US Electric Utilities & IPPs

Poised to Perform with PJM

Equities

Americas
Electric Utilities

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FERC approves vast majority of PJM's CP program in dream come true

In a surprising move, FERC approved in a 4:1 vote nearly the entirety of PJM's proposed Capacity Performance (CP) program; newly appointed Chairman Norman Bay was the lone dissenting vote. While we had expected a conditional approval following a dragged out process, we/nor the street expected as constructive an approval, with the bulk of PJM's filing intact. We see this as among the single most positive datapoints for the power sector this year, driving upside to capacity prices for years to come for many of the sector's key IPPs and Integrated Utilities. Moreover, this lends additional upside to more constrained regions where units will have increased bidding latitude to set price. While unclear to what extent, price expectations remain biased to the upside (at least for our unchanged $160/MW-day estimate for the RTO region).

Why the capacity performance uplift is so important?

The decision can be parsed into three separate and distinct uplifts for the PJM generators. First, it provides a uplift to past auctions, particularly those in the RTO-region, with 'transition' auctions for the 2016/17 and 2017/18 years (albeit real transition uplift is for 2016/17 rather than '17/'18). Secondly, it provides an uplift to the forthcoming PJM capacity auction to take place in August for 2018/19, and lastly provides prospective upside to future auctions as the PJM program transitions up to full 100% implementation by 2020/2021 (for this year, CP will be procure for only 80% of resources, leaving the remainder as 'Base' product). FERC Docket ER15-623.

We maintain our estimate for $160/MW-day for the next 2018/19 auction, emphasizing the potential for regions like ComEd to break out separately. Our estimate was predicated more simply on changes to the demand curve (such as the -2.5% holdback, a reduction in Demand Response to account for heightened requirements away from summer product, and increase in bid strategies resulting from greater bidding latitude adding a 'Quantitative risk adder' to bids. We suspect those who are pivotal suppliers will clearly take some level of advantage of greater bidding latitude. We largely do not ascribe much credibility for to expectations for IPPs to bid at or near the bid cap, and as such do *not* expect prices en masse to clear at $200/MW-day or greater (although possible for select regions).

What does this mean for shares? Quite positive.

Many investors had already moderated their expectations this Spring around what the PJM CP proposal following earlier warning signs from FERC, suggesting the latest approval is a clear positive. Following a day of positive reactions already, we suspect PJM exposed equities will continue to outperform in subsequent days as investors absorb the broad based implications, lending credibility for those more cautious on the position of the power trade. We flag EXC and DYN as the most constructively exposed given their RTO positions, albeit see TLN PEG CPN and NRG as all positively exposed as well (a complete list of sensitivities is included below). While expectations will now climb into this August (having significantly fallen off following the deficiency letter), we see an argument to being more comfortable with a wider 'power trade' into 2016 as future capacity prices will also be supported by the CP approval; it's not just a 1-yr uplift.

So what prices do expect? Unchanged on our CP view.

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What do we think of the 'power trade' *now?*

We're getting more comfortable, but maintain our view that Dynegy remains the single best risk-reward in the sector. We see the combination of its discounted multiple, diversified asset base, and potential for M&A provides further avenues for value enhancement beyond the forthcoming capacity auction results in PJM. We remain on the sidelines for many integrated utilities however, seeing more limited incremental value aside a trade into the PJM auction itself.

Two reasons for the (greater) power trade confidence--

(1) **Potential improvement in capacity prices in <u>future</u> years:** While we thought capacity prices were going to 'peak' out this year alongside spark spreads, we see the transition to a 100% CP requirement by 2020 as offsetting pressures from continued new gas CCGT build in the PJM footprint. We suspect capacity prices could yet remain elevated in subsequent periods despite this new entry. That said, it's *not* an accelerating trend. While many other power markets (NYISO, ISO-NE, and potentially MISO) have largely already peaked in terms of capacity prices, the latest reforms should enable PJM to buck this trend.

(2) **Gas prices:** *Reaching a low?* Meanwhile, we see the latest moves in the strip as pricing out near the 'bottom', particularly with the 2012 low's in mind. We emphasize recent data points on coal demand are particularly constructive. Could this summer prove the low?

Timeline for auctions set - look for late July and August

Three auctions will be held following the CP approval: the base auction on the week of August 10th, with results posted on Friday August 21st, and two interim auctions previously, with auctions results for the 2016/17 auction on July 30 and 2017/18 auction on August 6. We see the extended time (up until the last week possible per PJM's last request) as reflecting the need to line up and review bids under the finalized rules. We suspect this will prove quite a challenging task for PJM, the market monitor and generators alike given the new bid formulated methodologies approved.

Figure 1: PJM Proposed Auction Timelines

Auctions	2016/2017 Transition	2017/2018 Transition	2018/2019 CP
Offers	July 27-28	August 3-4	August 10-14
Results	July 30	August 6	August 21

Source: PJM

We suspect power equities will prove resilient through the summer period, looking to the potential uplift provided. While historically power equities have lagged in the after math of the PJM capacity auction, we see the prospect of future uplifts as holding up shares into the Fall time period.

Transition auction – should push up RTO prices

Among the least expected, big upside surprises was the inclusion of transition auctions

We understand there will be just one clearing price for the entire PJM footprint for the purpose of the transition auctions; limited incremental planning parameters are likely. As such, we expect the transition capacity auctions, which applies to ~60 and 70% of the capacity (respectively for 2016/17 and 2017/18) will likely clear near the MAAC (Eastern) capacity price for these respective periods. In turn, we see this as primarily a price uplift for the Western (RTO) region plants, which have cleared at lower prices. Given the limited extent of procurement of CP (just 60 and 70%), we see limited opportunity for prices to clear substantially above past auction levels, but emphasize limited risk to clearing below past auction prices. Generators effectively have the option of maintain their existing commitment, or opting for the more stringent CP commitment, with a corresponding bump in compensation.

- 2016/17 interim auctions likely price near ~$120-130/MW-day across entire RTO, providing substantial bump up for RTO generators at $59/MW-day. MAAC cleared at $119/MW-day in this auction year in the BRA.
- 2017/18 interim also likely to price near $120-130/MW-day range, albeit in this instance, there was limited difference between two auction outcomes (almost all regions cleared at $120/MW-day), suggesting limited upside for results in this period.

Where's the upside to our estimates? Bidding flexibility.

Will generators bid more aggressively? Upside to estimates

Question remains around

For precisely the reasons cited by Chairman Bay's dissent, we see potential upside associated with our projections associated with increased bidding latitude, particularly for the LDAs. While we already ascribe a higher probability to Comed separating out, the question remains whether the added bidding latitude will enable other regions to potentially break out once more. While generators will be nominally allowed to bid up to ~0.85 * Net CONE, we suspect few will do so without corresponding unit-level support around the specific economics of their plants (ie – quantitative risk adder, etc.) We see recent scrutiny of higher capacity auction results in MISO and ISO-NE as likely necessitating this more prudent approach despite the nominal ability to bid more aggressively allowed under the CP tariff. Here too, while Chair Bay dissented, we were surprised to see no softening of the bidding latitude language from PJM's original filing. For the record, we have consistently thought the PJM market approach that limited existing plants from effectively bidding about their going forward cash costs and limited incremental investments was a price suppressive factor.

Bay Dissent confirms division in the commission

Newly appointed Chairman issued a blistering dissent in the decision, effectively stating that the Capacity Performance (CP) regime would resume in a multi-billion dollar uplift without enough penalty embedded to support the level of uplift awarded to market participants. He cited PJM's own study suggesting CP approval would drive prices up by $1.4-4 Bn per annum in the PJM footprint. His focus revolves around a mismatch between the benefits provided to customers relative to the costs incurred in the form of higher capacity payments. While his dissent is notable as newly appointed Chair, we see his dissent as having little real effect at present. Rather, we await appeals for rehearing and subsequent judicial appeal as the next avenues in the CP debate; we suspect further supporting documentation

behind the "Just & Reasonable" nature of the CP program will be necessary in these appeals, likely resulting in more explicit illustration of the cost and benefits.

Perhaps more surprising than the dissent was the concurrence by newly appointed FERC commissioner Honorable. We had suspected she would prove to be equally as consumer-oriented as Bay; we suspect the approval can be in part attributed to less of a strong view around the PJM marketplace and wider sympathy for coal plant compensation.

What about the penalties? Looking at the other side of the coin.

While the CP price uplift represents the positive impact to IPP market, an open question remains around realize penalties incurred for many assets. With many companies quite confident they can 'meet' the CP requirements, the question is what their expected non-performance penalties will amount to, particularly on weaker quality assets. In FERC's final approval, the CP program adopts only an annual stop-loss at 1.5 * Net CONE rather than the monthly stop-loss ultimately sought by generators at 0.5 * Net CONE. We see the order as meriting greater attention in this regard; with little knowledge on how material non-performance penalties could amount to (namely because all generators should prove more reliable given ongoing investment in reliability), we suspect many will opt to commit units regardless of this risk profile for the time being. We expect a more discerning approach could emerge once an empirical record of costs are developed

Credit requirements upped for new assets

CP approval also increases requirements for new units

Among other nuanced elements approved in the CP proposal was a tightening of the credit requirements for generators participating in the auction, likely cutting out a handful of new gas entrants in the next auction who either haven't met the more stringent permitting requirements (must be further along in the interconnection queue) or don't have adequate equity capital to meet credit deposit requirements (likely would sell into interim auctions instead). We still anticipate roughly 6GW of new entrants will step into the market.

The question now shifts to the future of Demand Response as well

Can DR keep up with CP requirements?

will likely clear as base product for now

With the transition to a 100% CP product, the question remains how this will impact the DR markets. While the initial reaction from many DR aggregators suggested compliance with CP remained a palatable, we suspect many resources will opt to participate only for the base 80% product in the initial couple years. Rather, the real test will be once the CP product becomes *effective for all resources* in the 2020 period; the degree of certainty of DR aggregation will remain and the question remains to what extent existing DR products will opt to effectively aggregate into more robust products to meet the tighter thresholds.

Other key elements of the CP proposal

PJM must address a litany of implementation details in 30-days

Notably, the CP proposal had a number of other shifts in the program embedded, including elimination of the 2.5% holdback in the demand curve (a long awaited update to the PJM construct), which was approved. The CP proposal also includes a number of items which were not approved—and on which FERC has asked for a compliance filing to provide further clarification within 30-days. These issues largely pertain to energy market participating and unit availability. Since the CP proposal was filed as a 206 complaint (PJM effectively suggested its own tariff was

unjust and unreasonable), FERC has agreed that its current tariff was indeed unjust, but must come up with a better proposal now.

Who is the most exposed?

We present the full sensitivity table for the primary PJM exposed equities we follow based upon nameplate capacity and UBSe 2017E EPS or EBITDA. We describe the limitations of this approach subsequently. On a pro-forma basis we estimate that Talen (TLN) is the most exposed equity to PJM capacity revenues and trading could be particularly volatile around PJM datapoints given the sensitivity to capacity prices. In the figure below we show that a $10/MW-Day change in the PJM auction price drives a ~$40Mn EBITDA change after adjusting for the ~1.4GW of divestitures (ultimate magnitude could change depending on whether the 'gas' or 'hydro' package is selected). Talen guides to a $45Mn sensitivity for a $10/MW-Day change for the full fleet, consistent with our analysis below.

Talen remains the most sensitive to PJM capacity prices by a wide margin but other large generators have similar exposure including Dynegy, NRG, Exelon, FirstEnergy, and PEG.

Figure 2: PJM Capacity Market Sensitivity Table

PJM Capacity Market Upside	TLN	DYN	NRG	EXC	FE	PSEG	AEP	CPN	AES	NEE	D
Nameplate Capacity (MW)	11,969	11,940	18,658	22,142	9,477	12,042	8,668	4,946	3,198	1,029	1,408
EFORd Adj. (MW)	11,271	11,265	17,506	20,794	8,942	11,333	8,135	4,663	2,866	964	1,228
Clearing Price in 2016/17 $/MW-Day	$59.37	$59.37	$59.37	$59.37	$59.37	$59.37	$59.37	$59.37	$59.37	$59.37	$59.37
Clearing Price in 2017/18 $/MW-Day	$120	$120	$120	$120	$120	$120	$120	$120	$120	$120	$120
$10/MW-day Sensitivity ($M)	**41**	**41**	**64**	**76**	**33**	**41**	**30**	**17**	**10**	**4**	**4**
Impact to EPS	**$ 0.21**	**N/A**	**N/A**	**$ 0.06**	**$ 0.05**	**$ 0.05**	**$ 0.04**	**N/A**	**$ 0.01**	**$ 0.01**	**$ 0.00**
2017 EPS or EBITDA	**$713**	**$1,395**	**$2,858**	**$ 2.64**	**$ 2.29**	**$ 2.83**	**$ 3.69**	**$1,946**	**$ 1.42**	**$ 6.53**	**$ 4.14**
% of total 2017 UBS Estimate	**5.8%**	**2.9%**	**2.2%**	**2.2%**	**2.2%**	**1.9%**	**1.1%**	**0.9%**	**0.7%**	**0.1%**	**0.1%**

Source: PJM, SNL Energy, Company Filings, and UBS Estimates * TLN, DYN, and NRG valued on EBITDA. EXC, FE, and PEG valued on EPS

Mind the base capacity auction outcome

The capacity in the sensitivity analysis is adjusted for EFORd on the respective technology types but does not 'haircut' for the percent of capacity that could clear as the base product rather than as Capacity Performance. The ultimate decision on whether an asset is or is not eligible for Capacity Performance depends on management's risk tolerance but there appears to be a consensus on 'high risk' capacity' that can broadly fall into two categories:

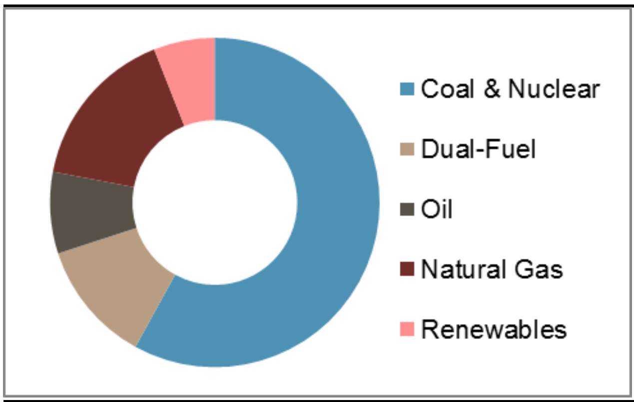
We remind investors that it is important to utilize a weighted-average for future auction expectations to account for the presumably lower base capacity auction result.

(1) Fuel and technology limitations: Natural gas units without a dependable fuel source and renewables are the most likely units that would not be CP eligible. This also includes poorly supplied gas plants (particularly those behind gas LDCs) without ready access to gas directly from pipelines

(2) Age: Older units with reliability issues such as steam-based oil & gas generation.

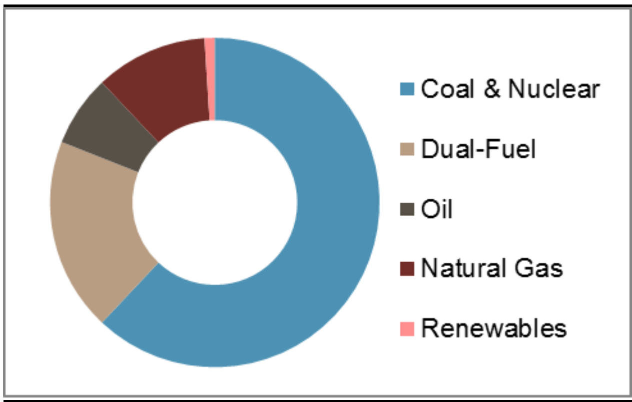
NRG has emphasized that it believes CP is oriented towards "fuel certainty" and ~90% of its PJM capacity consists of coal, dual-fuel, or oil-fired capacity. The two red shades below indicate the 20% and 10% for PJM and NRG, respectively that falls outside of those classifications.

Figure 3: PJM Capacity Composition



Source: Company Filings

Figure 4: NRG PJM Capacity Composition



Source: Company Filings

Looking beyond the headline

While it is relatively transparent to assess who the biggest potential 'winners' are from the sensitivities, we highlight a few themes strong Capacity Performance results could facilitate.

(1) AES – Putting divestiture back on the table?: Although AES Corp has an immaterial EPS impact from a $10/MW-Day change in the clearing price, we see Capacity Performance as a potential catalyst for management to divest its 3.5GW of generating assets at its DPL subsidiary. In July 2014 AES announced that it would retain these assets and transfer 2.9GW to a distinct affiliate before 2017. The rationale sighted for retaining the assets was "the potential recovery of power prices."

Management has recently been focusing more on contracted and stable utility earnings while removing complexity from the business. Selling the business would unlock further discretionary cash available for shareholder returns (additional repurchases and/or dividend growth), debt paydowns, and expansion investments. AES has stated that any sale of DP&L would be incremental to the additional asset sale proceed guided to by management.

(2) AEP/FE – Reducing the regulated burden: Staying in Ohio, a high clearing price for the Capacity Performance product could reduce the customer cost for the PPAs proposed by both AEP and FE in their respective Electric Securities Plans (ESP). The Public Utilities Commission of Ohio is evaluating the filings to assess characteristics including (financial need, necessity, compliance plan, and price impact). At its core the PPA would transfer some of the risk from shareholders (unregulated subsidiaries) to the regulated customers but in return any improvement in economics such as higher capacity prices would accrue to customers. For example, AEP aserts that the latest amended PPA could generate $574Mn of bill credits over the next ten years with an incremental ~$200Mn from Capacity Performance accruing to customers.

(3) NRG – What happens to GenOn? NRG management has recently stated that clarity on CP and the outlook for Maryland air regulations are the two key datapoints necessary to assess what the company will do with the

upcoming maturities. Senior notes with maturities of $725Mn (2017) and $674Mn (2018) are upcoming within the next three year period.

(4) **EXC – Nuclear plants hang in the balance:** Exelon does not anticipate a low carbon portfolio standard (LCPS) being finalized into law in Illinois at this time and could make a decision on the fact of its local nuclear assets in September (when management must notify PJM of its intentions for the following year's auction). The robustness of the Capacity Auction outcome could dictate whether Illinois enacts any pro-nuclear legislation, influencing the assets' fates. We maintain our view that prices will *not* prove adequate enough revenues to ensure its continued operation. We still expect Quad Cities to announce its retirement following the next auction.

Transition auction could be big win for select few

The transition auctions for the 2016/2017 and 2017/2018 delivery years was a somewhat unexpected surprise and we see **Exelon** and **FirstEnergy** as two of the potential beneficiaries due to their material uncleared capacity; that said, it remains unclear if they will opt to recommit capacity that formerly did not clear to yet more stringent requirements. In addition the question remains whether NRG will be a beneficiary for capacity that may not have previously cleared.

While there could be other companies with notable capacity without encumbrances for the transition auctions, we focus on two names (EXC and FE) as management has confirmed that significant assets did not clear previously. The impact of the potential CP uplift will not impact near-term estimates; however, the transition auctions could cause estimate revisions for the next fiscal year. Importantly with many investors valuing the companies on 2017, any incremental revenues could directly translate to higher valuations.

Figure 5: Incremental Auction Sensitivities

Generator	EXC	FE	NRG
Nameplate Capacity (MW)	4,802	2,683	1,134
EFORd Adj. (MW)	4,531	2,531	1,070
$50/MW-day Sensitivity ($M)	83	46	20
Impact to EPS	$ 0.06	$ 0.07	N/A
2017 EPS or EBITDA	$ 2.64	$ 2.29	$2,858
% of total 2017 UBS Estimate	2.3%	3.1%	0.7%

Source: PJM, SNL Energy, Company Filings, and UBS Estimates * NRG valued on EBITDA. EXC and FE, valued on EPS

FirstEnergy's 'Solution' to Capacity Performance compliance

FE has ~2.8GW of capacity that did not clear in each of the 2016/2017 and 2017/2018 PJM auctions, the bulk of which is the 2.5GW Bruce Mansfield coal plant. FE management disclosed on the 2Q14 earnings call subsequent to the most recent PJM auction that the asset did not clear in the 2017/2018 auction and only partially cleared in the previous 2016/2017 auction. We caution that FE management commentary suggested FES could yet continue to only partially clear its portfolio under the new regime. It will provide an updated maintenance capex outlook for its plants alongside the CP auction results – and corresponding CP bid commitments.

Figure 6: FES Capacity Revenue Analysis

FES Capacity Revenue Analysis	2012	2013	2014	2015	2016	2017	2018
Capacity Revenues	405	170	340	892	670	374	385
RTO	171	45	155	242	151	147	186
MAAC	33	5	5	4	4	3	3
EMAAC	4	4	3	3	3	2	2
ATSI	197	58	177	643	512	221	194
Incremental auction uplift at $50/MW-Day							
BRA Capacity Revenue GUIDANCE Aug 5 Factbook P61		2013/14	2014/15	2015/16	2016/17	2017/2018	
Guidance by BRA Year (May '15 Factbook P63)		140	485	1,185	240	390	
			2014	2015	2016	2017	
~Guidance by Fiscal Year			341	893	634	328	
Vs UBSe (2016/2017 higher due to inc. auction)			(1)	(2)	36	46	

Source: Company Filings and UBS Estimates

Lastly, we estimate that at least some portion of NRG's GenOn Chalk Point and Dickerson did not clear in the previous auction (~1.1GW). This is based on a unit level analysis we performed following the PJM auction, further details are available in our note **'Further Thoughts on the RPM Auction'.**

A Summary of Past Auctions

We include a summary of past PJM capacity price auction outcomes, including our latest forecast for 2018/19.

Figure 7: PJM Capacity Prices – Historic and Projected ($MW-day)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
RTO	40.8	111.9	102.0	174.3	110.0	16.5	27.7	126.0	136.0	59.4	120.0	160.0
EMAAC	197.7	148.8	191.3	174.3	110.0	139.7	245.0	136.5	167.5	119.1	120.0	160.0
SWMAAC	188.5	210.1	237.3	174.3	110.0	133.4	226.2	136.5	167.5	119.1	120.0	160.0
MAAC					110.0	133.4	226.2	136.5	167.5	119.1	120.0	160.0
DPL-S				186.1	110.0	222.3	245.0	136.5	167.5	119.1	120.0	160.0
PS-N						185.0	245.0	225.0	167.5	219.0	215.0	160.0
PSEG						139.7	245.0	136.5	167.5	219.0	215.0	160.0
PEPCO							247.1	136.5	167.5	119.1	120.0	160.0
ATSI									357.0	114.2	120.0	160.0

Source: PJM and UBS estimates

Statement of Risk

Risks for Utilities and Independent Power Producers (IPPs) primarily relate to volatile commodity prices for power, natural gas, and coal. Risks to IPPs also stem from load variability, and operational risk in running these facilities. Rising coal and, to a certain extent, uranium prices could pressure margins as the fuel hedges roll off Competitive Integrateds. Further, IPPs face declining revenues as in the money power and gas hedges roll off. Other non-regulated risks include weather and for some, foreign currency risk, which again must be diligently accounted in the company's risk management operations. Major external factors, which affect our valuation, are environmental risks. Environmental capex could escalate if stricter emission standards are implemented. We believe a nuclear accident or a change in the Nuclear Regulatory Commission/Environment Protection Agency regulations could have a negative impact on our estimates. Risks for regulated utilities include the uncertainty around the composition of state regulatory Commissions, adverse regulatory changes, unfavorable weather conditions, variance from normal population growth, and changes in customer mix. Changes in macroeconomic factors will affect customer additions/subtractions and usage patterns.

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Buy	FSR is > 6% above the MRA.	45%	37%
Neutral	FSR is between -6% and 6% of the MRA.	43%	33%
Sell	FSR is > 6% below the MRA.	12%	20%
Short-Term Rating	**Definition**	**Coverage**[3]	**IB Services**[4]
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	less than 1%	less than 1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	less than 1%	less than 1%

Source: UBS. Rating allocations are as of 31 March 2015.
1:Percentage of companies under coverage globally within the 12-month rating category. 2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.
3:Percentage of companies under coverage globally within the Short-Term rating category. 4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

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UBS Securities LLC: Julien Dumoulin-Smith; Michael Weinstein; Paul Zimbardo.

Company Disclosures

Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
AES Corporation[16]	AES.N	Neutral	N/A	US$13.32	10 Jun 2015
American Electric Power, Inc.[2, 4, 6a, 6b, 7, 16]	AEP.N	Neutral	N/A	US$53.89	10 Jun 2015
Calpine Corporation[2, 4, 6a, 16]	CPN.N	Neutral	N/A	US$19.75	10 Jun 2015
Dominion Resources[2, 4, 6a, 6b, 6c, 7, 16]	D.N	Buy	N/A	US$66.85	10 Jun 2015
Dynegy, Inc.[2, 4, 5, 6a, 16]	DYN.N	Buy	N/A	US$33.65	10 Jun 2015
Exelon Corp.[4, 5, 6a, 6c, 7, 16]	EXC.N	Neutral	N/A	US$34.18	10 Jun 2015
FirstEnergy Corp.[16]	FE.N	Sell	N/A	US$34.54	10 Jun 2015
NextEra Energy[2, 4, 6a, 16]	NEE.N	Buy	N/A	US$99.12	10 Jun 2015
NRG Energy Inc.[16]	NRG.N	Buy	N/A	US$24.62	10 Jun 2015
Public Service Enterprise Group[16]	PEG.N	Neutral	N/A	US$40.24	10 Jun 2015
Talen Energy Corp[16]	TLN.N	Sell	N/A	US$19.09	10 Jun 2015

Source: UBS. All prices as of local market close.
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