NYISO Business Issues Committee Meeting Minutes October 11, 2017 10:00 a.m. – 11:00 a.m.

1. Introductions, Meeting Objectives, and Chairman's Report

Mr. Scott Butler (Con Edison) called the meeting to order at 10:00 a.m. by welcoming the members of the BIC. The members of the BIC identified themselves and attendance was recorded. A quorum was determined.

2. Approval of BIC Minutes

There were no comments or questions regarding the draft meeting minutes for the September 12, 2017 BIC meeting that was included with the meeting material.

Motion #1:

Motion to approve the September 12, 2017 BIC meeting minutes.

Motion passed unanimously.

3. Market Operations Report and Broader Regional Markets Report

Mr. Michael DeSocio (NYISO) reviewed the Market Operations report posted with the meeting material. There were no questions or comments.

Mr. DeSocio reviewed the Broader Regional Markets report included with the meeting material. Ms. Patti Caletka (NYSEG) asked if the NYISO could provide any additional information regarding the expected timing for a joint stakeholder meeting with PJM to further discuss cost sharing for the Ramapo phase angle regulators (PARs). Mr. DeSocio stated that no definitive date has been established at this time, but that it was unlikely that any such meeting would occur prior to late November/early December 2017.

4. Inverter-Based Technology Providing Ancillary Services - Tariff and Manual Revisions

Mr. Daniel Noriega (NYISO) reviewed the presentation included with the meeting material.

Mr. Howard Fromer (PSEG) sought clarification regarding the timing for implementing the proposed changes. Mr. Noriega stated that the changes are planned to go into effect shortly after approval by FERC.

Motion #2a:

Motion to amend motion #2:

The Business Issues Committee ("BIC") hereby recommends that the Management Committee ("MC") approve revisions to the NYISO's Market Administration and Control Area Services Tariff and Open Access Transmission Tariff as described in the tariff revisions accompanying the presentation entitled "Inverter-Based Technology Providing Ancillary Services – Tariff and Manual Revisions," made at the October 11, 2017 BIC meeting (the "October 11 Presentation"). The BIC further approves the revisions to the NYISO's Ancillary Services Manual as described in the manual revisions accompanying the October 11 Presentation made to the BIC which shall only take effect upon approval of the associated

Motion passed unanimously.

Tariff revisions by FERC.

Motion #2:

The Business Issues Committee ("BIC") hereby recommends that the Management Committee ("MC") approve revisions to the NYISO's Market Administration and Control Area Services Tariff and Open Access Transmission Tariff as described in the tariff revisions accompanying the presentation entitled "Inverter-Based Technology Providing Ancillary Services – Tariff and Manual Revisions," made at the October 11, 2017 BIC meeting (the "October 11 Presentation").

The BIC further approves the revisions to the NYISO's Ancillary Services Manual as described in the manual revisions accompanying the October 11 Presentation made to the BIC which shall only take effect upon approval of the associated Tariff revisions by FERC.

Motion passed unanimously.

5. MMA Attachment H and Market Services Tariff General Rules Updates

Mr. Nick Shelton (NYISO) reviewed the presentation included with the meeting material.

Mr. Liam Baker (Eastern Gen) asked if the NYISO was provided any flexibility to allow use of a submitted fuel cost adjustment (FCA) if that FCA fails the bias test. Mr. Shelton stated that the proposal is intended to provide the NYISO greater flexibility by allowing market participants the opportunity to demonstrate that the FCA is consistent with competitive behavior even in cases where the difference between the FCA and actual fuel costs exceed the proposed threshold.

Mr. David Clarke (PSEG LI) asked what granularity of pricing is used for real-time impact test. Mr. Shelton stated that the NYISO utilizes hourly integrated real-time prices.

Ms. Doreen Saia (Greenburg Traurig) sought clarification regarding how the penalty structure that forbids use of FCAs as a result of submitting inaccurate fuel type or fuel price information is intended to operate under circumstances where a market participant does not incur any additional bans on the use of the functionality for one year after having its eligibility to submit FCAs is reinstated. Mr. Shelton stated that if a market participant has been eligible to submit FCAs without any bans from using the functionality for a one year period, the penalty structure on bans from using the functionality would reset as if the market participant had not been subject to any prior bans.

Mr. Fromer asked how often the NYISO is able to update its fuel cost indexes in real-time to reflect real-time volatility in the gas market. Mr. Shelton explained that the FCA functionality and associated thresholds are intended to allow market participants to make adjustments in real-time to reflect the actual fuel costs that are being experienced.

Mr. Timothy Lundin (NYPA) provided the following statement for the minutes:

NYPA would like to raise a concern regarding the tariff updates dealing with inaccurate fuel pricing. We are concerned with the how penalties are being assessed for real time gas price deviations. The real time penalties are assessed when the Reference Level Software is updated with gas prices based on a Day-Ahead index price. We request that the NYISO going forward work with stakeholders on building a more robust and intuitive system for monitoring and confirming intra-day gas prices from generators submitting real-time gas price information.

Motion #3:

The Business Issues Committee ("BIC") hereby recommends that the Management Committee ("MC") approve revisions to the NYISO's Market Administration and Control Area Services Tariff ("Services Tariff") as more fully described in the "Fuel Cost Adjustments and Min Oil Burn Compensation Program" presentation made to the BIC on October 11, 2017.

Motion passed unanimously.

6. eTariff Webviewer Enhancements Update

Mr. Ray Stalter (NYISO) and Mr. John Bub (NYISO) reviewed the presentation included with the meeting material. There were no questions or comments.

7. Working Group Updates

• Billing and Accounting and Credit Working Group – The group has not met since the last BIC meeting.

- <u>Electric System Planning Working Group</u> The group met on October 10, 2017 and discussed proposed changes to the RNA base case inclusion rules.
 Separately, related to the Western New York Public Policy Transmission Planning Process, the NYISO Board of Directors (Board) will meet on October 17, 2017 to consider the approval of the NYISO's report for the Western New York Public Policy Transmission Need. Stakeholders have submitted comments, which were forwarded to the Board along with the NYISO's report. The Board will hear oral presentations from NYSEG, NYPA, and NextEra regarding this topic on October, 16, 2017. NYISO will also provide a teleconference to allow other market participants to listen to the oral presentations.
- Installed Capacity Working Group The group met on September 18, 2017 and reviewed the September 2017 ICAP Spot Market Auction pricing issue related to the PJM interface, the deliverability requirements for UDRs, and the on ramps and off ramps proposal. The group also met on September 28, 2017 and reviewed alternative methodologies for determining LCRs, the on ramps and off ramps proposal, the proposed methodology for conducting a consumer impact analysis related to the on ramps and off ramps proposal, and the Analysis Group's draft report on performance assurance.
- Electric Gas Coordination Working Group The group has not met since the last BIC meeting.
- <u>Load Forecasting Task Force</u> The group met on September 15, 2017 and reviewed the 2017 NYCA coincident load and weather data. The NYISO also presented two alternative weather normalization models and two methods for weather normalization. The group also met on October 2, 2017 and continued discussions regarding the two weather normalization methods presented at the September 15th meeting, as well as reviewed 2017 weather adjusted peak loads and the 2018 peak load forecast for the IRM study.
- Market Issues Working Group The group has met three times since the last BIC meeting. On September 25, 2017, the group met and reviewed an update regarding the real-time market impact assessment being conducted as part of the Integrating Public Policy initiative, a presentation from the City of New York regarding the "NYC 80x50 Roadmap," securing 100+kV transmission facilities in the market model, and proposed updates to certain fuel cost adjustment and minimum oil burn compensation program rules. The group met on September 29, 2017 and reviewed an updated regarding the Distributed Energy Resources (DER) pilot program, DER eligibility and performance obligations, dual participation of DER in wholesale and retail markets/programs, an update regarding the DER meter data study and the provision of more granular load pricing. The group also met on October 3, 2017 and reviewed the integration of large solar projects into the market, an overview of certain additional functionality being deployed for NERC eTag POR/POD designations for external transactions, a recent Accepted Revision to OATT Attachment L related to Contract Nos. 189.1 and 190.1, proposed day-ahead scheduling logic and mitigation framework for energy storage resources, an overview of the constraint specific demand curves project and the market structure assessment with 50% renewable generation as part of the Integrating Public Policy initiative.
- <u>Price Responsive Load Working Group The group met jointly with the MIWG on September 29, 2017 and reviewed the DER-related topics.</u>

8. New Business

There was no new business.

Meeting adjourned at 11:00 a.m.

Business Issues Committee Meeting

October 11, 2017 Final Motions

Motion #1:

Motion to approve the September 12, 2017 meeting minutes.

Motion passed unanimously.

Motion #2a:

Motion to amend motion #2:

The Business Issues Committee ("BIC") hereby recommends that the Management Committee ("MC") approve revisions to the NYISO's Market Administration and Control Area Services Tariff and Open Access Transmission Tariff as described in the tariff revisions accompanying the presentation entitled "Inverter-Based Technology Providing Ancillary Services – Tariff and Manual Revisions," made at the October 11, 2017 BIC meeting (the "October 11 Presentation").

The BIC further approves the revisions to the NYISO's Ancillary Services Manual as described in the manual revisions accompanying the October 11 Presentation made to the BIC which shall only take effect upon approval of the associated Tariff revisions by FERC.

Motion passed unanimously.

Motion #2:

The Business Issues Committee ("BIC") hereby recommends that the Management Committee ("MC") approve revisions to the NYISO's Market Administration and Control Area Services Tariff and Open Access Transmission Tariff as described in the tariff revisions accompanying the presentation entitled "Inverter-Based Technology Providing Ancillary Services – Tariff and Manual Revisions," made at the October 11, 2017 BIC meeting (the "October 11 Presentation").

The BIC further approves the revisions to the NYISO's Ancillary Services Manual as described in the manual revisions accompanying the October 11 Presentation made to the BIC which shall only take effect upon approval of the associated Tariff revisions by FERC.

Motion passed unanimously.

Motion #3:

The Business Issues Committee ("BIC") hereby recommends that the Management Committee ("MC") approve revisions to the NYISO's Market Administration and Control Area Services Tariff ("Services Tariff") as more fully described in the "Fuel Cost Adjustments and Min Oil Burn Compensation Program" presentation made to the BIC on October 11, 2017.

Motion passed unanimously.

New York Independent System Operator - Committee Membership

Business Issues Committee - October 11, 2017 - NYISO - Parties Checked in Attendance

Organization	Sector	Representative	Alternate1	Alternate2	Alternate3	Alternate4	Alternate5	Alternate6	Alternate7	Proxy	Guest
Astoria Energy LLC	Generation Owners	McCall, Chuck	Browne, Scott	Habib , Phillipe	Singer, Leonard						
Bayonne Energy Center, LLC	Generation Owners	Allman, Ellen	Yang, Sue								
CPV Valley LLC	Generation Owners	Litchfield, Matt	Rumsey , Tom								
Calpine	Generation Owners	Kruse, Brett	Reitmeyer, Jay	Flumerfelt, John	Schleimer, Steve						
Cricket Valley Energy Center	Generation Owners	De Meyere , Bob	Wallenstein , Arnold	Paryl , Ron		-					
EDP Renewables North America LLC	Generation Owners	Brodbeck, John	Kaplan , Seth	Nemeth , Jeffrey	High , Jeremy						
East Coast Power, LLC	Generation Owners	Shanker, Roy	Fogarty, Thomas	Lee, Tina	Franzetti , Paul						
Entergy Nuclear Northeast	Generation Owners		Saia, Doreen	Bergeron , John							
Helix Ravenswood LLC	Generation Owners	D'Andrea , James	Kline , Marc	DiBari , Dominic							
Howard Wind LLC	Generation Owners	Merich , Olivia	Rugh , Chris								
Indeck Energy Services, Inc.	Generation Owners	1	✓Younger, Mark								
Innovative Energy Systems	Generation Owners	Zeliff, Peter	Henningham, Scott								
Invenergy Energy Management LLC	Generation Owners	Pakula , Maggie	Goldstein, Michael	Orzel , Chris							
National Grid Generation LLC	Generation Owners	Kain , Terrence	McCabe, Brian								
Noble Environmental Power LLC	Generation Owners	Silton , Harry	ъ т								
Selkirk Cogen Partners, LP	Generation Owners	Biittig, Timothy	Ryan , James	McMonyo John							
Somerset Operating Company, LLC BJ Energy LLC	Generation Owners Other Suppliers	Evanoski , Dave Ni, Bing	Goodenough, Jeery Lee, George	McManus , John							
BP Energy Company	Other Suppliers	Briscoe , Judy	Magruder, Kathy								
BioUrja Power, LLC	Other Suppliers Other Suppliers	Moore, Cody	Ward, Roxie								
BlueRock Energy, Inc.	Other Suppliers	Nichols , Jim	Yeager, Keith	VanHorne, Phil	Graham , Tammy						
Brookfield Energy Marketing L.P.	Other Suppliers	LaRoe , Chris	Mitreski , Aleksandar	Mitelman, Rimma	Dallaire , Eric						
CPower	Other Suppliers	Dotson-Westphalen, Peter	Hourihan , Michael	Damaskos , Deno	Campbell , Bruce						
Castleton Commodities Merchant Trading L.P.		Stuss, Gordon	Romine , Brad	Emmett, Robert	Campoen, Druce						
Castleton Commodities Merchant Trading L.P. Citigroup Energy Inc.	Other Suppliers Other Suppliers	Stuss , Gordon Trayers, Barry	Komme , Drad	Emmen , Kobert		1					
Con Edison Solutions Inc.	Other Suppliers	Mah, Norman	Dannels , Jeff								
Constellation New Energy	Other Suppliers	Wentlent, Chris	Kirk, Steven			-					
Cross Sound Cable Company, LLC	Other Suppliers Other Suppliers	Reinhart, Brian	Rork, Steven Rotger, Jose								
DC Energy	Other Suppliers	Bleiweis, Bruce	Stevens, Andrew	Tate, Matthew	Milberg, Sadao	Jeev , Kumar					
DTE Energy	Other Suppliers	Pakela, Gregory	Wieszczyk, Raymond	German, Robert		, ramai					
Direct Energy Business Marketing, LLC	Other Suppliers	Philips , Marjorie	Comstock, Read	Commin, Robert							
Dynegy Marketing and Trade	Other Suppliers	Roby, Rick	Ellis, Dean	Ziegler, Pete		1					İ
EDF Trading North America, LLC	Other Suppliers	Erbrick , Michael	LeForce , Randall								
Eastern Generation	Other Suppliers	✓ Baker, Liam	Reese, John	✓ Younger, Mark	Schwall , Matthew	Johnson , David	Wolcott , Tyler				
EnerNoc	Other Suppliers	Brewster, David	Geller , Greg		Í	Í					
Energy Spectrum	Other Suppliers	David, Gary	Ahrens, David	Neiburg, David	Iskowitz, Aron	Brown, Ruben	Pentland, William	Villegas , Cristina	Cinadr , Matt		
Energy Technology Savings	Other Suppliers	Hendler , Jeff	Ross , Valerie	_				_			
Exelon Generating Co. LLC	Other Suppliers	Wentlent, Chris	Kirk , Steven								
GDF Suez Energy NA, Inc.	Other Suppliers	Levine , Jeffrey	Hawkins , Darin	Campbell, Chad							
Galt Power	Other Suppliers	Fernands, Rochelle	✓ Ackerman, Alan								
HQ Energy Services US	Other Suppliers	✓ Plante , Matthieu	✓ Leuthauser, Scott	Guilbault, Louis							
Innoventive Power	Other Suppliers	Gruber, Craig	Halford, Steve								
Lyonsdale Biomass, LLC	Other Suppliers	Ralston , William	Hebel, Nathan	Carrigan, Kathleen							
Mercuria Energy America, Inc.	Other Suppliers	Davis , Andrew	✓Younger, Mark								
Morgan Stanley Capital Group, Inc.	Other Suppliers	Murray, Patrick	Kochonies, Karen	Ezickson, Doron							
NRG Power Marketing Inc.	Other Suppliers	✓ Joseph , Kelli	Fuller, Peter	Cona , Lisa							
New York Transco	Other Suppliers	Nachmias, Stuart	Hitti , Nabil	Caso , Rob	Carrigan , Kathleen	Dumais , Paul					
NextEra Energy	Other Suppliers	Applebaum, David	Gardner, Michelle	Gibelli , Stephen	5 ,						
Noble Americas Gas & Power Corp.	Other Suppliers	Boston, Roy	Kyle, Chris	Sunga, Leonard							
Ontario Power Generation, Inc.	Other Suppliers	Lacivita, Ken	Gell, Richard	Barr, David	Sheinfield, Joel						
PSEG Energy Resource & Trade, LLC	Other Suppliers	✓ Fromer, Howard	DePillo, Raymond	Messmer, Robert	Murawski , James						
Riverbay Corporation	Other Suppliers	Merola , Peter	Ellison , Noel	Ahrens, David	Villegas, Cristina						
SESCO Enterprises, LLC	Other Suppliers	Schubiger, Michael	Thoresen, James		_						
Shell Energy North America, LLC	Other Suppliers	Picardi, Matt									
Talen Energy	Other Suppliers	Hohenshilt , Jennifer	Labella , Julie	Kershner, Zane	Klicker, Owen						
TransCanada Power Marketing, Ltd.	Other Suppliers	Cahill , Paul	Schuler, Richard	Murphy , Tonya							
Viridity Energy, Inc.	Other Suppliers	Freifeld, Allen									
Vitol Inc.	Other Suppliers	Wadsworth, Joe	Viola , Bob	Kam, Kenney							
XO Energy NY, LP	Other Suppliers	Drangula, Carey	Thompson, Matthew	Hughes, Adam							

Organization	Sector	Representative	Alternate1	Alternate2	Alternate3	Alternate4	Alternate5	Alternate6	Alternate7	Proxy	Guest
Central Hudson Gas & Electric Corp.	Transmission Owners	Borchert , John	Chan, Ting	May , Jeff	Dittmann, David						
Consolidated Edison Co. of NY, Inc.	Transmission Owners	Quin , Jane	Nachmias, Stuart	✓ Butler, Scott	Hargett , Chris	Butterklee, Neil					
National Grid	Transmission Owners	Janzen , Margaret	Lodemore , David	✓ Carron , Benjamin							
New York State Electric & Gas (NYSEG)	Transmission Owners	✓ Caletka, Patricia	Kinney, Ray	Brophy , Richard							
		Valetka, Patricia	Kimicy, Kay	Brophy , Kichard							
Orange & Rockland Utilities, Inc. Rochester Gas and Electric Corp.	Transmission Owners Transmission Owners	Coloder Peril	Vinner D	Duomber Diete 1							
•		Caletka, Patricia	Kinney, Ray	Brophy , Richard	Long Wi-						
Alcoa, Inc.	Large Consumer	Mager, Michael	Loughney, Robert	Trinsey , Amanda	Lang, Kevin						
IBM Corporation	Large Consumer	Mager, Michael	Loughney, Robert	Trinsey , Amanda	Lang, Kevin						
Nucor Steel Auburn, Inc. Occidental Chemical Corp.	Large Consumer	Brew , James	Radigan, Frank	Kopon , Owen	Long Varia						
•	Large Consumer	Mager, Michael	Loughney, Robert	Trinsey , Amanda	Lang, Kevin						
Wegmans Food Markets Metropolitan Transportation Authority	Large Consumer Government Agency	Mager, Michael	Loughney, Robert	Trinsey , Amanda	Lang, Kevin						
Metropolitan Transportation Authority	Large Consumer Government Agency Small Consumer	Keller , David	Chou, Frances	Lang Varia	Magar Misha-1	Trincer Amaria					
American Sugar Refining, Inc		Luthin, Catherine	Breidenbaugh , Aaron	Lang, Kevin	Mager, Michael	Trinsey , Amanda					
Association for Energy Affordability	Small Consumer	Morris, Jackson	Hepinstall, David	Strauss , Valerie	V 25.1	m	1				+
Beth Israel Health Care System	Small Consumer	Luthin, Catherine	Breidenbaugh , Aaron	Lang, Kevin	Mager, Michael	Trinsey , Amanda					
Fordham University	Small Consumer	Luthin, Catherine	Breidenbaugh, Aaron	Lang, Kevin	Mager, Michael	Trinsey , Amanda					
Memorial Sloan Kettering Cancer Center	Small Consumer	Luthin, Catherine	Breidenbaugh, Aaron	Lang, Kevin	Mager, Michael	Trinsey, Amanda					
Mount Sinai Medical Center	Small Consumer	Luthin, Catherine	✓ Breidenbaugh , Aaron	Lang, Kevin	Mager, Michael	Trinsey, Amanda					
New York University	Small Consumer	Luthin, Catherine	✓Breidenbaugh, Aaron	Lang, Kevin	Mager, Michael	Trinsey, Amanda					
Utility Intervention Unit, Division of Consumer Protection, NY Dept. of State	Government Statewide Consumer Advocate	Hogan , Erin	✓ Montalvo , Marc	Kordonis, Dimitrios	Zimmerman , Michael						
City of New York	Government Small Consumer and Retail Aggregate	Lang, Kevin	Mager, Michael	Trinsey , Amanda							
NYS Energy Research & Dev. Authority	Government Small Consumer and Retail Aggregate	Hall , Christopher	Coup, David	Mas , Carl	Wilcox , James	Matteson , Schuyler					
Long Island Power Authority	State Power Authorities	Clarke, Dave	✓ Wilczek , Mariann								
New York Power Authority	State Power Authorities	✓Antinori , Andrew	Boyle, Bob	Lundin , Tim	✓ Mahoney , Daniel						
Bath Electric, Gas & Water Systems	Municipalities and Coops	Hallgren, Guy	Bolbrock, Richard	Cordeiro, Mark							
Freeport Electric	Municipalities and Coops	Livingston, Al	Kimlingen, Ted	✓ Rudebusch, Tom	Fiore, Chris						
Jamestown Board of Public Utilities	Municipalities and Coops	Gustafson, David	Leathers, David	Kulig, Steve	✓ Rudebusch, Tom	Sellstrom , Kris					
Lake Placid Village	Municipalities and Coops	Kroha, Peter	Bolbrock, Richard	Cordeiro, Mark							
Municipal Commission of Boonville	Municipalities and Coops	Stabb, Kenneth	Bolbrock, Richard	Cordeiro, Mark							
Plattsburgh Municipal Lighting Dept	Municipalities and Coops	Treacy, William	Bolbrock, Richard	Cordeiro, Mark							
Village of Arcade	Municipalities and Coops	Kilburn, Larry	Bolbrock, Richard	Cordeiro, Mark							
Village of Fairport	Municipalities and Coops	Hegarty, Matt	Bolbrock, Richard	Cordeiro, Mark							
Village of Rockville Centre	Municipalities and Coops	Andreas , Philip	Cardile , Thomas	✓ Rudebusch, Tom							
Village of Solvay	Municipalities and Coops	Hawksby, Joe	Bolbrock, Richard	Cordeiro, Mark							
Village of Westfield	Municipalities and Coops	Thompson , Andrew	Bolbrock, Richard	Cordeiro, Mark							
American Lung Association	Environmental	Epstein , Roni	Seilback, Michaek	Morris, Jackson							
American Wind Energy Association	Environmental	Reynolds, Anne	Gramlich, Robert	Beck, Betsy	Goggin , Michael	Gohn , Andrew	Grace, Gene				
Environmental Advocates	Environmental	Bambrick, Conor	Epstein, Roni	Morris, Jackson							
Environmental Defense Fund	Environmental	Christian , Rory	Stein , Elizabeth								
Natural Resources Defense Council	Environmental	Farmer, Miles	Morris, Jackson	Viswanathan@nrdc.org,							
DACE F. A. C				Kala							
PACE Energy & Climate Center	Environmental	Martin , Nicholas	Valova , Radina	Farmer , Miles							
Riverkeeper	Environmental Non Voting	Gallay , Paul	Jones , Abigail	Doran , Erin			1				
AEP On-Site Partners, LLC	Non Voting	Jansen , Joel	Kakodkar , Guatam								
AES ES Holdings LLC	Non Voting Non Voting	Hillman , Sharon Howland , Jamie	Kumaraswarmy , Kiran								
Acadia Center Acadia Energy Corporation	Non Voting Non Voting		Malone , Leslie Bay , John								
Advanced Energy Economy, Inc.	Non Voting Non Voting	Rappaport , Jason Katofsky , Ryan	Waggoner, Danny								
Advanced Energy Economy, Inc. Advanced Migrogrid Solutions, Inc.	Non Voting Non Voting	Jackson , Mike	Yamout, Manal								
Alliance for Clean Energy New York	Non Voting Non Voting	Reynolds , Anne	Dufresne, Zach								
Anharic Northeast Transmission Development Co.	Non Voting Non Voting	Sanderson , Barry	Dullosiie, Zaeli								
Appian Way Energy Partners East, LLC	Non Voting Non Voting	Levy, Tal	Klein, Abram	Shen, Dong	Westlund , John	Laich , Marcus					
Ardor Energy LLC	Non Voting Non Voting	Breen, Erika	ixiom , riorani	Shen , Dong	Trestrand , John	Laien , maicus					
Boston Energy Marketing & Trading	Non Voting Non Voting	Kramek, Mike									
	Non Voting	Viswanathan , Samira	Mayor Candra								
Bruce Power Caithness Energy LLC	Non Voting Non Voting	Viswanathan , Samira Keevill , Gary	Meyer, Sandra	Garber, Mitchell							
Calpine Energy Solutions	Non Voting Non Voting	Sun , Jungsuk	Alvarez , Asavari Nakhonthap , Jade	Sunga , Leonard							
· · · · · · · · · · · · · · · · · · ·		_		Sunga , Leonalu							
Canandaigua Power Partners, LLC	Non Voting	Keene , John	Gaddes , Caleb								
Chesapeake Trading Group, LLC Cubit Power One Inc.	Non Voting Non Voting	Staska , Stephanie Powell , Alan	Hocker, Geoff Powell, Leighton	Singer, Leonard							
Customized Energy Solutions	Non Voting Non Voting	Mancini, Rick	Fernands, Stephen	Rexrode, Caryn	✓ Ackerman, Alan						
Customized Energy Soludons	Non Voting	Iviancini, Kick	Salehian , Afshin	Kealoue, Caryli	ACKEIIIIII, AIIII					1	1

Organization	Sector	Representative	Alternate1	Alternate2	Alternate3	Alternate4	Alternate5	Alternate6	Alternate7	Proxy	Guest
Demand Energy Networks	Non Voting	Staker, Doug	Cook-Coyle , Jeff								
Earth Networks	Non Voting	Crawford, Jaden				İ					
Energya VM	Non Voting	Garcia, Francisco	Maeso, Manual	Lopez, Ana	Silveira, Juan	İ					
Fluent Energy	Non Voting	Acampora, Peter	Doll, Ed			İ					İ
Hudson River Energy Group	Non Voting	Radigan, Frank	Canfield, Richard			İ					
Hydro-Quebec TransEnergie	Non Voting	Prevost , Michel									
TC Mid-Atlantic Development LLC	Non Voting	Wrenbeck, Tom	Benedict, Nathan								
berdrola Renewables Inc	Non Voting	Allen, Thresa									
nnovari, Inc.	Non Voting	Lunt, Robin	Hodges, Brent								
Institute for Policy Integrity at NYU School of Law	Non Voting	Unel , Burcin	Noll, Bethany								
Key Capture Energy	Non Voting	Fitzgerald, Dan	Bishop , Jeff								
MAG Energy Solutions, Inc.	Non Voting	Pelletier , Simon	Vezina, Alexandre								
NRG Curtailment Solutions, Inc.	Non Voting	Popova , Julia	Ainspan, Malcolm	Pieniazek, Marie							
NY-BEST Consortium	Non Voting	Acker, William	Sheehan, Denise								
NYS Department of Public Service	Non Voting	Paynter, Thomas	✓Evans , Adam								
National Fuel Gas Distribution Corporation	Non Voting	Novak , Michael	Eck, Robert								
New Athens Generating Co. LLC	Non Voting	DeVinney, Dan				İ					
Northeast Clean Heat & Power Initiative	Non Voting	Venkataraman, Sree	Lilian , Jon	Dwyer , Herb	Brown, Ruben	Cinadr, Matt	Martin , Nicholas	Villegas, Cristina			
Northline Utilities LLC	Non Voting	McKinney, Jeff	Danskin , Susan	•							
NuEnergen	Non Voting	Hamilton , Sandy	Korczykowski, Ryan								
Power Supply Services LLC	Non Voting	Phillips , Gabriel	✓ Abend , Erik			İ					
RBC Energy Services, LP	Non Voting	Burnham, Steve	Fraiture , Christian	Doolittle, Robin							
RENEW Northeast	Non Voting	Pullaro , Francis	Krich, Abigail	ŕ							
RES Americas, Inc.	Non Voting	Fernandes, John	Boyd , Dan								
Red Wolf Energy Trading, LLC	Non Voting	Sharma , Rishi									
Richard P. Felak	Non Voting	Felak, Rich									
STEM, Inc.	Non Voting	Ko, Ted				İ					
Saracen Energy East LP	Non Voting	Peebles , Andy									
Siemens Energy, Inc.	Non Voting	Feltes, James									
SolarCity Corporation	Non Voting	Watson, Betty	Khan , Jamil	Reinhardt, Jessica							
Stephentown Spindle, LLC	Non Voting	Hebert , Chris									
Caylor Biomass Energy, LLC	Non Voting	Taylor , Jim	Page, Allan								
Fesla Motors, Inc.	Non Voting	Burson , Kate	Van Cleve , Sarah								
ΓransAlta Energy Marketing (U.S.) Inc.	Non Voting	Nivolianitis, Ted									
Transmission Developers Inc.	Non Voting	Jessome , Donald	Helmer, William	Dave , Suresh							
Transource New York, LLC	Non Voting	Burkholder, Joshua									
William P. Short	Non Voting	Short, William	Schaefer, Marc		Savage, Paul	Verna, Jim					

NYISO Employees

Stalter, Ray

Bub, John

Shelton, Nick

Noriega, Daniel

Bissell, Garrett

DeSocio, Michael

Dixon, Kirk Eckels, Debbie