serving entities to procure a percentage of their electricity requirements to meet load from so-

³⁷ *Id.* ¶ 37.

³⁸ April 30 Filing at 2.

³⁹ *Id.*

⁴⁰ *Id.* at 17.

called Tier 1 renewable technology types.⁴¹ For example, large scale hydroelectric resources using impoundments are not eligible as Tier 1 resources.⁴² It is expected that the NYPSC will soon update its Clean Energy Standard program to implement the requirements of the Climate Leadership and Community Protection Act (“Climate Act”), which was enacted by the New York State Legislature in 2019.⁴³ The Climate Act requires 70% of energy consumed in New York State by 2030 to be produced by renewable resources, as defined therein. Ten years later, energy consumed must be entirely emissions-free. As part of achieving these levels, the Climate Act also specifically requires the entry of 3,000 MW of energy storage resources by 2030, 6,000 MW of photovoltaic solar generation by 2025, and 9,000 MW of offshore wind generation by 2035. IPPNY’s proposed modification provides more transparency and is designed to track State public policy developments.

Thus, the Commission should require the NYISO to modify the definition of PPRs to limit it to energy storage resources and renewable resources that the NYPSC has defined as a Tier 1 resource under its Clean Energy Standard or any successor thereto.

⁴¹ CES Order.

⁴² *Id.* at 105-106.

⁴³ See New York State Climate Leadership and Community Protection Act, S.B. 6599, 2019 Leg., 242nd Sess. (N.Y. 2019) (codified as Ch. 106, L. 2019) (mandating, *inter alia*, the establishment, no later than June 13, 2021, of a program by the NYPSC to require that 70% of state wide electric generation be generated by renewable energy systems by 2030).

III. CONCLUSION

The Commission should direct the NYISO to modify its proposed Part A Exemption Test tariff language as discussed above.

Respectfully submitted,

David B. Johnson
David B. Johnson
Read and Laniado, LLP
Counsel for Independent Power
Producers of New York, Inc.
25 Eagle Street
Albany, New York 12207
Telephone: 518-465-9313
DBJ@readlaniado.com

Dated: May 21, 2020

CERTIFICATE OF SERVICE

I hereby certify that on this day, I served the foregoing document by electronic mail or first-class mail upon each person designated on the official service list compiled by the Secretary to the Commission in this proceeding.

David B. Johnson
David B. Johnson

Dated: May 21, 2020

EXHIBIT 1

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

New York Independent System Operator, Inc.)

Docket No. ER20-1718-000

AFFIDAVIT OF MARK D. YOUNGER

1. My name is Mark D. Younger. I am employed as President of Hudson Energy Economics, LLC. My business address is 480 Pondview Road, Petersburg, New York 12138.

2. My entire professional career has been devoted to matters relating to electric generation and the development of competitive electricity markets. Since 1999, I have been an active participant in the working groups refining the New York Independent System Operator, Inc. (“NYISO”) market structure and identifying corrections, improvements and enhancements to the market design, including all aspects of its energy, ancillary services, and installed capacity (“ICAP”) markets. Pertinent to this case, I have actively participated in the NYISO’s stakeholder process to develop revisions to its Part A Exemption Test rules which are a component of its buyer-side mitigation measures (“BSM Measures”) that are applied in Mitigated Capacity Zones. As I noted in my affidavit in support of the answer filed by Independent Power Producers of New York, Inc. (“IPPNY”) in Docket No. ER16-1404-002 on May 13, 2020,¹ I also actively participated in the NYISO’s development of its proposed Renewable Exemption Limit, which is pending before the Commission in Docket No. ER16-1404-002. The NYISO’s

¹ Docket No. ER16-1404-002, *New York Indep. Sys. Operator, Inc.*, Motion for Leave to Answer and Answer of Independent Power Producers of New York, Inc. (May 13, 2020), Affidavit of Mark D. Younger, attached as Exhibit 1 (“Renewable Exemption Cap Affidavit”).

proposed Renewable Exemption Limit is inter-related to, and thus, must be considered in conjunction with, the NYISO's proposed revisions to its Part A Exemption Test rules filed on April 30, 2020 in the above-captioned docket.² Taken together, these changes must ensure the BSM Measures continue to serve their purpose of providing for resource adequacy.

3. Since the formation of the NYISO in the late 1990s, I have also testified in numerous Federal Energy Regulatory Commission ("Commission") and New York State Public Service Commission ("NYPSC") proceedings relating to many aspects of the overall NYISO market design, including, pertinent hereto, the design of New York's capacity markets and installed capacity BSM Measures as it has evolved since the inception of those markets. My resume is attached as Exhibit MDY-1.
4. Under the NYISO's BSM Measures, the Part A Test is a "default" test permitting exemptions if the market is moderately tight, (i.e., at 75% of Mitigation Net CONE). In contrast, the Part B Test assesses individual project economics. Under the Part B Test, a project's own Unit Net CONE is calculated by the NYISO and used to measure whether the resource is economic against the forecasted clearing price.
5. I write this affidavit in support of IPPNY's comments and protest of the NYISO's April 30 Filing. The April 30 Filing includes tariff revisions that specify the order in which the NYISO will proceed with its mitigation exemption test determinations under the BSM Measures – Step 1, the Renewable Exemption will be assessed first followed by Step 2,

² Docket No. ER20-1718-002, *New York Indep. Sys. Operator, Inc.*, Proposed Enhancements to the "Part A Exemption Test" Under the "Buyer-Side" Capacity Market Power Mitigation Measures (Apr. 30, 2020) ("April 30 Filing").

the Part A Test, and finally, Step 3, the Part B Test. IPPNY requested that I address two portions of the NYISO's Part A Filing. The first is the importance of completing and awarding exemptions under each step of the BSM Evaluation before proceeding to the next step. Under the NYISO proposed rules, if a renewable resource awarded a Step 1 MW exemption subsequently qualifies for a Part B Exemption in Step 3, the NYISO proposes to go back after it has completed all three steps of its mitigation exemption test, "reopen" Step 1 and "reallocate" Renewable Exemption MWs to additional Intermittent Renewable Resources thereby increasing the total MWs awarded to renewable resources. The second is the importance of completing the awarding of Part A Test exemptions for Zone J resources based on Zone J conditions alone. The NYISO is proposing that if there are MWs in Zone J that remain subject to an Offer Floor after all the Zone J based Part A exemptions have been granted (*i.e.* the 75% threshold had been hit in Zone J), they will then allow the "room" provided for Part A Exemptions in the G-J Mitigated Capacity Zone to be used to grant additional exemptions to Zone J MWs thereby causing Part A exempt Zone J resources to exceed the Zone J 75% default threshold level.

The NYISO's Proposed Interaction of the Renewable Exemption Test and the Part B Mitigation Exemption Test is Flawed and Will Suppress Prices Impermissibly

6. As I noted in my Renewable Exemption Cap Affidavit, the Commission clearly ruled that the exemptions to the BSM Measures must be narrowly tailored. Taken collectively, exemptions that are granted cannot significantly impact clearing prices in the NYISO's capacity market. The NYISO describes its proposal to order the different BSM Exemption tests as follows:

The proposed Part A Enhancement would reverse the NYISO's current practice of conducting the evaluations for the Part B Exemption prior to conducting the Part A Exemption Test. The NYISO proposes now to conduct the evaluation of Examined Facilities using the Part A Exemption Test before it conducts its Part B evaluation. The NYISO also proposes to conduct the Part A Exemption Test after it has determined the Renewable Exemptions that are available to Qualified Renewable Exemption Applicants under the compliance tariff revisions pending in Docket No. ER16-1404-002.

Specifically, assuming that the filing in Docket No. ER16-1404-002 is accepted, the NYISO would first grant exemptions to "Qualified Renewable Exemption Applicants," up to the Renewable Exemption Limit and, to the extent necessary, based on the proposed pro-ration rules in that docket. The NYISO would then perform the Part A Exemption Test for all remaining capacity that had not qualified for a Renewable Exemption while counting UCAP MW that qualified for an exemption in forecasted supply. The Part B Exemption Test would then be applied for all remaining capacity that had not qualified for a Renewable or Part A Exemption, again while counting all capacity that had qualified for one of those exemptions as part of forecasted supply. As discussed in the Johnson Affidavit, resources that qualify for the Renewable Exemption would also, by definition, be PPRs for purposes of the Part A Exemption Test.³

7. The Part A test is based on the belief that if after the addition of a new resource the market is still moderately close to minimum capacity requirements, that it is reasonable to grant that resource an exemption from BSM. The test for a Part A exemption is that after the resource addition the market would remain above 75% of the annual Net Cost of New Entry ("CONE") of the Demand Curve Proxy unit. Consequently, it is not a very restrictive test. The Part B test measures whether after the entrance of a potential unit the expected capacity market clearing price is above the new unit's own Unit Net CONE.
8. As I reflected in my Renewable Exemption Cap Affidavit, the NYISO was expected to also be submitting the April 30 Filing that is at issue in this docket for Commission

³ April 30 Filing at 9 (footnotes omitted).

action. Reviewing the interplay between the Part A and B Exemptions and the Renewable Exemption is critical to ensure the Commission's directives are met.

Importantly, as the NYISO itself highlighted in its April 30 Filing:

Conducting the Renewable Exemption test before the Part A Exemption Test is therefore necessary to ensure that the amount of PPRs separately available for a Renewable Exemption (and thus expected to enter) is properly accounted for when applying the Part A Exemption Tests for each Locality.⁴

9. As described above by the NYISO, this ordering is critical to meet the Commission's directive that the grant of exemptions under the BSM Measures must not significantly impact market clearing prices. Specifically, to bound the impacts of the Renewable Exemption, the Renewable Exemption test must be completed first and the results thereunder must stand while the Part A and Part B Exemption Tests are completed. This is particularly important given the structure of the NYISO's proposed formula to be used to calculate the Renewable Exemption Limit.
10. Unfortunately, the NYISO's description above omits a critical detail that was presented to NYISO Market Participants at the ICAP Working Group meeting on April 14, 2020, the day before the special Management Committee meeting where discussion and action on the NYISO's proposed revisions to the Part A Exemption Test rules took place. At that meeting, the NYISO stated that if a resource that had initially been granted a Renewable Exemption in the first step of the ordered process described above but later passed the Part B Exemption Test in the third step of the process, the NYISO would grant

⁴ *Id.*

the resource a Part B Exemption in place of its formerly granted Renewable Exemption.⁵

While the NYISO's presentation materials state that granting the resource the Part B Exemption would not change any Part A Exemptions that had been granted, the materials are silent as to whether Renewable Exemptions would be affected. However, the NYISO stated orally at the meeting that if it determined this resource also had passed the Part B Exemption Test, the NYISO would go back to its Renewable Exemption test results and reallocate the Renewable Exemption MWs that had previously been granted to the resource to other Intermittent Renewable Resources in the Class Year.

11. The NYISO did not state, and the tariff does not adequately address, what would happen after it granted the Renewable Exemption MWs to another resource. Taking the Renewable Resource out of the group of Renewable Exemptions and reallocating its Renewable Exemption MWs would expand the total MWs of Renewable Resources that receive exemptions under the Renewable Exemption and the Part A and B Exemptions.
12. There are several problems with the NYISO's proposal to reallocate the MWs of resources that have received a Renewable Exemption in the first stage of the Mitigation Exemption Test process if such resources later qualify for Part B Exemptions. First, this treatment will result in an unwarranted expansion of the MW of resources that are granted exemptions. Specifically, the NYISO's proposed approach effectively means that if a resource that qualifies for the Renewable Exemption is deemed to be economic under the Part B Exemption Test, the NYISO will drop that resource out of the

⁵ Part A Exemption Test Proposal: Supplemental Example, at 30. *See*, <https://www.nyiso.com/documents/20142/11904936/Part%20A%20Exemption%20Test%20Proposal%20Supplemental%20Example.pdf/8e43b735-09f9-532f-f266-d1e36cadfffa>

Renewable Exemption class so that additional MWs from other Intermittent Renewable Resources that are less economic (*i.e.*, that themselves could not pass the Part B test) can instead garner a Renewable Exemption.

13. The second problem is rooted in the very concept that an Intermittent Renewable Resource type that qualifies for a Renewable Exemption could even be economic under a Part B Exemption Test. Whether a renewable resource can pass the Part B Exemption Test largely depends on the value that the NYISO ascribes to “renewable energy credits,” which are netted from the resource’s levelized embedded costs to calculate its Unit Net CONE. Pursuant to the NYPSC’s order adopting a Clean Energy Standard in New York, the New York Energy Research and Development Authority (“NYSERDA”) holds solicitations to acquire renewable energy credits under long-term contracts from a subset of generators limited to those that meet the Tier 1 eligibility requirements under the Clean Energy Standard program.⁶ It is my understanding that the price that a renewable resource offers to NYSERDA for its renewable energy credits is based on the level of above-market revenues it needs to enter the market.⁷
14. When the Commission initially directed the NYISO to develop a Renewable Exemption, the underlying premise was that renewable resources that could meet public policy initiatives but required State-backed support should be permitted to participate in the capacity markets limited to the degree that their total MWs did not artificially suppress

⁶ Case 15-E-0302 *et al*, *Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard*, Order Adopting a Clean Energy Standard (April 1, 2016) at 110-115.

⁷ Case 15-E-0302, *Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard*, Order Modifying Tier 1 Renewable Procurement (January 16, 2020), Appendix B.

prices. Specifically, the Commission directed that the Renewable Exemption must be limited to Intermittent Renewable Resources with “limited or no incentive and ability to exercise market power to artificially suppress ICAP market prices.”⁸ Per that Order, the NYISO was required to limit the resources to those that were both purely intermittent and had relatively low capacity factors and high development costs. The NYISO responded to this mandate by developing a test to identify the categories of Intermittent Renewable Resources by technology type that would qualify for this exemption by focusing on those technologies that required out-of-market support to enter the market and where that out-of-market support was not paid for by the reduction in capacity prices.

15. A resource that qualifies for a Renewable Exemption and also passes the Part B Exemption Test thus fundamentally contradicts the results of the NYISO’s evaluation to identify the types of Intermittent Renewable Resources technologies that should qualify for the Renewable Exemption as a foundational matter. To correct this fundamental disconnect, the appropriate response to finding that a resource that qualifies for a Renewable Exemption also passes the Part B Exemption Test should be to disqualify that resource technology type from being eligible to receive a Renewable Exemption.
16. The third problem with the NYISO’s proposal is that it could result in too many exemptions being granted overall or it could lead to unstable exemption determinations. Take, for example, a case where two 300 MW resources are eligible Intermittent Renewable Resources but the NYISO’s Renewable Exemption Limit formula calculates a cap of 300 MW of Renewable Exemptions that may be awarded for that final

⁸ Docket No. EL15-64-000, *Order on Complaint and Directing Compliance Filing* (October 9, 2015) at pp. 49.

- interconnection study. Assume further that Renewable Resource X has a Unit Net CONE of \$12/kW-month and Renewable Resource Y has a Unit Net CONE of \$9/kW-month. Under the NYISO's proposed Renewable Exemption Limit structure pending before the Commission at this time, the NYISO's initial Renewable Exemption evaluation would prorate the allowances so that each facility received 150 MW of Renewable Exemptions.
17. For simplicity, also assume that the capacity clearing prices are beyond the Part A Exemption Test range so neither resource can qualify for a Part A Exemption for its remaining capacity.
 18. Now assume when the NYISO conducts the Part B Exemption Test, the 300 MW of Renewable Exemptions it granted plus 150 MW of additional capacity from either of the entities receiving the Renewable Exemption results in a clearing price of \$9.10/kW-month. Based on this, the NYISO would determine that Resource Y had passed the Part B Exemption Test because the \$9.10/kW-month clearing price is above Resource Y's \$9.00/kW-month Unit Net CONE.
 19. However, if the NYISO reallocates the Renewable Exemption MWs granted to Resource Y to Resource X and the NYISO reconducts the Part B Exemption Test for Resource Y, the Part B Exemption Test would cause the clearing price to drop another 150 MW down the ICAP Demand Curve from the \$9.10/kW-month price it calculated earlier. Given the steepness of the ICAP Demand Curves, this would mean that Resource Y would *no longer* pass the reconducted Part B Exemption Test because the NYISO would now estimate a clearing price that is well below Resource Y's \$9/kW-month Unit Net CONE.
 20. The NYISO's proposed tariff language does not explicitly require it to reconduct the Part B Exemption Test for Resource Y after all of its Renewable Exemption MWs are

reallocated to Resource X to determine whether Resource Y still passes the Part B Exemption Test. As I noted above, the NYISO's presentation at the ICAP Working Group meeting did not state whether the NYISO would reconduct the Part B Exemption Test after reallocating the Renewable Exemptions to other resources. It merely stated that it would grant a Part B Exemption for the entire capacity of the Renewable Exemption qualified resource that also passed the Part B Exemption Test.

21. If the NYISO retests Resource Y for a Part B Exemption after it has granted all Resource Y's Renewable Exemptions to Resource X, it would be stuck in an infinite loop of exempting Resource Y under the Renewable Exemption test and finding that it also passed a Part B Exemption Test and then reshuffling the Renewable Exemption recipients and then finding that Resource Y no longer passed the Part B Exemption Test. To avoid this infinite loop, the NYISO appears to have taken the position it will simply "end" its exemption testing regarding Resources X and Y after it has gone back and reallocated the Renewable Exemption MWs to Resource X. This would cause Resource Y to inappropriately receive a Part B Exemption because it would not pass the Part B Exemption Test if the NYISO properly reflected in the test that it had granted the other 150 MW of Renewable Exemptions to Resource X. Consequently, this interpretation of its proposed tariff language would cause it to grant an additional 150 MW of exemptions to Intermittent Renewable Resources (300 MW each from Resource X and Resource Y) through the Renewable Exemption plus the flawed Part B Exemption Test evaluation of Resource Y when only slightly more than 450 MW would fit above the \$9/kW-month Net CONE of Resource Y. As the NYISO's interpretation of its proposed tariff language will cause it to grant an excessive number of exempted MWs improperly, it is contrary to

the Commission's directive that the Renewable Exemption have minimal impact on market prices.

22. It is possible that the NYISO intends to retest Resource Y for a Part B Exemption after reshuffling the resources receiving the Renewable Exemption. As noted above, that also is not clear in the tariff language.
23. Nor is the NYISO's proposal defensible because it previously proposed to operate in this manner when it initially proposed the Renewable Exemption test in 2016 and proposed that it would be performed after the Part B and Part A Exemption Tests.⁹ The NYISO's newly proposed structure for its Renewable Exemption Limit and its proposal to test for the Renewable Exemption before Part A, and Part A before Part B, are changed circumstances that require consideration in the context of the overall structure of the BSM Measures.
24. The solution to this problem is simple. The Commission should direct the NYISO to address the interplay between the Renewable Exemption and the Part B Exemption Test the same way that the NYISO has proposed to address the interplay between recipients of Part A Exemptions that also pass the Part B Exemption test in its proposed tariff language. Specifically, the NYISO proposed that "for the sole purposes of evaluating other Examined Facilities under the Part A Exemption Test and Part B Exemption Test, the capacity associated with the Examined Facility will continue to be treated as having received a Part A Exemption in order to ensure that another Examined Facility will not receive a Part A Exemption for the capacity of the Examined Facility that was awarded

⁹ Docket No. ER16-1404-000, *New York Public Service Commission, et al. v. New York Independent System Operator, Inc., Compliance Filing and Request for Commission Action within Sixty Days*, (April 13, 2016) at p. 13.

the Part B Exemption after having passed both the Part A and Part B Exemption Tests.”¹⁰

Consistent with its proposed treatment of Part A Exemption Test awards, the NYISO should be required to retain the Examined Facility’s Renewable Exemption if it also passes the Part B Exemption Test and not grant them to another resource.

25. Applying this principle to a resource that was qualified for a Renewable Exemption and also passed the Part B Exemption Test means that whatever part of the resource would have been granted a Renewable Exemption remains treated as having received the Renewable Exemption. By adopting this rule, the NYISO will ensure the order of granting Renewable Exemptions before Part A Exemptions and granting Part A Exemptions before Part B Exemptions produces the correct result – the exemptions to the BSM Measures remain correctly structured to limit the risk that they will significantly impact market clearing prices.

The NYISO’s Proposal To Grant G-J Part A Exemptions to Zone J Resources That Remain Subject to an Offer Floor After Zone J Part A Exemptions Have Been Fully Granted to Zone J Resources is Flawed and Will Impermissibly Suppress Capacity Prices

26. The NYISO proposed to “perform the Part A Exemption Test first for the nested Locality (*i.e.*, Load Zone J) and then for the nesting Locality (*i.e.*, the G-J Locality). This will allow Examined Facilities to receive an exemption under the Part A Exemption Test if the market signal in any Locality where they are located indicates a need for new capacity.”¹¹

¹⁰ April 30 Filing at 18 and revised Market Administration and Control Area Services Tariff language for Section 23.4.5.7.2

¹¹ April 30 Filing at p. 10.

27. The NYISO made a corresponding proposal in its filing proposing a Renewable Exemption Limit in Docket No. ER16-1404-002 which I demonstrated was materially flawed in my Renewable Exemption Cap Affidavit.¹² Equally true here, the NYISO's proposal, if permitted to be implemented, would cause it to grant additional exemptions to Zone J resources impermissibly thereby suppressing the Zone J capacity price below the Zone J Part A Exemption Test default price level.
28. The problem can be demonstrated by reviewing the data that the NYISO prepared for the BSM evaluation in Class Year 2017.¹³ The BSM data identified that the summer Default Offer Floor for Zone J for the 2020/2021 capability year was \$13.62/kW-month while the Default Offer Floor for Zones G–J was \$11.33/kW-month. To pass the Part A Exemption Test, the addition of the Examined Unit must not cause the price to drop below the Default Offer Floor.¹⁴
29. The Zone J Summer Default Offer Floor is approximately 643 MW beyond the minimum capacity requirement for the Zone J Locality. The Zone G-J Summer Default Offer Floor is approximately 775 MW beyond the minimum capacity requirement for the G-J Locality.
30. Under the NYISO's proposal, if both Localities started the Class Year evaluation at the relevant Minimum Capacity requirement, 643 MW of Zone J resources would receive a

¹² Docket No. ER16-1404-002, *supra*, *Compliance Filing and Request for Commission Action No Later Than June 8, 2020* (Apr. 7, 2020) (“April 2020 Filing”).

¹³ ICAP Buyer-side Mitigation Test Data Class Year 2017-1 (June 8, 2018). *See*, <https://www.nyiso.com/documents/20142/3025517/ICAP%20Buyer-side%20Mitigation%20Test%20Data%20for%20Class%20Year%202017-1%20June%208%202018.xls/4a28abe5-90ad-718d-d16f-62c56dffba10>

¹⁴ April 30 Filing at p. 4. For simplicity of the example, I am only discussing results at the Summer Default Offer Floor.

Part A Exemption based on the Zone J Part A Mitigation Exemption Test and up to another 132 MW of Zone J resources would receive a Part A Exemption under the Zone G–J Part A Exemption Test. This would cause the Zone J Locality clearing price to drop by \$1.83/kW-month reducing the Zone J summer capacity price to \$11.79/kW-month, a level that is significantly lower than the level set by the Zone J Part A Exemption Test of \$13.62/kW-month.

31. Throughout its effort to significantly reconfigure the Part A Exemption Test rules, the NYISO emphasized that the Part A Exemption Test “...would continue to allow Part A Exemptions only for projects whose entry would not disrupt the balance between supply and demand and thus would not suppress capacity market prices.”¹⁵ The NYISO claimed that its proposal to allow a Zone J resource to be granted an exemption under the G – J Zone Part A Exemption test is consistent with the nesting rules that are applied to the Localities. The NYISO is incorrect. In fact, it has it backwards.
32. The nesting rules state that a resource that clears the Zone J Locality market will automatically be counted towards the G–J Locality supply. They also state that if a Zone J Locality resource does not clear against the Zone J Locality ICAP Demand Curve, but the Zone G–J Locality Demand Curve would clear at a price above the resource’s offer, the resource (and all Zone J Locality resources) will clear against the Zone G–J Locality Demand Curve. The rationale underlying this rule is that a resource in an area that is more constrained is at least as valuable from a reliability standpoint as the resource in a less constrained region. Thus, the cascading rule operates to ensure that the resource is

¹⁵ April 30 Filing at 7; see also id. at 12 (noting “...the core purpose of the Part A Exemption Test ...is to identify whether the market has a sufficiently small surplus so that new entry should not be subject to an Offer Floor.”).

compensated accordingly when the market clearing prices in a more constrained area fall below the market clearing prices in a less constrained area, *i.e.*, it is designed to reflect the actual value of these resources. This rule has been triggered a number of times.

33. In stark contrast, the NYISO proposed in its April 30 Filing to take a resource in the Zone J Locality that would *not* clear a Zone J Locality cap-based \$13.62/kW-month clearing price and instead let it clear against a Zone G – J Locality price that could be as low as \$11.79/kW-month. That is not how nesting works nor is it consistent with the rationale underlying this practice. If the resource offered into the Zone J Locality at \$13.62/kW-month, it would only sell as much capacity as cleared the Zone J Locality Demand Curve at \$13.62/kW-month. It would be uneconomic at, and thus, would not be able to clear against, a price of \$11.79/kW-month in the G–J Locality.
34. In response to the IPPNY and Helix Ravenswood Protests filed in Docket ER16-1404, the NYISO stated in its Answer that its proposal in the Renewable Exemption context (and presumably, it would argue its proposal here as well) was consistent with how the Part B Test is applied today. The NYISO’s example further demonstrates the NYISO has actually upended the nesting rules.¹⁶ In its example, the NYISO notes that, in 2018, the economic value of a Zone J unit under Part B was tested based on the G-J Zone clearing price because the Zone J price was expected to be lower than the G-J price. The example is a good illustration of how nesting works. The Zone J resources cleared at the Zone G-J price because the price in Zone G-J was higher than the Zone J price alone would have

¹⁶ Docket No. ER16-1404-002, *Request for Leave to Answer and Answer of The New York Independent System Operator, Inc.* at p. 23-24.

- been and therefore their value as Zone G-J resources was higher than their value as Zone J resources alone.
35. What the NYISO is proposing here is the opposite of that treatment. Building on my example in the paragraphs above, by allowing *more* MWs to be exempted under the Part A Test than permitted under the 75% default level for Zone J, the exact opposite outcome would result if the NYISO is permitted to apply its nesting rules in the manner it has proposed in this context – resources *known* to cause price suppression would nevertheless be granted an exemption because of a lower price point in Zone G-J, not a higher price.
36. Price suppression at these levels cannot be sanctioned. Under this treatment, Part A exemptions would be granted to Zone J Locality resources even though the result is outside the range allowed for the Zone J Locality Part A exemptions.
37. The NYISO's proposal, as applied to the Part A Exemption Test, is plagued with the same deficiencies as the NYISO's proposal in its Renewable Exemption Limit filing. Therefore, the Commission should direct the NYISO to correct its proposal by only allowing Zone J Locality resources to qualify for Part A Exemptions applied to the Zone J Locality default offer floor only. Zone G-I resources can then be tested to determine whether any additional resources qualify to meet the Part A Exemption Test for the G–J Zone.
38. This concludes my affidavit.

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

New York Independent System Operator, Inc.)

Docket No. ER20-1718-000

I declare under penalty of perjury that the forgoing is true and correct.
Executed on May 21, 2020.

Mark D. Younger
Mark D. Younger

MARK D. YOUNGER

Mr. Younger is President of Hudson Energy Economics, LLC and has over thirty-five years of experience in energy analysis.

EDUCATION

MBA, Cornell University, 1983

M.E., Operations Research
Cornell University, 1983

B.S., Engineering, Major - Operations Research
Cornell University 1981

PROFESSIONAL EXPERIENCE

President

Hudson Energy Economics, LLC (2012 - Present)

Specialist on electric deregulation, market structure issues and deregulated electric energy, ancillary service and capacity market design. Involved as an active participant in the working groups refining the New York Independent System Operator, Inc. ("NYISO") market structure and developing methods to improve the market design, including all aspects of its energy, ancillary services and capacity markets.

Vice President

Slater Consulting (1994 - 2012)

Involved as an active participant in the working groups refining the New York Independent System Operator, Inc. ("NYISO") market structure and developing methods to improve the market design, including all aspects of its energy, ancillary services and capacity markets. One of the original architects of New York's capacity demand curve.

Senior Project Manager

Morse, Richard, Weisenmiller & Associates, Inc. (1986-1994)

Responsible for directing MRW's projects on production cost modeling. Prepared extensive analysis and expert witness testimony on avoided costs in California, New York, Pennsylvania and New Jersey. Performed analyses of electric utility emissions reductions associated with cogeneration projects.

Energy Economist

Pacific Gas & Electric Company (1983-1986)

Responsible for developing models and methods for integrated supply and demand-side resource analysis. Developed and performed an analysis of resource planning under uncertainty using Monte Carlo techniques.

Research Specialist for Duane Chapman, Professor of Resource Economics Cornell University (1982-1983)

Formulated the financial simulation section of the University Research Group on Energy's (URGE) integrated model of the electric utility industry. Performed an analysis of the impact on New York Pollution levels and New York utilities of proposed acid rain abatement strategies.

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Affidavits and Testimony

- Affidavit on behalf of the Independent Power Producers of New York on the flaws in various parties proposal to greatly expand the NYISO's methodology for calculating the number of allowed MW of Renewable Exemptions from Buyer-Side Mitigation (FERC Docket No. ER16-1404-002) May 13, 2020
- Affidavit on behalf of Helix Ravenswood, LLC on the flaws in the NYISO's methodology for calculating the number of allowed Renewable Exemptions from Buyer-Side Mitigation (FERC Docket No. ER16-1404-002) April 28, 2020.
- Affidavit on behalf of the Independent Power Producers of New York on why the NYISO's estimate of the derate for Duration Limited Resources is consistent with the NYISO's resource adequacy process and should be approved. (FERC Docket No. ER19-2276-000) August 9, 2019.
- Affidavit on behalf of the Independent Power Producers of New York on why allowing Linden VFT and the Hudson Transmission Project to continue to sell capacity in NYISO markets after converting their Transmission Withdrawal Rights from Firm to Non-Firm violates the NYISO and PJM tariffs. (FERC Docket No. EL18-189-000) July 31, 2018.
- Affidavit on behalf of the Independent Power Producers of New York on why allowing Linden VFT and the Hudson Transmission Project to continue to sell capacity in NYISO markets after converting their Transmission Withdrawal Rights from Firm to Non-Firm violates the NYISO and PJM tariffs. (FERC Docket No. EL18-54-000) February 23, 2018.
- Affidavit on behalf of the Independent Power Producers of New York on the dollars that gas local distribution companies would collect annually by charging electric generator gas interruptible transportation customers in New York City a \$0.10 per Dth charge and the cost that would impose on electricity consumers in NYC. (NY PSC Docket No. 17-G-0011)
- Affidavit on behalf of Roseton Generating, LLC on the inappropriateness of blocking generators located in the NYISO Localities from selling capacity to the ISO-NE market during the 2017-2018 capability year (FERC Docket No. ER16-2451-000) September 23, 2016
- Affidavit on behalf of the Independent Power Producers of New York and the Electric Power Supply Association on the flaws in the NYISO's proposed implementation of a Renewable and Self Supply Exemption (FERC Docket No. ER16-1404-000) May 31, 2016.
- Affidavit on behalf of the Independent Power Producers of New York and the Electric Power Supply Association on the flaws in the NYISO's Information Response on the Deficiencies in Its Analysis of the Need for Uneconomic Retention Mitigation and NYCA wide Uneconomic Entry Mitigation (FERC Docket No. EL13-62-002) January 19, 2016.
- Affidavit on behalf of the Independent Power Producers of New York and the Electric Power Supply Association on the flaws in the NYISO's proposed Reliability Must Run compliance filing (FERC Docket No. ER16-120-000) November 30, 2015.
- Affidavit on behalf of the Independent Power Producers of New York regarding the flaws in claims that lightly regulated utilities claimed confidential information is already in the public domain and in the harm from releasing such data. (NY PSC Matter No. 13-01288) September 3, 2015.

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Affidavits and Testimony

- Affidavit on behalf of the Independent Power Producers of New York regarding the flaws in the NYISO Evaluation of the Need for Uneconomic Retention Mitigation in NYCA Rest of State Market. (FERC Docket No. EL13-62-002) July 17, 2015.
- Affidavit on behalf of the Independent Power Producers of New York regarding the flaws in the NY PSC, NYPA and NYSERDA proposed fundamental revisions to the NYISO's Buyer-Side Mitigation Rules. (FERC Docket No. EL15-64-000) June 29, 2015.
- Affidavit on behalf of the Independent Power Producers of New York regarding the need to maintain confidentiality for certain data submitted to the New York Public Service Commission by lightly regulated utilities. (NY PSC Matter No. 13-01288) June 17, 2015.
- Affidavit on behalf of the PSEG Companies regarding how market rules that affect price formation have developed within the NYISO and how those rules should be incorporated into PJM Interconnection L.L.C.'s ("PJM") market design. (FERC Docket No. AD14-14-000) March, 6, 2015.
- Affidavit on behalf of the Independent Power Producers of New York regarding the failure of TDI to show that they Champlain Hudson Power Express should be given a line specific exemption from Buyer-Side uneconomic entry mitigation and the failure of TDI to demonstrate that the existing NYISO tariff's application of mitigation to its project was not Just and Reasonable (FERC Docket No. EL15-33-000), January 15, 2015.
- Affidavit on behalf of the Independent Power Producers of New York regarding flaws in the NYISO's and Transmission Owners proposals for a Competitive Entry Exemption from Buyer-Side uneconomic entry mitigation and the failure of the Transmission Owners to demonstrate that the existing NYISO tariff was not Just and Reasonable (FERC Docket No. EL15-25-000), January 15, 2015.
- Affidavit on behalf of the Independent Power Producers of New York regarding the flaws in the NYISO's proposal to define generator outage states and associated requirements and calculations (FERC Docket No. ER14-2518-000), September 2, 2014.
- Affidavit on behalf of the Independent Power Producers of New York regarding the need to maintain confidentiality for certain data submitted to the New York Public Service Commission by lightly regulated utilities. (NY PSC Matter No. 13-01288) August 6, 2014.
- Second Supplemental Affidavit on behalf of the Independent Power Producers of New York regarding the need to mitigate the uneconomic retention of the Dunkirk Power Plant which is being retained pursuant to a 10 year out-of-market contract (FERC Docket No. EL13-62-000), March 25, 2014.
- Supplemental Affidavit on behalf of Entergy rebutting the claimed rate impacts associated with the implementation of the NYISO Lower Hudson Valley capacity zone. (FERC Docket No. ER14-500-000), January 6, 2014.
- Affidavit on behalf of Entergy regarding the need to reject a phase in for implementing the NYISO Lower Hudson Valley capacity zone Demand Curve. (FERC Docket No. ER14-500-000), December 20, 2013.

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- Affidavit on behalf of the Independent Power Producers of New York regarding the appropriate values for determining the NYISO Installed Capacity Demand Curves. (FERC Docket No. ER14-500-000), December 20, 2013.
- Second Supplemental Affidavit on behalf of Entergy regarding why it is inappropriate to phase in capacity prices for the NYISO New Capacity Zone for the Lower Hudson Valley region and why the new information that the NYISO relied upon for their filing is neither new nor correct. (FERC Docket No. ER13-1380-000), November 12, 2013.
- Affidavit on behalf of the Independent Power Producers of New York before the Board of the NYISO regarding the proposed demand curves being set at too low a level to adequately address the risk of entering the New York electricity markets as a merchant facility. October 2, 2013.
- Supplemental Affidavit on behalf of the Independent Power Producers of New York regarding the why regulated RMR contracts must bid into the NYISO Installed Capacity Market at their full going forward costs. (FERC Docket No. EL13-62-000), June 14, 2013.
- Supplemental Affidavit on behalf of Entergy regarding the need to not delay in implementing a New Capacity Zone for the Lower Hudson Valley region and the flaws in arguments that a New Capacity Zone is not needed at this time. (FERC Docket No. ER13-1380-000), June 5, 2013.
- Affidavit on behalf of Entergy regarding the need to implement a New Capacity Zone for the Lower Hudson Valley region. (FERC Docket No. ER13-1380-000), May 21, 2013.
- Affidavit on behalf of the Independent Power Producers of New York regarding the need to revise the NYISO tariff to assure that generators with regulated RMR contracts bid into the NYISO Installed Capacity Market at their going forward costs. (FERC Docket No. EL13-62-000), May 10, 2013.
- Affidavit on behalf of the Independent Power Producers of New York to the NYISO Board of Directors regarding why a peaking unit should continue to be used as the Demand Curve Proxy Unit. April 17, 2013.
- Affidavit on behalf of the Independent Power Producers of New York regarding the inappropriate requirement that Cayuga bid into the NYISO Installed Capacity Market at a de minimis price while recovering its costs from a regulated RMR contract. (FERC Docket No. ER13-405-000), January 7, 2013.
- Affidavit on behalf of the New York City Suppliers rebutting Hudson Transmission Partners claims that their Buyer-Side Mitigation examination by the NYISO had been performed in a manner inconsistent with the NYISO Service Tariff Requirements. (FERC Docket No. EL12-98-000), November 13, 2012.
- Affidavit on behalf of Entergy Nuclear Power Marketing, LLC and the GenOn Parties concerning the NYISO's June 29, 2012 Compliance Filing proposing tariff revisions to its Market Administration and Control Area Services Tariff ("Services Tariff") to implement both buyer-side and supplier-side mitigation measures for New Capacity. (FERC Docket No. ER12-360-001), July 20, 2012.

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- Rebuttal Testimony on behalf of the Independent Power Producers of New York on the flaws in the project sponsor's and the New York Department of Public Service's evaluation of the economics of the Champlain Hudson Power Express. (NYPSC Docket No. 10-T-0139), June 28, 2012.
- Testimony on behalf of the Independent Power Producers of New York on the economics of the Champlain Hudson Power Express. (NYPSC Docket No. 10-T-0139), June 7, 2012.
- Third Supplemental Affidavit on behalf of the New York City Suppliers rebutting Bayonne Energy Center's claims regarding their gas pricing advantage and the value of TCCs for their project. (FERC Docket No. EL11-50-000), October 10, 2011.
- Second Supplemental Affidavit on behalf of the New York City Suppliers on the New York Independent System Operator's flawed analysis in its mitigation determination for Astoria Energy II and the Bayonne Energy Center. (FERC Docket No. EL11-50-000), September 23, 2011.
- Supplemental Affidavit on behalf of the New York City Suppliers on the New York Independent System Operator's failure to properly apply its capacity market mitigation rules to Astoria Energy II and the Bayonne Energy Center. (FERC Docket No. EL11-50-000), July 11, 2011.
- Second Supplemental Affidavit on behalf of the New York City Suppliers on the tight correlation between natural gas pricing and LBMPs and the inability of the NERA model to represent this relationship. (FERC Docket No. EL11-42-000), July 21, 2011.
- Affidavit on behalf of the New York City Suppliers on the New York Independent System Operator's failure to properly apply its capacity market mitigation rules to Astoria Energy II and the Bayonne Energy Center. (FERC Docket No. EL11-50-000), July 11, 2011.
- Supplemental Affidavit on behalf of the New York City Suppliers on the flaws and inconsistencies shown in the New York Independent System Operator release of data to use for the New York City uneconomic entry mitigation exemption test. (FERC Docket No. EL11-42-000), June 15, 2011.
- Affidavit on behalf of the New York City Suppliers on the proper way to apply the New York City uneconomic entry mitigation exemption test. (FERC Docket No. EL11-42-000), May 31, 2011.
- Affidavit on behalf of the Independent Power Producers of New York in response to the NYISO's Compliance Filing on the Capacity Demand Curve on the appropriate level of average excess to assume in setting the Capacity Demand Curve. (FERC Docket No. ER11-2224-004), April 19, 2011.
- Affidavit on behalf of New York City Suppliers on the need to revise the Baseline for Special Case Resources. (FERC Docket No. ER11-2906-000). March 4, 2011.
- Reply Affidavit on behalf of the Independent Power Producers of New York on New York Installed Capacity Demand Curve on the arguments against including System Deliverability Upgrade costs in the Demand Curves, on the inappropriateness of using a Long Island unit as a proxy for the NYCA demand curve and set the Demand Curve based upon inaccurately and

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the flaws of using historic auction results to determine the amount of excess capability due to winter unit ratings. (FERC Docket No. ER11-2224-000), January 7, 2011.

- Affidavit on behalf of the Independent Power Producers of New York on New York Installed Capacity Demand Curve on the need for accurate representation of the average excess capacity levels, System Deliverability Upgrade costs and New York City interconnection costs in the development of the Demand Curves. (FERC Docket No. ER11-2224-000), December 21, 2010.
- Affidavit on behalf of New York City Suppliers on the New York Independent System Operator's proposed revisions to the New York City Installed Capacity Mitigation measures on the impact of the NYISO's changes on reducing the effectiveness of the mitigation. (FERC Docket No. ER10-3043), November 22, 2010.
- Affidavit on behalf of the Independent Power Producers of New York in response to the Comments of the New York Transmission Owners on the NYISO's Second Tariff Compliance Filing and Request for Waiver of the NYISO on the inappropriateness of using the price at the 104% point on the New York City Demand Curve as the Net CONE value. (FERC Docket No. ER08-695-001), June 21, 2010.
- Affidavit on behalf of AES Eastern Energy, L.P., Constellation Energy Nuclear Group, LLC, Empire Generating Co., LLC, GDF SUEZ Energy North America, NRG Companies, PSEG Companies, Shell Energy North America (US), L.P., and TC Ravenswood, LLC on the New York Independent System Operator and New York Transmission Owner compliance filing to implement the Comprehensive Deliverability Plan on the need to apply a deliverability test to capacity imports. (FERC Docket No. ER04-449-019), May 18, 2009.
- Affidavit on behalf of the Independent Power Producers of New York on the NYISO's October 30, 2008 Tariff Compliance Filing on the In-City Capacity Mitigation on the inappropriateness of the NYISO's proposed Special Case Resource uneconomic entry mitigation and test for uneconomic exports. (FERC Docket No. EL07-39), December 2, 2008.
- Affidavit on behalf of the In City Capacity Suppliers in support of their Section 206 filing to restate the New York City Installed Capacity Demand Curve pursuant to expiration of the New York City ICIP Tax Abatement Program. (FERC Docket No. EL09-4), October 14, 2008.
- Affidavit on behalf of the Independent Power Producers of New York in support of their motion for leave to file answer, and answer to the New York Transmission Owner's Comments on the Commission decision implementing New York City Capacity Market Mitigation on the appropriateness of using the Net CONE as shown at 100% of the minimum capacity requirement as the basis for the mitigation offer floor. (FERC Docket No. ER08-695), June 11, 2008.
- Affidavit in support of the limited protest being submitted by Astoria Generating Company, L.P to address the New York Independent System Operator's ("NYISO") Second Tariff Compliance Filing of and Request for Waiver of the New York Independent System Operator Inc. Implementing New York City ICAP Market Mitigation Measures ("NYISO Compliance Filing") to address appropriate recognition of opportunity costs associated with

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exports and appropriate thresholds and penalties for determining mitigation. (FERC Docket No. ER08-695-001), May 27, 2008.

- Testimony on behalf of the Independent Power Producers of New York on the Vertical Market Power concerns on the Acquisition of Energy East Corporation by Iberdrola, S.A. (NY PSC Case 07-M-0906). January 11, 2008.
- Affidavit on behalf of AES Eastern Energy, L.P., Astoria Generating Company, L.P., a US Power Generating Company, Entergy Nuclear Power Marketing, LLC and the Mirant Parties on New York Installed Capacity Demand Curve on the appropriate values for the Demand Curve. (FERC Docket No. ER08-283-000), December 31, 2007.
- Affidavit on behalf of AES Eastern Energy on the New York State Department of Environmental Conservation's and New York State Energy Research Development Authority's proposed regulations to implement the Regional Greenhouse Gas Initiative (6 NYCRR Part 242, 6 NYCRR Part 200 and 21 NYCRR Part 507), December 19, 2007
- Affidavit on behalf of Astoria Generating Company, L.P., a U.S. Power Generating Company on the NYISO's proposed Capacity Market Mitigation Measures on the appropriate design of New York City Installed Capacity mitigation measures. (FERC Docket No. EL07-39-000), December 10, 2007.
- Affidavit on behalf of Astoria Generating Company, L.P., a U.S. Power Generating Company on the NYISO's proposed Capacity Market Mitigation Measures. (FERC Docket No. EL07-39-000), November 19, 2007.
- Affidavit on behalf of AES Eastern Energy, LP., Astoria Generating Company, L.P., a U.S. Power Generating Company, Dynegy Northeast Generation, Inc., Entergy Nuclear Power Marketing, LLC, the Indeck Companies, and the Mirant Parties to NYISO Board of Directors on NYISO Staff proposed Installed Capacity Demand Curves on the appropriate values for the Demand Curves. October 1, 2007.
- Affidavit on behalf of the Independent Power Producers of New York to NYISO Board of Directors on NYISO Staff proposed Installed Capacity Demand Curves on the appropriate values for the Demand Curves. October 1, 2007.
- Affidavit on behalf of the Independent Power Producers of New York on the Vertical Market Power concerns in the Merger of National Grid PLC and KeySpan Corporation. (NY PSC Case 06-M-0878), July 11, 2007.
- Affidavit on behalf of the Independent Power Producers of New York on the proper determination of Location Based Marginal Costs on May 8 and 9, 2000 (FERC Docket No. EL01-19-006), July 8, 2005.
- Affidavit on behalf of Entergy Corporation, Mirant Bowline, LLC, Mirant Lovett, LLC, Mirant NY-Gen, LLC, Mirant Americas Energy Marketing, and Sithe Energies, Inc. to NYISO Board of Directors on NYISO Staff proposed Installed Capacity Demand Curves. October 15, 2004
- Affidavit on behalf of the Independent Power Producers of New York to NYISO Board of Directors on NYISO Staff proposed Installed Capacity Demand Curves. October 15, 2004

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- Affidavit on behalf of the Independent Power Producers of New York on New York Installed Capacity Demand Curve (FERC Docket No. ER03-647-000) on the need to implement an Installed Capacity Demand Curve for the NYISO. April 10, 2003.
- Affidavit on behalf of AES, Mirant & Sithe to NYISO Board of Directors on Appeal of the Management Committee Decision on the ICAP Demand Curve on the need to implement an Installed Capacity Demand Curve for the NYISO. March 7, 2003.
- Affidavit on behalf of the Independent Power Producers of New York to NYISO Board of Directors on Appeal of the Management Committee Decision on the ICAP Demand Curve on the need to implement an Installed Capacity Demand Curve for the NYISO. March 7, 2003.
- Affidavit on behalf of the Independent Power Producers on the ICAP Demand Curve under Appeal of the NYISO Business Issues Committee decision at the NYISO Management Committee on the need to implement an Installed Capacity Demand Curve for the NYISO. December 27, 2002.
- Affidavit on behalf of Reliant Energy Power Generation on Setting the Conduct and Impact Thresholds for in-City Generating Units. (FERC Docket No. ER01-3155-002 et. al.), May 15, 2002.
- Testimony on behalf of TransGas Energy Systems in their Article 10 Citing proceeding (NY PSC Case 01-F-1276) on the energy and pollutant savings associated the TransGas Energy Systems proposed 1000 MW Combined Cycle facility.
- Affidavit on behalf of Reliant Energy Power Generation on New York Independent System Operator's Compliance Filing Regarding Comprehensive Market Mitigation Measures. (FERC Docket No. ER01-3155-002 et. al.), April 23, 2002
- Testimony on behalf of Orion Power New York GP, Inc. on Con Edison Company of New York, Inc.'s Proposal to Revise the Localized Market Power Mitigation Measures (FERC Docket No. ER98-3169-000), April 3, 2001.
- Affidavit on behalf of Southern Energy North America, Inc., AES NY, L. L. C. , Sithe Power Marketing, L. P., & FPL Energy LLC on the need to retain the PJM Installed Capacity Market. (FERC Docket No. EL01-3-000), October, 25, 2000.
- Testimony on behalf of the Mid-Atlantic Power Supply Association on the Baltimore Gas & Electric Company stranded costs. (Maryland PSC Case No. 8794), December 22, 1998.
- Testimony on behalf of Enron Power Marketing, Inc on New York Electricity Companies' request for market-based rate authority. (FERC Docket No. ER97-1523 et al.), October 31, 1997.
- Testimony on behalf of Sithe Energies, Inc on Petition of Niagara Mohawk Power Corporation to Employ 1996 Fuel Adjustment Clause Targets in 1997 (NY PSC Case 96-E-0928) on the inappropriateness of using the outdated targets to determine the 1997 avoided costs.
- Testimony on behalf of the Independent Power Producers of New York and Enron Capital & Trade Resources on Central Hudson Gas & Electric Corporation rate/restructuring proceeding (NY PSC Case 96-E-0909) on the problems with the proposed settlement

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associated with the proposal that Central Hudson continue to be a vertically integrated utility holding company and to propose interim rate treatment until the time that Central Hudson divests its generation assets.

- Testimony on behalf of the Independent Power Producers of New York and Enron Capital & Trade Resources on Orange & Rockland Utilities, Inc. rate/restructuring proceeding (NY PSC Case 96-E-0900) on the problems in the proposed settlement associated with Orange and Rockland continuing to own generation resources in the deregulated competitive generation market, propose incentives for Orange and Rockland to divest, and, to propose interim rate treatment until the time that Orange and Rockland divests its generation assets..
- Testimony on behalf of the Independent Power Producers of New York and Enron Capital & Trade Resources on Consolidated Edison Company of New York, Inc. rate/restructuring proceeding (NY PSC Case 96-E-0897) on the problems in the propose settlement associated with Con Edison continuing to be a vertically integrated utility owning generation resources in the developing competitive generation market, to propose stronger incentives for divestiture of Con Edison's fossil generation and to propose interim regulatory treatment until the time that Con Edison divests its generation assets.
- Testimony on behalf of the Independent Power Producers of New York and Enron Capital & Trade Resources on New York State Electric & Gas Corporation rate/restructuring proceeding (NY PSC Case 96-E-0891) on the problems with NYSEG's proposal to continue owning generation under a utility holding structure, the manner in which the proposed structure shielded the generating company from competition, and the need to divest the generating assets.
- Testimony on behalf of Sithe Energies, Inc on Consolidated Edison Company of New York, Inc. rate proceeding (NY PSC Case 96-E-0798) on the appropriate bases for calculating the short run avoided energy costs for Qualifying Facilities for Con Ed.
- Testimony on behalf of California Cogeneration Council on Southern California Edison 1995 Energy Cost Adjustment Clause (CPUC Application No. 95-05-049) on the value of Qualifying Facilities for SCE
- Testimony on behalf of California Cogeneration Council on Pacific Gas & Electric Company 1995 Energy Cost Adjustment Clause (CPUC Application No. 95-04-002) on the value of Qualifying Facilities for PG&E and the O&M costs avoided by QFs
- Testimony on behalf of Sithe Energies, Inc on Consolidated Edison Company of New York, Inc. rate proceeding (NY PSC Case 94-E-0334) on the appropriate bases for calculating the short run avoided energy costs for Qualifying Facilities for Con Ed.
- Testimony on behalf of the Independent Power Producers of New York on Niagara Mohawk Power Corporation rate proceeding, (NY PSC Cases 94-E-0098 and 94-E-0099) on need to retire certain generating units that are part of their portfolio or in the alternative to introduce rate making that puts Niagara Mohawk at risk for the units being economic.

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- Testimony on behalf of California Cogeneration Council on San Diego Gas & Electric Company 1994 Energy Cost Adjustment Clause (CPUC Application No. 94-10-023) on the value of Qualifying Facilities for SDG&E and the O&M costs avoided by QFs
- Testimony on behalf of California Cogeneration Council on Pacific Gas & Electric Company 1994 Energy Cost Adjustment Clause (CPUC Application No. 94-04-002) on the value of Qualifying Facilities for PG&E and the O&M costs avoided by QFs
- Testimony on behalf of Sithe Energies, Inc on Combined Long Run Avoided Cost and Generic Fuel Adjustment Clause proceeding (NY PSC Cases 93-E-0912 and 93-E-1075) on the appropriate long and short run avoided energy costs for Qualifying Facilities.
- Testimony on behalf of Sithe Energies, Inc on Niagara Mohawk Power Corporation 1993 Rate Case (NY PSC Cases 93-E-0376, et al.) on the appropriate bases for calculating the short run avoided energy costs for Qualifying Facilities for NMPC.
- Testimony on behalf of Kamine and Besicorp Companies on New York Public Service Commission Curtailment Proceeding (NY PSC Case Nos. 92-E-0814 and 88-E-081) on the need for Niagara Mohawk Power Corporation to curtail Qualifying Facilities
- Testimony on behalf of KELCO Division of MERCK & Co., Inc. on San Diego Gas & Electric Company 1992 Energy Cost Adjustment Clause (CPUC Application No. 92-09-078) on the value of Qualifying Facilities for SDG&E and the O&M costs avoided by QFs
- Testimony on behalf of California Cogeneration Council on Southern California Edison 1992 Energy Cost Adjustment Clause (CPUC Application No. 92-05-047) on the value of Qualifying Facilities for SCE
- Testimony on behalf of California Cogeneration Council on Pacific Gas & Electric Company 1992 Energy Cost Adjustment Clause (CPUC Application No. 92-04-001) on the value of Qualifying Facilities for PG&E and the O&M costs avoided by QFs
- Testimony on behalf of KELCO Division of MERCK & Co., Inc. on San Diego Gas & Electric Company 1991 Energy Cost Adjustment Clause (CPUC Application No. 91-09-059) on the value of Qualifying Facilities for SDG&E and the O&M costs avoided by QFs
- Testimony on behalf of California Cogeneration Council on Pacific Gas & Electric Company 1991 Energy Cost Adjustment Clause (CPUC Application No. 91-04-003) on the value of Qualifying Facilities for PG&E
- Testimony on behalf of California Cogeneration Council on Pacific Gas & Electric Company 1990 Energy Cost Adjustment Clause (CPUC Application No. 90-04-003) on the value of Qualifying Facilities for PG&E
- Testimony on behalf of California Cogeneration Council on San Diego Gas & Electric Company 1989 Energy Cost Adjustment Clause (CPUC Application No. 89-09-031) on the value of Qualifying Facilities for SDG&E

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- Testimony on behalf of California Cogeneration Council on Pacific Gas & Electric Company 1989 Energy Cost Adjustment Clause (CPUC Application No. 89-04-001) on the value of Qualifying Facilities for PG&E (1989, Phases I and II)
- Testimony on behalf of California Cogeneration Council on Pacific Gas & Electric Company 1990 Test Year General Rate Case (CPUC Application No. 88-12-005) on the amount of utility operations and maintenance costs avoided by the presence of QF generation.
- Testimony on behalf of California Cogeneration Council on San Diego Gas & Electric Company 1988 Energy Cost Adjustment Clause (CPUC Application No. 88-07-003) on the value of Qualifying Facilities for SDG&E.
- Testimony on behalf of California Cogeneration Council on Pacific Gas & Electric Company 1988 Energy Cost Adjustment Clause (CPUC Applications Nos. 88-04-020 and 88-04-057) on the value of Qualifying Facilities for PG&E (1988, Phases I and II).