

# LYNX ELECTRIC CURRENTS

November 2015

## Editor's Notes:

Written by Bert Spaeth

While we pause to give thanks for all our blessings this Thanksgiving, a very dynamic energy industry continues to evolve and change. Deregulated markets for power purchasing are being challenged by naysayers questioning the savings as regulators tighten marketing rules to maintain consumer confidence in retail power sales. The concept of retail power was to give consumers choice, new services and energy related products such as energy efficiency, green power purchasing, net metering, renewable energy and the list goes on. Marketing organizations such as RESA (Retail Energy Supply Association) and NEM (National Energy Marketers) have provided data to show that deregulated markets have lower rate increases and have proven savings when compared to regulated states. They are also quick to point out that the majority of deregulation has taken place in the eastern states which has higher overall costs for labor, taxes, and environmental costs which in their opinion means comparing their cost per kWh to western regions may not be a meaningful comparison. Regulated states are facing coal plant shut-downs as EPA Orders take effect and mandated renewable energy standards, carbon reduction programs will drive kWh pricing. Without the support, flexibility and innovation of the private sector, those challenges are driving costs up. Meanwhile states like New York are pushing forward changing the way power is handled, produced, distributed and purchased. Meeting social policy goals for cleaner, greener, renewable, more reliable energy is the goal. The REV (Reforming Energy Vision) blueprint for NY is addressing NYGATS (New York Generation Attribute Tracking System), AED (Aggregated Energy Data) programs, and the list goes on. Policies and funding programs for DG (Distributive Generation), DR (Demand Reduction) are seeing spin off programs which includes Community Renewable Energy Projects coupled with Aggregated Energy Data which allows customer to participate in net metering with renewable energy generation and receive utility credit. Low Income Custom Collaborative, another REV spawned program will allow Low Income residents to participate in retail power purchase along with the additional benefits vendors can supply. As stated earlier the energy industry changing.

Moving into 2016 will see additional changes. Court ruling will determine the future of FERC 745 and the future of DR programs. Challenges to the various EPA rules such as MATS (Mercury and Air Toxic Standards), CPP (Clean Power Plan) and other air and water programs will be reviewed in terms of their social benefits versus any detrimental economic impacts. Perhaps the new administration will tackle some of these issues in 2017. The outcome will impact energy costs and fuel sources we use for generating power. Meanwhile enjoy the holidays and the low energy prices we are currently blessed with.



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## US Energy

Energy Storage is viewed as a technology that will support renewable energy. As green or renewable generation increases, energy storage is a critical component to make renewable energy more reliable. Obviously wind resources can vary and solar is only available when the sun shines. Storage changes the playing field for renewables by storing excess power when available and feeding back to the grid when the wind and solar generation is not available, removing a major complaint against renewable generation. Lithium battery technology comes to the rescue for successful battery storage systems. The Imperial Irrigation District is installing 30 MW's of storage to provide voltage stability and stabilize capacity of renewable energy sources. While California is currently leading the movement, the Hawaiian Electric Co. is developing 200 MW's of renewable storage. Oncor, a Texas transmission distribution company recently announced a plan to install 5,000 MW of battery storage. Besides battery storage, other options include: Hydro storage, compressed air, capacitors, spinning flywheels, and thermal storage. Smart Grid and the quick response from Lithium batteries for charging and providing capacity and stiffer voltage, when needed, will provide more flexibility for grid operators to maintain voltage and insure sufficient grid capacity.

## NYISO Updates

A coming together of all major energy players in NY has requested FERC to reconsider the previous approval of the NYISO buyer side mitigation rule. The players include NYSERDA, NYPA, NY PSC, and the State of New York. The state entities are opposed to present NYISO policy regarding how renewable energy is measured, which technologies qualify and how the capacity is priced. The NY group points out the state goals will not be met with current NYISO policies and in order to achieve the goals of REV and the energy policies of the state, FERC needs to allow NYISO to change how renewable energy, DR and new technologies can be used. State entities argued that FERC was too narrow with which technologies, the total number exemption for renewable, intermittent resources and capping annual DR. The concern is that lower incentives and caps will impede development of renewable energy and DR projects which is inconsistent with the federal Clean Power Plan,



### Tip of the Month!

Over the past year this newsletter has mentioned value added service in order to grow business and the all-important retention. Without value added services, retail power sales is strictly a commodity. Ask yourself how you purchase your gasoline. Is it cheapest price, is it that friendly corner gas station that pumps the gas for you and maybe cleans your window or at least provides window cleaning brush and fluid? As a service provider, we are faced with providing value to gain and retain customers. The list below shows many of our value added services which are available to you. However many of those services can also be available for your customers through you. With our IT services, complete line of Cummins generators, and a list of energy and engineering services you can be competitive and offer a wide variety of value added services including:

- Wholesale power procurement
- Billing and rate analysis
- REC (Renewable Energy Credits) Procurement
- Energy Engineering Services
- Energy Efficiency Engineering
- DR and NYISO SCR support
- Emergency and back-up Cummins Generators
- Multiple lines of IT equipment from software, hardware, computers, servers
- IT services including installation, software and hardware upgrades
- Equipment and system upgrades
- Turn-key projects in both Generation and IT
- Procuring and selling renewable energy including REC's
- Monthly newsletters both energy and IT, to keep you informed and up to date on industry trends, new regulations and important information for your business

Suppliers in ERCOT (Texas) will face a new marketing challenges as tariffs for free wind power during certain off peak periods are in the works. This program is designed to change consumer behavior to shift usage and shift loads to off-peak periods, lowering peak demand during the day. It certainly qualifies as a value added feature and has a societal benefit by lowering peak

### NYISO Updates Continued ...

stating the state needs DR to maintain grid reliability and avoid expensive distribution infrastructure investments. Should NYISO be forced to stay with the FERC ruling, DR projects will be impacted negatively as private sector participants will be reluctant to participate in DR programs. Fear of DR programs suppressing capacity markets is a major concern of generators and groups such as IPPNY (Independent Power Producers of New York). Utilities like Con Ed and Iberdrola, the parent company of RG&E and NYSEG, have stated that DR and NYISO I CAP programs while important are small enough not to have significant impact on capacity markets. Any changes allowing more technologies and raising the DR caps will require a ruling from FERC. DR has been a controversial program and is still being litigated in the US Supreme Court. Meanwhile NYISO and other ISO/RTO's are required to have sufficient reserve capacity and depend on DR to provide a low cost alternatives to building peaking power plants and other costly infrastructure. With the complexity of contracts, and timelines for capacity auctions, permitting and building DR projects, there is a sense of urgency for FERC to react and NYISO to modify the rules for DR.

### New York State Updates

As New York continues down the path of the REV policy, new issues and programs are and new resources are surfacing. One such program getting attention is "Aggregated Energy Data". This program will support community choice aggregation vendors, consumer and local community planners. For example, community solar projects in which consumers have a stake in the project and receive a portion of the renewable energy and associated utility credit. As the program evolves, customers with net metering and renewable energy resources will have energy usage data to share with potential vendors and have the ability to provide energy data to third party aggregators involved in community choice programs. The NY-PSC will require utilities to implement a uniform protocol for getting data to consumers. The data should be customer specific and detailed enough to enable a vendor to prepare an offer for new clients. Besides customer name and account information, the data will also need billing usage, account history, and load profile. The PSC is also reviewing data format and protocol to determine who is receiving the data information, and why they are receiving it. Consideration of the cost of preparing and distributing the data to potential vendors or ESCO's is under review. Currently the project is called "Green Button Contact".

Along with the "Aggregated Energy Data" provision, the PSC is looking at a program called "ESCO Low Income Customer Collaborative".

Such programs have been introduced in other RTO/ISO's. The program allows APP (Assisted Program Participants) to take advantage of deregulated markets and take advantage of the various energy efficiency programs. Involvement for such programs will include vendors, ESCO's, and suppliers. All participants must guarantee that customer payments per kWh will not exceed standard utility costs per kWh on the supply portion of the bill. In addition, participating vendors, suppliers and ESCO's will be required to provide energy related products and services. Details for verifying APP customer eligibility and how to inform APP customers about services, energy purchase and various supply purchasing options available are being developed. This program provides a huge potential customer market base but like many such programs the rules and regulations will cut into vendor, supplier and ESCO margins as they comply with government rules.

With the recent low energy prices and mild fall season, most consumers have forgotten the price spikes they faced in the "Polar Vortex of 2014. Not so with PULP (Public Utility Law Project). This group is stirring up questions about the validity and savings provided by retail power sales, calling it a costly mistake. NEM (National Energy Marketing Association) and RESA (Retail Energy Supply Association) are pushing back against PULP's allegations. PULP is basing their assertions on consumer complaints that peaked in 2014. NEM points out that consumers have the ability to switch suppliers if they are not satisfied or find better pricing options. NY has 2.6 million customers involved in retail power purchases. Actual complaints during the 2014 winter price spikes saw 4,683 consumer complaints. Most retailers provide value and realize the importance of customer retention, which is accomplished by providing value and good service. RESA joined the argument by pointing out that most business entities with less than 1% customer complaints from their total customer pool would be pleased with such a low percentage. The PSC will review the issues and develop policies to prevent overcharging by retailers.

### PJM Updates

PJM has released their winter load forecasting for 2015-2016. The report states the RTO has 177,628 MW of capacity available and the winter peak is estimated to be 131,720 MW's. The 2015-2016 winter peak demand forecast is around 12,000 MW's lower than the previous winter, based on weather forecasters projecting a milder winter for the mid-Atlantic region. The PJM report lists steps taken by the RTO to prepare for winter. PJM VP of operations, Michael Kormos states "PJM has taken many steps to reinforce generator readiness and to continue to improve coordination with natural gas pipeline operators". The steps taken include: Evaluating previous generator performance and outage data, evaluating electric transmission system and natural gas pipeline availability which impacts generator availability, winter generator testing of reserve generators, fuel inventory of oil coal and LNG at power plants, along with fuel supply contracts, and finally having natural gas industry spokesmen exchange data with power plant representatives to make sure fuel delivery and electric demand capacity match up. Lessons learned from the "Polar Vortex" of 2014 and steps taken, policy changes will improve reliability and avoid a repeat of 2014.

### FERC Updates

US Congressional Energy Committee has asked FERC to review PURPA (Public Utility Regulatory Policies Act of 1978) to make sure the law is still relevant and meets the needs of today's energy markets. Significant changes have taken place since 1978 including: Cheap shale gas, renewable energy costs have dropped, there is more renewable variety and capacity, along with distributive generation capacity which is growing. The big change is coming from the EPA regulations applied to generator emissions. FERC Orders have also impacted the energy market including: Wholesale power and bulk power markets, open access to the grid for private sector generators, retail supply markets, demand response programs, and the list goes on. Congress wants FERC to focus on the major areas including:

- Address regional energy imbalances in capacity, reliability and cost as well as tariffs and rules.
- Should 20 MW be the threshold for mandatory power purchase?
- Should power purchase obligations be mandatory if state regulators determine the power is not needed?
- Develop integrated resource versus must purchase agreement as PURPA establishes rates paid to generators.

### US Energy Markets

With continued growth of retail power sales, regulators are reacting to consumer complaints. The immediate response from regulators is to issue more regulations and restrict variable rates which can reduce potential energy savings for the customers. The regulators typically require more paperwork, monitoring and will require consumers to be educated about deregulated markets and power purchasing. Variable rates, confusing or vague contract language appear to be the major complaint. Illinois Competitive Commerce Commission is in the process of developing new consumer protection regulations to isolate and protect consumers from the "bad actors" selling power. Several suggestions including compliance workshops by the regulator staff for:

- Retailer compliance administrators when marketing variable rate supply
- Enhanced variable rate contracts language
- Disclosure, and definition of contract language

RESA (Retail Energy Supply Association) recommends stepped up enforcement by regulators of existing rules and regulations. Adding more regulations and paperwork will add costs, thereby reducing consumer incentives to participation in retail markets. RESA points out the new rules and regulations would impact retail sales negatively, giving an unfair advantage to utility default standard offer pricing. Regulators justify their actions based on consumer complaints, as regulators try to maintain consumer confidence in deregulated power markets. The need for consumer education includes, clear contract language, elimination of utility default rates and strict enforcement of marketing rules. Those measures will protect consumers and encourage greater consumer participation in retail power purchases.

### ISO-NE Updates

NEM (National Energy Markets Association) held a New England Policy Summit in Ambridge Massachusetts. The summit covered energy policies, telecommunications, internet technologies and symbiosis of all factions that impact the future of energy. Deregulated energy markets have spawned innovations and products for consumers to address their energy needs and budgets. One of the new technologies worth noting is a system that allows wireless charging of personnel devices, medical devices and automobiles. Marketers all members of NEM, presented new services and energy products they are marketing, talked about environmental goals, diversified energy sources and controlling consumer costs. By integrating new technologies, having energy policies that favor marketing and deregulations, incorporating new energy sources and harnessing the technology that IT resources can provide ISO-NE is charting the way to move their energy world into the 21st century.

### ISO-NE Updates Continued...

As a result of the pending Supreme Court decision on the status of FERC 745 Order which regulates Demand Response, ISO-NE is asking FERC to postpone their 2017 DR filing and approve the ISO's request to delay. The delay would allow the ISO to evaluate the impact of the Supreme Court ruling which will determine what role DR will play in ISO capacity markets. The eighth forward capacity auction conducted by the ISO assumed DR functions based on FERC Order 745 would continue and the lower court ruling would be overturned. Should that be the case DR resources would participate in day-ahead and real-time markets. In addition to asking for a delay in implementing of the auction results for 2017, the ISO also asked FERC to approve baseline calculations. Proposed calculation would be modified by allowing the ISO to use a "mean 10 of 10" method for establishing baselines used to measure load shedding, by using 10 previous days as a capacity baseline. Weekends and holidays will use "mean 5 of 5" for the baseline. Changes in auditing the ISO are also included in the request to FERC. Since resolution of DR is critical to maintain sufficient capacity, ISO-NE needs approval from FERC to extend timelines and implementation of their new marketing and baseline calculation rules.

### Green Energy REC's (Renewable Energy Credits )

As state mandates are phased in, suppliers or ESCO's will be required to purchase REC's (Renewable Energy Credits) and show documented proof of purchase. Some states require a percentage of Solar REC's or offshore wind depending on the host states social policies. Each category, whether it is called Tier or Class has different pricing and some states mandate a mix. Suffice it to say, Solar is the most expensive and Tier or Class II is the least expensive. Failure to purchase green energy or AEPS (Alternative Energy Portfolio Standard) or REC's will result in a default REC. PJM customers would pay Alternative Energy Credits (AEP) at \$500 per credit. Connecticut has a default rate as well. Lynx will assist you in locating cost effective green REC's to meet your needs. In addition, Lynx can handle your reporting and assist you in purchasing REC's. The percentage of renewable energy is expected to increase up to 27% in certain states by 2025.

Note: To ease the burden of purchasing annually for our ISO-NE and PJM customers, to minimize the large cash expenditure, Lynx is recommending purchasing REC's on a quarterly basis and avoid higher prices at the end of the reporting period.

### NYSERDA PON Updates

Many of these PON's have expiration dates in 2015 or when funds are exhausted. If you or your customers have any plans for energy projects we urge you to act now. LYNX is developing some partnerships to assist you with NYSERDA funding, feasibility studies and developing projects which could be eligible for funding. You can call our office for more information if you have or are thinking about an energy project. For our Con Ed customers we can provide Cummins Generators for DR programs with funding available from ConEd and NYSERDA. Current PON's (Program Opportunity Notices), which are available to qualified customers from NYSERDA, are listed below.

- PON 1219 Existing Buildings, Revised: Provides rebates and performance incentives for existing buildings including lighting, motors, generators, HVAC equipment etc. through 12-31-2015. Incentives for interval metering, some lighting technologies, and natural gas incentives have been dropped. More changes to be posted in the coming months.
- PON 1601 New Construction Financial Incentives: Provides incentives for new and remodeled buildings, paying for architectural and engineering services, rebates on electric equipment, appliances, HVAC equipment, and building envelope, through 2015.
- PON 1746 Flex Tech: Provides funding for a variety of feasibility and energy related studies through 12-31-2015.
- PON 2112 Solar PV Program Financial Incentive, Revised: This PON has funding through 2015
- PON 2439 Wind Turbines: This PON pays incentives to certified installers of DG windmills under 2 MW through 2015.
- 2456 Industrial and Process Efficiency Program Revised: This PON is can pay up to \$4.5 Million per project through Dec. 2015.
- 2568 CHP Acceleration Revised: Funding for onsite generation with heat recovery (DG/CHP) packaged units through 2015.
- PON 2689 Emerging Technologies and accelerated Commercialization, Revised: through Dec. 2016
- PON 2701 Combined Heat and Power CHP Performance Program through Dec. 2016
- PON 2828 Renewable Portfolio Standard Customer-Sited Tier Anaerobic Digester Gas to Electricity: through 2015
- PON 3010 NY Biomass Boilers, Revised: pays for Biomass fueled thermals through 2018
- PON 3082 NY SUN Commercial/Industrial Incentive Program: through 12/2023

### NYISO SCR Curtailment Program

Proposed changes by the NYISO will impact SCR customers. A key component for participants of in DR programs is an interval meter. Utilities are required to install interval meters for customers having a monthly demand of 500 kW or greater. Customers with lower demands will now have to purchase interval meters which run around \$1,500 as NYISERDA no longer funds them. Lynx can assist you in purchasing a meter with proceeds from your DR participation. Lynx will work to keep you informed and updated as REV changes get approved. Prices for NYISO participation in DR programs are up as Governor Cuomo is getting behind peak load reduction programs and dramatic changes are coming from the REV program. Third party aggregators for DR and curtailment participation will change in 2016 as DR providers will no longer be selling their capacity into the NYISO markets. Only those entities that are purchasing capacity/supply from the NYISO will be able to receive credit from NYISO for their capacity reduction efforts. Lynx is providing assistance for our customers with event notification and supplying documentation to the NYISO verifying results. Many customers willing to participate in NYISO programs need help in determining what items can be curtailed and to determine the kW value of those items to be shut off. Lynx can help customers determining kW loads that can be curtailed. In addition Lynx can provide Cummins Generators, which can be used for curtailment purposes along with providing protection for property and life during emergencies. Lynx will work with you to get customers registered in a NYISO program. So help your customers get some cash for shedding electric loads during peak load emergency events. ESCO's or suppliers will also earn incentives. With Lynx guidance you can avoid costly pitfalls and potential fines. Call Lisa Klein or Bert Spaeth in our Lynx office at 716-774-1341.



### Energy Engineer Corner

Our staff encounters numerous questions from both IT and energy customers. We have decided to publish several of the more common questions on a monthly basis. So if you have a technical question regarding IT or energy, send us an e-mail and our staff will respond.

We will publish select questions each month that may be of interest to our readers. Send questions to: [BASpaeth@LynxTechnologies.net](mailto:BASpaeth@LynxTechnologies.net).

# November 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
<b>1</b> Start of Winter Season	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b> NYISO ICAP Monthly Auction	<b>6</b> NYISO ICAP Monthly Auction	<b>7</b>
<b>8</b>	<b>9</b>	<b>10</b> NYISO ICAP Results	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b> NYISO ICAP Monthly Auction
<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b> NYISO ICAP Spot Auction	<b>21</b>
<b>22</b>	<b>23</b> NYISO ICAP Spot Auction	<b>24</b>	<b>25</b> NYISO ICAP Spot Results	<b>26</b>	<b>27</b>	<b>28</b>
<b>29</b>	<b>30</b>					

## Future Dates

### December:

8-9 NYISO ICAP Monthly Auction  
 11 Monthly Auction Results  
 21 Certification  
 23-29 NYISO ICAP Spot Auction  
 30 Spot Auction Results

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## Commodity Pricing

### Historical - Flat DAM

	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15
NYISO-A	24.60	29.31	27.88	26.56	26.18	22.52
NYISO-F	20.63	26.05	28.00	26.78	26.27	23.38
NYISO-J	24.95	30.01	31.10	32.45	27.68	23.29
NYISO-K	30.72	41.92	36.18	35.58	35.20	28.60
PJM-PSEG	25.50	27.89	27.23	28.60	25.41	22.12
PJM-JCPL	25.26	27.46	26.88	26.75	25.14	21.70
PJM-APS	31.09	32.93	29.89	29.69	30.58	27.38
PJM-PECO	24.76	26.81	26.05	26.76	24.62	21.14
PJM-PPL	24.45	26.39	25.96	25.95	24.95	21.42
PJM-DLCO	30.35	31.35	28.65	28.80	29.51	26.24
PJM-PENELEC	28.56	31.21	29.25	29.13	28.53	24.29
PJM-METED	24.40	26.12	26.28	25.95	25.06	21.46
PJM-BGE	43.53	42.59	36.25	36.58	38.81	35.17
ISONE-CT	21.89	26.88	30.27	30.79	35.78	27.84

### Current Projections

Dec-15	Jan-16	Feb-16	Dec-15 to Nov-16		
Flat	Flat	Flat	Flat	Peak	Off Peak
29.38	37.94	39.38	32.49	42.72	23.55
37.58	58.97	63.16	37.78	44.17	32.20
35.29	57.49	59.47	39.07	47.01	32.13
43.25	67.23	68.94	51.88	60.01	44.77
29.67	45.29	49.10	32.93	39.24	27.42
28.30	44.20	47.99	31.99	38.08	26.67
30.78	38.28	41.78	34.35	40.30	29.15
27.59	43.29	46.97	31.14	36.96	26.05
27.63	43.32	46.90	30.94	36.78	25.83
30.30	33.60	36.02	32.57	37.95	27.87
30.27	37.77	41.45	33.76	39.81	28.47
27.73	43.13	46.70	31.04	36.87	25.94
39.78	49.03	52.67	43.51	51.34	36.67
41.25	60.44	64.94	42.57	50.06	36.04

## Glossary of Acronyms

<p><b>ABACCUS</b> - Annual Baseline Assessment of Choice in Canada and the US</p> <p><b>AEC</b> - Alternative Energy Credits</p> <p><b>AEPS</b> - Alternative Energy Portfolio Standard</p>	<p><b>CRP</b> - Comprehensive Reliability Plan</p> <p><b>DEFG</b> - Distributed Energy Financial group</p> <p><b>DER</b> - Distributed Energy Resources</p>	<p><b>DG</b> - Distributed generation</p> <p><b>DR</b> - Demand Response</p> <p><b>LNG</b> - Liquid Natural Gas</p> <p><b>NEPOOL</b> New England Power POOL</p>	<p><b>REC</b> - Renewable Energy Credits</p> <p><b>REV</b> - Reforming Energy Vision</p>
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