

# CUSTOMER-SITED RESOURCES REPORT

ENERGY EFFICIENCY - DEMAND RESPONSE - CHP - RENEWABLE ENERGY - STORAGE

ENERGY COMMITTEE -- AUGUST 2016

- Power resources are moving behind the meter
- Customer-sited resources effect the price of electricity, can reduce costs for manufacturers, and may provide revenue. They are:

Energy Efficiency



Demand Response



Combined Heat & Power / Waste Energy Recovery



Distributed Renewables & Storage



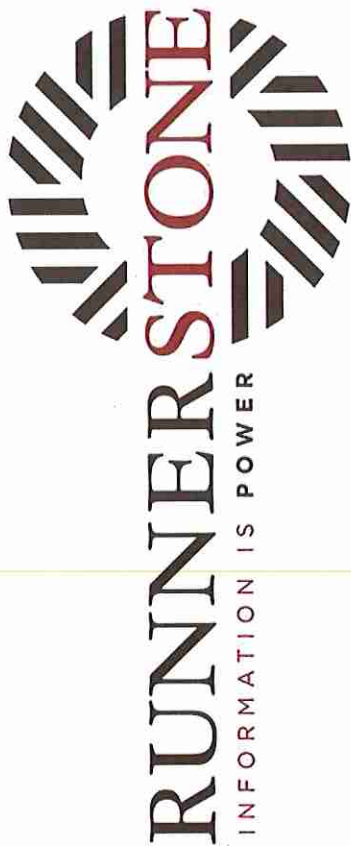


## Energy Efficiency Peer Network

- Measuring and reporting energy savings in manufacturing plants
  - 9/16 webinar
  - Invited expert Dr. Kelly Kissock
  
- 2016 calendar
  - 3/18 - Tour @ F&P America
  - 5/25 – Webinar – LED lights
  - 7/20 – Tour @ Dannon
  - 9/16 – Webinar – Measuring energy savings
  - November - Tour @ Anheuser Busch



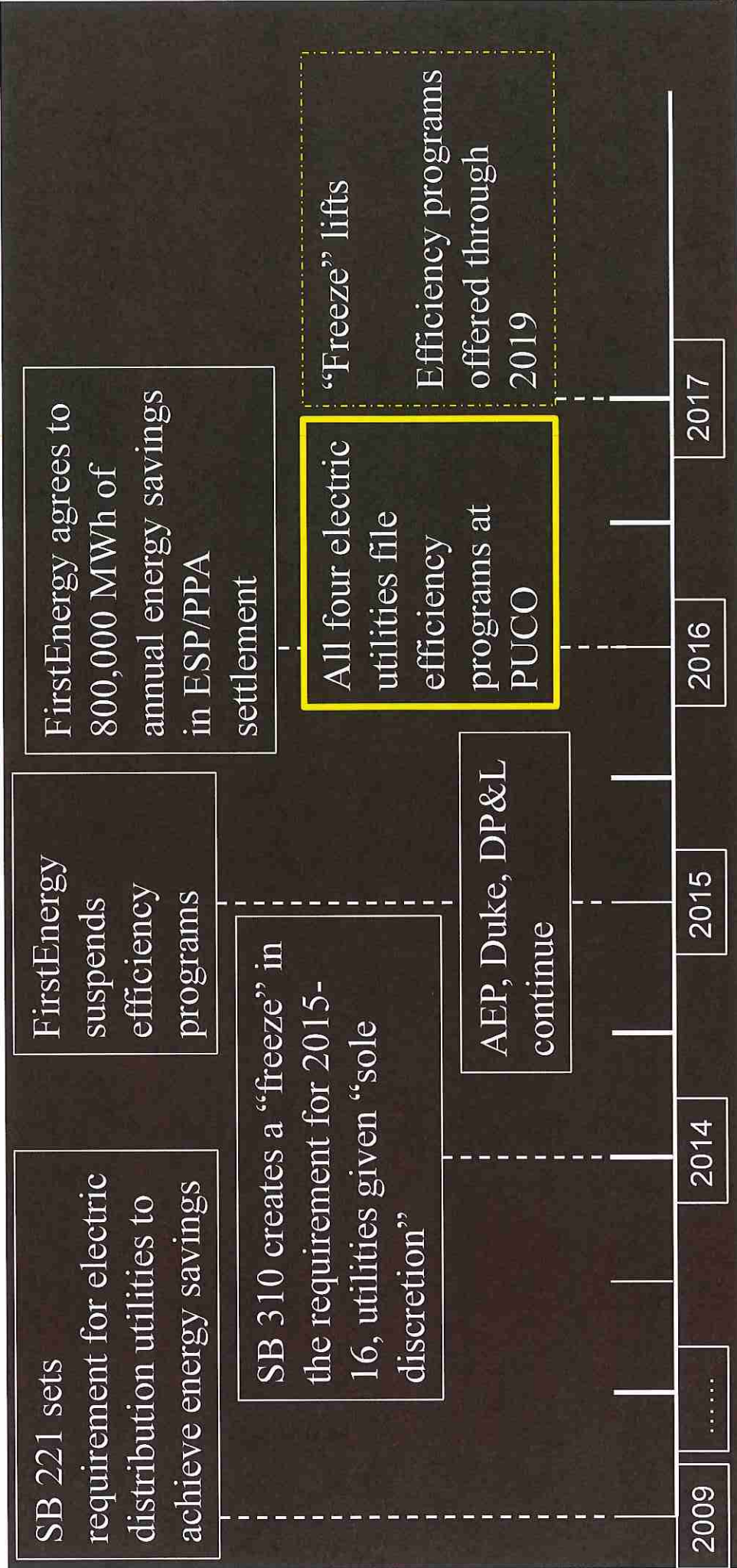
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# UTILITY ENERGY EFFICIENCY PROGRAMS

ENERGY COMMITTEE -- AUGUST 2016





Primary Concern: “Customer Action” Program

- Enabled by SB 310 to “count” customer actions
- All 4 utilities proposing a version

Compare:

“Customer action” programs

- Customer finances project
- Utility surveys customer, “captures” savings
- Utility collects profit based on project savings
- Customer pays for utility survey, utility profit, and utilities’ taxes

Self-direct

- Customer finances project
- Customer files savings @ PUCO
- Customer has choice of rider exemption or incentive
- Utility does NOT collect profit on customer actions



### Across-the-Board Issues to Manufacturers

- PJM bid of energy efficiency capacity
  - Note that the 2019/20 auction cleared lower, partially due to lower load forecast from efficiency
- Utility profit, aka, shared savings level
- Program breadth
  - Prescriptive, custom, low-cost/no-cost, CHP, mid-stream, technical assistance
- Notes
  - AEP – Proposing \$ /kW instead of \$ /kWh for rider
  - DP&L – Proposing allocating costs on distribution revenue instead of kWh
  - Duke – Proposing new demand response program
  - AEP and DP&L – Good program breadth



### 2017 Opt-Out

- Eligible – Sub-transmission, transmission, and tax self-assessing users
- Do not pay EE rider
- Cannot receive incentives at all
- No need to show efficiency investment
- Decision lasts 3 years

### Self-Direct

- Eligible - All manufacturers (> 700,000 kWh/yr)
- Rider exemption or cash rebate
- Can receive incentives later
- Must show efficiency investment

### Pick your path – Opt-out? Self-direct? Program Participation?

- Utility EE rider charges are changing
- Utility EE rider charges differ by utility territory
- Direct benefits differ in quality by utility territory



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**MEMORANDUM**

To: OMA Energy Committee  
From: Kim Bojko and Ryan O'Rourke, OMA Energy Counsel  
Re: Energy Committee Report  
Date: August 25, 2016

**Active Administrative Actions in which OMAEG is Involved:**

**American Electric Power (AEP):**

- **PPA Rider Expansion Case (Case No. 14-1693-EL-RDR, et al.)**
  - AEP, Staff, Sierra Club, Ohio Energy Group, Ohio Hospital Association, IGS and others filed a stipulation seeking PUCO approval to populate the PPA Rider with the costs associated with certain plants owned by AEP Generation Resources as well as the costs of AEP's entitlement to the OVEC output. IEU-Ohio agreed to not oppose.
  - The stipulation contains several other provisions unrelated to the PPA Rider, including: extension of the ESP III plan; expansion of the IRP program; and a proposal to develop wind and solar facilities.
  - The PUCO modified and approved the stipulation.
  - On rehearing, AEP stated that in light of the FERC decision it was going to only pursue recovery of the OVEC PPA.
  - Rehearing is still pending and no charges have been passed through the PPA Rider.
- **ESP Application (Case No. 13-2385-EL-SSO, et al.)**
  - Order issued on February 25, 2015, wherein PUCO approved establishment of the PPA Rider, but AEP was not authorized to collect any PPA costs through the PPA Rider.
  - Entry on Rehearing subsequently issued – PUCO deferred ruling on applications for rehearing related to the PPA Rider.
  - Rehearing is pending.
  - Pursuant to the Stipulation in the PPA Rider case, AEP filed an application to extend the ESP through 2024, and included other provisions agreed to in the Stipulation, such as B'TCR opt-out program, IRP extension and modifications, the Competition Incentive Rider, DIR extension and modifications, and a Sub-Metering Rider.

▪ **Fuel Adjustment Clause Cases (Case No. 11-5906-EL-FAC, et al.)**

- An audit estimated that AEP double recovered certain capacity-related costs in the amount of \$120 million.
- The PUCO reversed an earlier decision and held that parties have the right to receive copies of a draft audit report previously withheld from disclosure.
- The draft shows that AEP may have double recovered by as much as \$160 million.
- Parties are awaiting next steps from the PUCO.

**Duke Energy Ohio (Duke):**

▪ **ESP Application (Case No. 14-841-EL-SSO, et al.)**

- Order issued on April 2, 2015, wherein PUCO approved establishment of a PPA rider (Rider PSR), but Duke was not authorized to collect any PPA costs through Rider PSR.
- Several parties, including OMA, filed applications for rehearing of the PUCO's decision – the applications for rehearing are still pending.

▪ **2013/2014 EE/PDR Recovery (Case Nos. 14-457-EL-RDR and 15-534-EL-RDR)**

- Duke and Staff filed a stipulation seeking to resolve the shared savings mechanisms relating to Duke's 2013 and 2014 programs.
- OMA and others opposed the stipulation and the parties are awaiting a PUCO decision.

▪ **Shared Savings Mechanism Extension Case (Case No. 14-1580-EL-RDR)**

- Duke sought PUCO approval of its request to extend the use of its shared savings incentive mechanism in 2016.
- OMA and others opposed the proposal. The parties are awaiting a PUCO decision.

**FirstEnergy:**

▪ **ESP IV Application (Case No. 14-1297-EL-SSO)**

- FirstEnergy, Staff, Ohio Energy Group, OP&E, IGS, and others filed a stipulation seeking PUCO approval of FirstEnergy's ESP IV Application together with authority to establish and populate a PPA rider (Rider RRS) with the costs associated with certain plants owned by its affiliate, FirstEnergy Solutions.
- The stipulation also contains provisions addressing: grid modernization; energy efficiency; and a plan to transition to decoupled rates.
- The PUCO modified and approved the stipulation.
- On rehearing, FirstEnergy stated that in light of the FERC decision it was not pursuing cost recovery of the affiliate PPA with FirstEnergy Solutions at this time. However, FirstEnergy is still seeking to recover costs through Rider RRS under a new proposal (a virtual PPA).



- On rehearing, Staff proposed a new proposal to create a credit support rider to replace the virtual PPA to give FirstEnergy \$393 million over three years (\$131 million annually). Staff hopes that the credit support rider will jumpstart grid modernization, but there is no guarantee this will happen. FirstEnergy requested modifications to Staff's rehearing proposal, requesting \$558 million annually for the eight years of the ESP plus an additional amount up to \$568 million annually to account for maintaining its corporate headquarters and nexus of operations in Akron, Ohio—the total could be approximately \$9 billion over the term of the ESP IV.

**Dayton Power & Light (DP&L):**

- **Distribution Rate Increase (Case No. 15-1830-EL-AIR, et al.)**
  - The PUCO set June 1, 2015 to May 30, 2016 as the test period and September 30, 2015 as the date certain.
  - Discovery is ongoing and parties are awaiting a forthcoming Staff report.
- **Electric Security Plan (Case No. 16-395-EL-SSO, et al.)**
  - DP&L is requesting to recover costs associated with several generating units that it is planning to transfer to an affiliate through a PPA rider.
  - A Distribution Investment Rider and a Clean Energy Rider are also being sought.
  - A hearing is set for October 25, 2016.

**Statewide:**

- **Challenge to FirstEnergy Solutions RTO Expense Surcharge (Case No. 14-1610-EL-CSS)**
  - The PUCO decided that it has jurisdiction to hear the complaint filed by members of the opt-in group.
  - The PUCO issued an order preventing termination of service for the disputed charges.
  - A hearing is set for September 13, 2016.
- **Net Metering Rules (Case No. 12-2050-EL-ORD)**
  - OMAEG filed comments urging the PUCO to adopt rules that align the compensation schemes applicable to shopping and non-shopping customers.
  - Stakeholders await the PUCO's decision.

**Judicial Actions—Active Cases Presently on Appeal  
from the PUCO to the Supreme Court of Ohio**

**Duke Energy Ohio:**

- **Increase to Natural Gas Distribution Rates, Case No. 2014-328 (Appeal of Case No. 12-1685-EL-AIR, et al.)**
  - OMA, OCC, Kroger, and Ohio Partners for Affordable Energy appealed a PUCO order to the Ohio Supreme Court that permitted recovery from ratepayers for environmental remediation costs associated with two former manufactured gas plant sites.
  - The matter is fully briefed and the parties await a date for oral argument before the Court.



## Federal Actions

### FERC Complaints:

- **Complaints against AEP, FirstEnergy, and their unregulated generating affiliates**
  - RESA, EPSA, Dynegy, and a few others filed complaints seeking to rescind the waiver on affiliate power sales transactions granted to AEP, FirstEnergy, and their unregulated generating affiliates.
  - OMAEG filed comments in support of the complaints.
  - FERC granted the complaints and held that no sales may be transacted under the affiliate PPAs until FERC determines that the contracts are just, reasonable, and free from affiliate abuse.
  - RESA, EPSA, Dynegy, and a few others filed a further protest against FirstEnergy's compliance filings, claiming that FirstEnergy's virtual PPA raises problems that are similar to the affiliate PPA. OMAEG filed comments in support of this protest.

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**BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Ohio )  
Edison Company, The Cleveland Electric )  
Illuminating Company, and The Toledo )  
Edison Company for Authority to ) Case No. 14-1297-EL-SSO  
Provide for a Standard Service Offer )  
Pursuant to R.C. 4928.143 in the Form of )  
an Electric Security Plan )

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**DIRECT TESTIMONY ON REHEARING OF  
THOMAS N. LAUSE  
ON BEHALF OF THE  
OHIO MANUFACTURERS' ASSOCIATION ENERGY GROUP**

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**June 23, 2016**



1 **Q. Please state your name, title, and business address.**

2 A. My name is Thomas N. Lause and I am employed by Cooper Tire & Rubber  
3 Company (Cooper Tire). My title is Vice President, Treasurer and my business  
4 address is 701 Lima Avenue, Findlay, Ohio, 45840.

5

6 **Q. What is your role with the Company?**

7 A. As Treasurer, I am responsible for treasury operations, tax strategy and  
8 compliance, and overall risk management for Cooper Tire's global operations. I  
9 also play an integral part in the financial and business decisions of Cooper Tire,  
10 including investment, expansion, and capital expenditure decisions. In order to  
11 fulfill these responsibilities, Cooper Tire closely monitors our manufacturing cost  
12 structure, including energy costs given the important role of electricity in our  
13 Company's manufacturing costs. The cost of electricity is a significant input in  
14 the cost of our product.

15

16 **Q. Please describe your educational background, professional qualifications and  
17 employment experience.**

18 A. I earned a BSBA with a major in Accounting from Bowling Green State  
19 University, Bowling Green, OH in 1981, and a MBA (Executive Program), also  
20 from Bowling Green State University. My final research topic was a case study of  
21 Activity Based Costing.

22

1 I also completed the Executive Leadership Program at the University of Notre  
2 Dame in 2005. I earned my Certificate of Public Accounting (now inactive),  
3 Certificate No. 20,183 from the State of Ohio in November 1986.

4  
5 I have been employed at Cooper Tire for 33 years and I have served in various  
6 roles in operations and finance. My roles have been in Cooper Tire's plants, our  
7 European Operations, and in our Global Headquarters in Findlay Ohio. I served  
8 as Global Operations Controller prior to taking on the Treasury responsibilities.

9  
10 **Q. Have you previously testified before the Commission?**

11 A. No.

12  
13 **Q. On whose behalf are you offering testimony?**

14 A. I am testifying on behalf of the Ohio Manufacturers' Association Energy Group  
15 (OMAEG). As a member of that group, my company has a significant interest in  
16 the Modified Rider RRS Proposal<sup>1</sup> filed by the Ohio Edison Company, the  
17 Cleveland Electric Illuminating Company, and the Toledo Edison Company (the  
18 Companies), the cost of which is similar to the previous Rider RRS proposal that  
19 the Commission approved in March of this year. In my testimony, I will explain  
20 why the Modified Rider RRS Proposal is unreasonable, unjust, not a financial  
21 hedge for electric consumers, and harmful to customers, particularly large

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<sup>1</sup> The Modified Rider RRS Proposal refers to the Companies' proposed calculation for its retail rate stability rider (Rider RRS) contained in the Companies' application for rehearing on pages 19-21, filed May 2, 2016 and as referenced by the Attorney Examiners in the Entry setting a procedural schedule issued on June 3, 2016.

1 manufacturers, and why the Public Utilities Commission of Ohio (Commission)  
2 should reject the Proposal as bad public policy that does not benefit the public  
3 interest.

4  
5 **Q. Describe your Company's Ohio operations and the impact on the state of**  
6 **Ohio.**

7 **A.** Cooper Tire is headquartered in Findlay, Ohio and has three tire manufacturing  
8 plants in the United States: one in Findlay, Ohio (the only remaining tire  
9 manufacturing plant remaining in the state of Ohio), one plant in Texarkana,  
10 Arkansas and one plant in Tupelo, Mississippi. We also have tire manufacturing  
11 plants in Mexico, the United Kingdom, Serbia and China. In addition to its  
12 corporate headquarters, Cooper Tire also has its Global Technical Center located  
13 in Findlay, Ohio as well as a mold manufacturing plant. Cooper Tire also has its  
14 Mickey Thompson subsidiary located in Northeast Ohio. Cooper Tire has over  
15 2,000 employees in the state of Ohio and significantly contributes to state and  
16 local taxes. Cooper Tire also purchases significant volumes of goods and services  
17 from local Ohio businesses. Cooper Tire not only operates as a major employer of  
18 Ohio citizens, but also provides high quality products to citizens in the state of  
19 Ohio. Finally, Cooper Tire makes significant efforts to be a good corporate  
20 citizen through time and financial contributions to charitable organizations.

21  
22 **Q. Describe the Modified Rider RRS Proposal.**

23 **A.** As explained in the Rehearing Testimony, the Modified Rider RRS Proposal will  
24 be a charge (at least initially) to customers based on the netting of projected



1 generation costs against projected sales of the generation output into the PJM  
2 Interconnection LLC (PJM) markets. The charge will then be collected from all  
3 customers, both shopping and non-shopping. Based on prior testimony in the  
4 record and the Rehearing Testimony,<sup>2</sup> OMAEG continues to expect that the  
5 Modified Rider RRS Proposal will cost customers at least \$3.6 billion dollars over  
6 the eight-year term of the Stipulated ESP IV.

7

8 **Q. Are you familiar with the Companies' original Rider RRS proposal, which**  
9 **included a Power Purchase Agreement (PPA), as described in the**  
10 **Companies' Rehearing Testimony?**

11 **A. Yes. OMAEG has been participating in this Commission proceeding that**  
12 **included the original Rider RRS proposal and many settlements (called Stipulated**  
13 **ESP IV) described throughout the Companies' Rehearing Testimony filed by**  
14 **Companies' witness Mikkelsen on May 2, 2016.<sup>3</sup> As a member of OMAEG, my**  
15 **company participated through OMAEG in the proceeding. In addition to our**  
16 **participation through OMAEG, Cooper Tire filed a letter with the Commission,**  
17 **explaining Cooper Tire's concerns with the Companies' original Rider RRS**  
18 **proposal and the impact on the competitive markets and customers.<sup>4</sup> OMAEG**  
19 **also challenged the original Rider RRS proposal at the Federal Energy Regulatory**  
20 **Commission (FERC) by filing comments in support of the complaint filed by the**  
21 **Electric Power Supply Association (EPSA), the Retail Energy Supply Association**

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<sup>2</sup>OCC Ex. 9 at 12 (Second Supplemental Direct Testimony of James F. Wilson (December 30, 2015)); Rehearing Testimony of Eileen Mikkelsen at 5 (May 2, 2016) (Rehearing Testimony).

<sup>3</sup> See, generally, Rehearing Testimony.

<sup>4</sup>Letter to Public Utilities Commission of Ohio from Thomas N. Lause, Cooper Tire & Rubber Company, with attachment (January 13, 2016) (Attachment TNL-1).

1 (RESA), Dynegy Inc., Eastern Generation, LLC, NRG Power Marketing LLC,  
2 and GenOn Energy Management, LLC, which led to the April 27, 2016 FERC  
3 decision referenced in the Rehearing Testimony on page 4 and is explained to be  
4 the reason for the modification to the original Rider RRS proposal.<sup>5</sup> OMAEG's  
5 FERC filing also included the letter from Cooper Tire expressing concerns over  
6 the Companies' Rider RRS proposal.<sup>6</sup>

7  
8 Additionally, on June 17, 2016, OMAEG filed an intervention and comments in  
9 support of a protest filed by EPSA, The Environmental Law & Policy Center  
10 (ELPC), the Ohio Environmental Council (OEC), the PJM Power Providers  
11 Groups, RESA, Dynegy, Inc., Eastern Generation, LLC and the NRG Companies,  
12 at FERC regarding the Modified Rider RRS Proposal.<sup>7</sup>

13  
14 **Q. Please summarize how the Modified Rider RRS Proposal is different from**  
15 **the original Rider RRS proposal approved by the Commission?**

16 **A. It is my understanding through our participation in OMAEG in this proceeding**  
17 **and as described in the Rehearing Testimony that the original Rider RRS proposal**  
18 **included an underlying PPA between the Companies and its unregulated affiliate,**  
19 **FirstEnergy Solutions (FES). The original Rider RRS charge was calculated**  
20 **based on the netting of costs of the PPA with its affiliate against actual generation**

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<sup>5</sup> Complaint Requesting Fast Track Processing, Docket No. EL16-34-000 (January 27, 2016); Motion to Intervene and Comments in Support Submitted on Behalf of the Ohio Manufacturers' Association Energy Group, Docket No. EL16-34-000 (February 23, 2016) (Attachment TNL-2).

<sup>6</sup> Id.

<sup>7</sup> Protest and Request for Issuance of Further Order on Complaint, Docket Nos. ER16-1807-000 et al. (June 17, 2016); Motion to Intervene and Comments in Support Submitted on Behalf of the Ohio Manufacturers' Association Energy Group, Docket Nos. ER16-1807-000 et al. (June 17, 2016) (Attachment TNL-3).

1 revenues earned from the resale of the generating units' output into the PJM  
2 markets.<sup>8</sup> In light of the FERC decision, the Companies removed the underlying  
3 PPA in the Modified Rider RRS Proposal.<sup>9</sup> Instead, the Companies explain that  
4 they intend to rely on projected generation costs and projected sales into the PJM  
5 markets included in the record of this proceeding to calculate the Modified Rider  
6 RRS charge.<sup>10</sup>

7  
8 Removal of the PPA, which was the basis for the costs and revenues associated  
9 with Rider RRS, alters the nature of the original Rider RRS and the Stipulated  
10 ESP IV approved by the Commission, but the Modified Rider RRS Proposal has  
11 the same negative impact on customers.

12  
13 **Q. Do you believe that the purpose of the Modified Rider RRS Proposal is to**  
14 **continue to support the Companies' affiliate, FES, or another affiliate?**

15  
16 **A.** Yes. The Modified Rider RRS Proposal basically substitutes the PPA with its  
17 affiliate, FES, with a virtual PPA in order to calculate the Modified Rider RRS.  
18 As explained in the Rehearing Testimony, the modified rider is still premised on  
19 customers paying non-bypassable generation-related charges incurred by the  
20 Companies' affiliates less revenues received from projected capacity of the  
21 affiliates' generating units clearing the PJM capacity market at actual base  
22 residual auction pricing.<sup>11</sup>

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<sup>8</sup> Rehearing Testimony at 3-4.

<sup>9</sup> Id. at 4.

<sup>10</sup> Id. at 4-5.

<sup>11</sup> Id.



1 The Companies' claim in their Rehearing Testimony that the "cash associated  
2 with Rider RRS charges would not flow to FES,"<sup>12</sup> seems disingenuous as the  
3 Companies' assert that the Modified Rider RRS Proposal will help "ensure the  
4 continued operation of 3,200 MWs of fuel diverse baseload generation."<sup>13</sup>  
5 Additionally, the Companies, FES, and other affiliates that own generation share  
6 the same corporate parent. Costs recovered from customers under Modified Rider  
7 RRS could be imputed to FES or other affiliates that own generation based on the  
8 transfer of funds from the regulated Companies to the parent. Given that all  
9 FirstEnergy Corp. entities are in the same tax jurisdiction (i.e., USA Corporate  
10 Tax), there is no impediment from a corporate tax perspective to move funds  
11 among subsidiaries of a company (as opposed to when companies move funds  
12 between foreign entities, which normally triggers cash tax payments). The  
13 Companies seem to recognize this possibility, admitting that there is no  
14 prohibition in the Modified Rider RRS Proposal regarding the Companies' ability  
15 to pay dividends to the parent, FirstEnergy Corp.<sup>14</sup>

16  
17 The Companies have also failed to explain how they will guarantee that the  
18 revenue collected from customers through the Modified Rider RRS will in fact  
19 not be used to support or bolster FES or other generator affiliates.<sup>15</sup>

20

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<sup>12</sup> Id. at 6.

<sup>13</sup> Id. at 15.

<sup>14</sup> See the Companies' discovery responses, SC-Set 13-INT-236 (Attachment TNL-4).

<sup>15</sup> Id.

1 **Q. As Treasurer of Cooper Tire, are you familiar with financial statements of**  
2 **companies and reports from securities analysts?**

3 **A. Yes.**

4

5 **Q. Have you reviewed the financial statements or information from financial**  
6 **analysts regarding FirstEnergy Corp.?**

7 **A. Yes, I have reviewed some financial documents. Specifically, I have reviewed**  
8 **FirstEnergy Corp.'s April 27, 2016 1Q 2016 Earnings Call, Quarterly Highlights,**  
9 **its May 2, 2016 letter to the investment community regarding the Modified Rider**  
10 **RRS Proposal, and Moody's Investors Service (Moody's) recent credit report.**

11

12 **Q. What are your conclusions?**

13 **A. On April 28, 2016, Moody's downgraded FirstEnergy Corp.'s and its**  
14 **subsidiaries' (including FES) outlook to negative from stable.<sup>16</sup> This means there**  
15 **are concerns in the investment community regarding FirstEnergy Corp.'s financial**  
16 **profile and whether FirstEnergy Corp. and its subsidiaries may no longer meet the**  
17 **expectations or requirements for their current credit ratings and, as such,**  
18 **FirstEnergy Corp.'s and subsidiaries' ratings could be downgraded. While I have**  
19 **not studied the FirstEnergy Corp. debt instruments in great detail, it does appear**  
20 **that credit rating downgrades below investment grade would require FirstEnergy**  
21 **Corp. to increase its collateral as a safeguard to the debt holders.**

22

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<sup>16</sup> Moody's Investor Services, "Moody's revises outlook on FirstEnergy Corp and merchant subsidiaries to negative following FERC order" (2016) at [https://www.moodys.com/research/Moodys-revises-outlook-on-FirstEnergy-Corp-and-merchant-subsidiaries-to-PR\\_348041](https://www.moodys.com/research/Moodys-revises-outlook-on-FirstEnergy-Corp-and-merchant-subsidiaries-to-PR_348041).

1 **Q. In your experience, what would you expect a company with FirstEnergy**  
2 **Corp.'s investment profile to do after a credit agency downgrades its outlook**  
3 **to negative?**

4 A. First, I would expect a company to have already developed a plan for improving  
5 cash flows. For example, some key areas that could be addressed are Selling  
6 General and Administrative (SG&A) costs, including advertising, headcounts, and  
7 executive compensation. Other significant cash flow opportunities are curtailing  
8 or rationalizing capital spending and possibly reviewing the level of dividend  
9 payments being made to shareholders. While painful, some companies need to  
10 sell off some assets or curtail a portion of their operations in order to improve  
11 future cash flows. These are the types of fiscally responsible actions that public  
12 companies should be prepared to take and I would expect these cost saving  
13 measures to occur prior to a company seeking a corporate bailout in the form of a  
14 subsidy. A corporate bailout in the form of a subsidy to one company simply  
15 adds costs to all other consumers and Ohio businesses, thus making these  
16 businesses less competitive in the global economy.

17  
18 **Q. Why is this relevant to the Companies' Modified Rider RRS Proposal?**

19 A. It is relevant because it does not appear that FirstEnergy Corp. has done these  
20 things in order to raise funds to bolster its investor ratings. Instead, it appears that  
21 the Companies, on behalf of their parent, have sought a bailout from the  
22 Commission in the form of a Modified Rider RRS that all customers will have to  
23 pay.

24  
25



1 **Q. Does Cooper Tire participate in a competitive market to sell its products?**

2 A. Absolutely. In an industry like the global tire industry, where margins are tight,  
3 forcing Ohio manufacturing plants and facilities to bear these higher cost burdens  
4 adds risk to our business in Ohio and impedes our ability to sustain or grow our  
5 operations here. Every day, Cooper Tire competes for business with other  
6 American tire manufacturers and with foreign tire manufacturers from lower cost  
7 parts of the world.

8  
9 **Q. How does a manufacturer, such as Cooper Tire, handle financial constraints  
10 in a competitive market?**

11 A. Every day, Cooper Tire strives to sustain and improve its cost competitiveness  
12 through innovation, improved productivity, and in some unfortunate cases, staff  
13 reductions, all to stay competitive in the global market. And every day, Cooper  
14 Tire determines, among its global network of facilities, where to allocate its  
15 production and where to invest its resources, with operational costs being a  
16 significant consideration.

17

18 **Q. As a financial executive at Cooper Tire, describe the impact of the  
19 Companies' Modified Rider RRS Proposal on companies like Cooper Tire?**

20 A. The Modified Rider RRS Proposal does not benefit customers and interferes with  
21 and disrupts the certainty that companies have derived from shopping for  
22 generation service with competitive retail electric service (CRES) providers. The  
23 imposition of this additional generation-related charge does not decrease electric  
24 volatility or bring any added certainty to electricity pricing. Instead, it increases  
25 companies' manufacturing costs and prohibits companies from taking advantage

1 of the market rates that are available. For example, when market costs for energy  
2 are low, the Modified Rider RRS Proposal will layer additional costs onto  
3 manufacturing facilities, like Cooper Tire's Ohio manufacturing tire plant, thus  
4 making those companies less competitive with other USA and global plants and  
5 with their competitor's plants, some of which may not be located in the state of  
6 Ohio.

7  
8 Additionally, the Modified Rider RRS Proposal will have significant impacts on  
9 the business decisions of many manufacturing companies in the state of Ohio. An  
10 additional charge to electricity prices will create increased costs for  
11 manufacturing companies, which will either be borne by customers or cause the  
12 companies to go out of business as they cannot recover their costs. This could  
13 also deter new business investment in the state of Ohio as new companies looking  
14 to invest may choose to go elsewhere in light of increased or high electricity  
15 prices that are above market.

16  
17 **Q. What conclusions have you reached about the Companies' Modified Rider**  
18 **RRS Proposal?**

19 **A.** I recommend that the Commission reject the Companies' Modified Rider RRS  
20 Proposal, which equates to a corporate bailout, as unjust and unreasonable, bad  
21 public policy, and not in the public interest. Companies like Cooper Tire need  
22 reliable electric service at reasonable prices. The certainty provided by supply  
23 contracts affords manufacturers stability and the ability to estimate costs and  
24 make sound business decisions. The Companies' Modified Proposed Rider RRS,

1           however, does not provide stability to electric prices. Rather, it adds an increased  
2           charge to customers' electric service with no real justification or purpose. It  
3           thwarts the ability of manufacturing companies, like Cooper Tire, to take  
4           advantage of low market prices through shopping for generation service from  
5           CRES providers and impedes the competitive market construct that was  
6           established by the Ohio General Assembly. The Modified Rider RRS Proposal  
7           will have detrimental impacts on manufacturing companies around the state of  
8           Ohio, which will ultimately impact consumers and hinder future economic  
9           investment in the state.

10

11       **Q.    The Companies state that the Modified Rider RRS Proposal will “serve as an**  
12       **effective hedge against volatile and increasing market prices, and will**  
13       **maintain the risk-sharing provision as set forth in the Third Supplemental**  
14       **Stipulation.”<sup>17</sup> Do you agree?**

15       **A.    No. Although the Modified Rider RRS charge is a set charge for both shopping**  
16       **and non-shopping customers, it does not increase the overall stability of the price**  
17       **of electricity as the overall price will still rise and fall with the markets and the**  
18       **Rider RRS charge will be adjusted quarterly. As explained above, Modified**  
19       **Rider RRS only creates an additional charge to the price for electric service**  
20       **already being paid by customers. All retail customers are still being required to**  
21       **pay generation-related costs less revenues from projected capacity clearing in the**  
22       **PJM markets. This is not a “hedge” against market volatility; it is an additional**  
23       **revenue stream for the Companies or its parent.**

---

<sup>17</sup> Ohio Edison Company, the Cleveland Electric Illuminating Company, and the Toledo Edison Company's Application for Rehearing at 17 (May 2, 2016).

1 **Q. What, if any, measures has your Company adopted to protect itself from**  
2 **volatile electric pricing?**

3 A. Cooper Tire has shopped for its generation service with a CRES provider since  
4 2012. This has enabled Cooper Tire to better manage its electric pricing by taking  
5 advantage of various contracts with CRES providers that are best suited for our  
6 business needs. As explained previously, electricity is a significant component in  
7 our manufacturing processes. Our CRES contract provides more certainty as to  
8 this component of our manufacturing costs.

9  
10 Additionally, Cooper Tire has explored constructing customer-sited generation  
11 resources to reduce its reliance on the electric grid and exposure to high non-  
12 bypassable charges. Finally, Cooper Tire is constantly researching and  
13 investigating opportunities for energy efficiency projects that reduce our  
14 consumption of electricity. Often these projects require capital investments, but if  
15 we determine that the project has a favorable return on investment, we can justify  
16 the cash investment to execute the project.

17  
18 **Q. Do you believe electric competition is working?**

19 A. Yes. As previously mentioned, Cooper Tire has taken advantage of low market  
20 prices by shopping for our generation service. Competition in the electric markets  
21 has enabled us to negotiate lower prices for electricity with CRES providers,  
22 thereby lowering our manufacturing costs to help minimize our overall product  
23 costs.

24

1 Q. Does this conclude your testimony?

2 A. Yes.



**BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Ohio )  
Edison Company, The Cleveland Electric )  
Illuminating Company, and The Toledo )  
Edison Company for Authority to ) Case No. 14-1297-EL-SSO  
Provide for a Standard Service Offer )  
Pursuant to R.C. 4928.143 in the Form of )  
an Electric Security Plan )

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**REBUTTAL TESTIMONY ON REHEARING OF  
THOMAS N. LAUSE  
ON BEHALF OF THE  
OHIO MANUFACTURERS' ASSOCIATION ENERGY GROUP**

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**July 15, 2016**

1 Q. Please state your name, title, and business address.

2 A. My name is Thomas N. Lause and I am employed by Cooper Tire & Rubber  
3 Company (Cooper Tire). My title is Vice President, Treasurer and my business  
4 address is 701 Lima Avenue, Findlay, Ohio, 45840.

5

6 Q. Have you provided written testimony before in this proceeding?

7 A. Yes, I provided written direct testimony on rehearing on June 23, 2016. My  
8 testimony addressed how the Modified Rider RRS Proposal is a virtual power  
9 purchase agreement (Virtual PPA) that continues to support the Companies'  
10 unregulated affiliate, FirstEnergy Solutions (FES), and other affiliates.<sup>1</sup> I  
11 explained that the Modified Rider RRS Proposal or Virtual PPA is unreasonable,  
12 unjust, harmful to manufacturers, and not a financial hedge for electric  
13 consumers. The Modified Rider RRS Proposal will also have a significant impact  
14 on the business decisions of many manufacturers in Ohio as manufacturers will be  
15 subject to increased electric costs and decreased certainty regarding their electric  
16 service.<sup>2</sup> I recommended that the Public Utilities Commission of Ohio  
17 (Commission) reject the Modified Rider RRS Proposal as bad public policy that  
18 does not benefit the public interest.<sup>3</sup>

19

20

21

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<sup>1</sup> Direct Testimony on Rehearing of Thomas N. Lause at 7-8 (June 23, 2016).

<sup>2</sup> Id. at 11-12.

<sup>3</sup> Id. at 4, 12.

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

2 A. The purpose of my rebuttal testimony on rehearing is to respond to the  
3 Commission Staff's rehearing testimony, address the new rider proposed by Staff  
4 of the Commission to provide credit support for FirstEnergy Corp. to maintain  
5 investment grade by the credit rating agencies (Staff's Proposal), and address  
6 whether it is an appropriate alternative to the Companies' Proposal that the  
7 Commission should consider. I agree with Staff that the Commission should deny  
8 the Modified Rider RRS Proposal.<sup>4</sup> I disagree with Staff's Proposal to provide  
9 credit support to FirstEnergy Corp. by charging Ohio customers \$131 million per  
10 year for three years with an opportunity to extend for two more years and do not  
11 believe that the Commission should consider it as a viable alternative.

12  
13 My testimony will show that Staff's Proposal amounts to nothing more than a  
14 bailout of FirstEnergy Corp. by Ohio's manufacturers, who will then become less  
15 competitive in the global marketplace as they are exposed to additional costs  
16 associated with their electric service needs. Staff's Proposal also sends an  
17 inappropriate and anticompetitive message to businesses looking to initiate or  
18 expand operations in the state of Ohio, as the bailout favors one Ohio company  
19 (FirstEnergy Corp.) over all others.

20

21

22

23

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<sup>4</sup> Staff witness Choueiki Rehearing Testimony at 13 (June 29, 2016) (Choueiki Rehearing Testimony).

1 Q. Are you familiar with Staff's Proposal?

2 A. I have reviewed the testimony of Staff witnesses Buckley, Turkenton, and  
3 Choueiki and believe that I have a general understanding of the intent and  
4 objective of Staff's Proposal.

5

6 Q. Can you describe the difference between the Modified Rider RRS Proposal  
7 and Staff's Proposal?

8 A. The Modified Rider RRS Proposal or Virtual PPA is based on projected costs of  
9 FES' generating facilities netted against revenues received from projected  
10 generation output from the FES' generating facilities and capacity that is  
11 projected to clear multiplied by the actual energy and capacity prices in the PJM  
12 markets. The difference between the projected costs and the calculated revenue  
13 would be passed onto the Companies' customers through a non-bypassable rider.

14

15 Under Staff's Proposal, there is no reliance on the projected costs or projected  
16 output of FES' generation facilities, but the impact on customers is the same.

17 Staff's Proposal provides credit support for the parent company and its  
18 unregulated subsidiaries, (including FES) at the expense of customers for at least  
19 three years. Both proposals are a corporate bailout of FirstEnergy Corp. in the  
20 form of a subsidy by Ohio consumers, which adds costs to consumers and all  
21 other Ohio businesses, making those businesses less competitive in the global  
22 economy.

23

24

1 **Q. What is Staff's stated rationale for providing at least \$393 million to the**  
2 **Companies from Ohio customers?**

3 A. Staff witness Buckley states that the revenues are needed to provide "support for  
4 [FirstEnergy Corp.] to maintain investment grade by the major credit rating  
5 agencies."<sup>5</sup>

6

7 **Q. Do you support Staff's Proposal?**

8 A. No. Speaking on behalf of OMAEG and its manufacturing members, such as  
9 Cooper Tire, we do not agree with the premise or intent of Staff's Proposal. We  
10 are opposed to providing any credit support and subsidies to FirstEnergy Corp.,  
11 and its subsidiaries, that are not regulated by the Commission and which result in  
12 additional costs to manufacturing customers.

13

14 **Q. Why do you disagree with customers providing credit support to FirstEnergy**  
15 **Corp. and its subsidiaries under Staff's Proposal?**

16 A. Staff's Proposal is a corporate bailout of an unregulated parent, FirstEnergy  
17 Corp., and its subsidiaries that will impact Ohio manufacturers by increasing their  
18 electric costs. Cooper Tire, as well as other manufacturers, operates in  
19 competitive markets that require manufacturers to produce high quality products  
20 at competitive costs so that the products can be sold into the markets at  
21 competitive prices. We compete against manufacturers from other states and

---

<sup>5</sup> Staff witness Buckley Rehearing Testimony at 2 (June 29, 2016) (citation omitted) (Buckley Rehearing Testimony).



1 from low-cost countries. Therefore, if our costs increase, it makes it difficult to  
2 sustain, much less grow, our businesses.

3

4 I think it is important to note that Cooper Tire operates the only full scale light  
5 vehicle tire manufacturing plant in the state of Ohio. All of our competitors' light  
6 vehicle tire plants have been closed, mainly due to being cost-uncompetitive.  
7 Staff's Proposal results in additional costs to Ohio manufacturers, thereby  
8 impeding their ability to remain competitive in their own industries.

9

10 This credit support proposed by Staff, which is paid for by customers, sends an  
11 inappropriate message to all businesses in the state of Ohio and to those  
12 businesses who are considering starting operations in Ohio. By approving this  
13 corporate bailout, the Commission would, in essence, be picking winners and  
14 losers of businesses and industries operating in Ohio. Approval would also incent  
15 FirstEnergy Corp. to take large, unfounded risks in their unregulated businesses  
16 because the risks are being insured by captive ratepayers who are forced to pay  
17 costs associated with keeping FirstEnergy Corp. at an investment grade credit  
18 rating. Competitive market forces deliver a much more efficient and accurate  
19 outcome, which is good for economic growth and Ohio's consumers.

20

21

22

23

1 Q. Will Staff's Proposal provide diversity of supply and suppliers as stated by  
2 Staff witness Turkenton?<sup>6</sup>

3 A. No. The state policy referenced by Staff regarding diversity of supply and  
4 suppliers is to "[e]nsure diversity of electricity supplies and suppliers, by giving  
5 consumers effective choices over the selection of those supplies and suppliers and  
6 by encouraging the development of distributed and small generation facilities."<sup>7</sup>  
7 The corporate bailout proposed by Staff will actually diminish diversity of supply  
8 and suppliers and limit consumers' effective choices over the selection of those  
9 supplies and suppliers over the longer term. If other generation companies see  
10 evidence that the Commission will provide large sums of money to support and  
11 sustain FirstEnergy Corp.,<sup>8</sup> and its subsidiaries, new entrants to the generation  
12 supply market will be deterred as FirstEnergy Corp. and its competitive  
13 subsidiaries are receiving a significant competitive advantage. The Commission  
14 should allow the competitive markets to work and not provide competitive  
15 advantages to certain generators. Currently, it is my understanding that there are  
16 significant new generation resources scheduled to come online and a healthy  
17 capacity reserve margin in the PJM market; therefore, there is no need to raise  
18 funds to support one generator's business over another.

19

20

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<sup>6</sup> Staff witness Turkenton Rehearing Testimony at 4 (June 29, 2016); Choueiki Rehearing Testimony at 14.

<sup>7</sup> Section 4928.02(C), Ohio Revised Code.

<sup>8</sup> Buckley Rehearing Testimony at 2.

1 Q. Does Staff's Proposal and stated conditions<sup>9</sup> promote economic development  
2 in the state of Ohio?

3 A. No. Granting a bailout to one company, FirstEnergy Corp., has a much greater  
4 negative impact on the state of Ohio. An additional charge to customers only  
5 increases companies' manufacturing costs and prohibits companies from taking  
6 advantage of competitive market rates. Further, an additional charge to electricity  
7 prices will create increased costs for manufacturing companies, which will either  
8 be borne by customers or cause the companies to move production out of Ohio or  
9 go out of business as they cannot recover their costs. This could deter new  
10 business development in the state of Ohio as new companies looking to invest  
11 may choose to go elsewhere in light of increased or high electricity prices that are  
12 above market.

13  
14 Q. Do you believe Staff's Proposal will support investment in distribution grid  
15 modernization initiatives?

16 A. No. Although Staff witness Choueiki states that the credit support provided to the  
17 Companies through Staff's Proposal will assist the Companies in receiving more  
18 favorable terms when accessing the capital markets, which will in turn allow the  
19 Companies to access funds to invest in distribution grid modernization,<sup>10</sup> there is  
20 no requirement that the Companies use the revenues from customers in this way.  
21 Forcing customers to provide over \$393 million to the Companies in the hopes  
22 that they will then invest in grid modernization initiatives provides no guarantee  
23 that the actual investment will occur.

---

<sup>9</sup> Id. at 7.

<sup>10</sup> Choueiki Rehearing Testimony at 15.

1 Q. In lieu of Staff's Proposal, are there other actions that FirstEnergy Corp.  
2 could take to maintain its credit rating at investment grade?

3 A. Yes. FirstEnergy Corp. has failed to take the necessary actions required to  
4 manage its business. Management of a public company has the fiduciary  
5 responsibility to manage the business in the best interests of its shareholders. This  
6 means that if an investment grade credit rating is important to FirstEnergy Corp.  
7 (i.e., so it may prevent a possible drop in its stock price), the FirstEnergy Corp.  
8 management should be addressing its costs and cash flow issues proactively,  
9 similar to what all other public companies must do. Under the Modified Rider  
10 RRS Proposal, and now Staff's Proposal, FirstEnergy Corp. has no incentive to  
11 exercise fiscally responsible actions, but rather can rely on a strategy of receiving  
12 a corporate bailout by charging its customers higher rates (in turn making its  
13 customers uncompetitive). This is not only fiscally irresponsible, but also lacks in  
14 self accountability.

15  
16 Rather than receive a bailout from customers under the Staff's Proposal,  
17 FirstEnergy Corp., similar to all other public companies, should be required to  
18 consider and make financial business decisions that would allow it to sustain an  
19 investment grade credit rating. I would expect a public company that received a  
20 negative rating action by two credit agencies (as explained by Staff witness  
21 Buckley<sup>11</sup>) to have already developed a plan for improving cash flows.

22

---

<sup>11</sup> Buckley Rehearing Testimony at 4.

1 For example, some key areas that could be addressed are Selling General and  
2 Administrative (SG&A) costs, including advertising, headcounts, and executive  
3 compensation. Other significant cash flow opportunities are curtailing or  
4 rationalizing capital spending and possibly reviewing the level of dividend  
5 payments being made to shareholders. While painful, some companies need to  
6 sell off some assets or curtail a portion of their operations in order to improve  
7 future cash flows. These are the types of fiscally responsible actions that public  
8 companies should be prepared to take and I would expect these cost saving  
9 measures to occur prior to a company seeking a corporate bailout in the form of a  
10 subsidy from captive customers.

11

12 **Q. Do you have additional concerns with Staff's Proposal?**

13 Yes. Similar to concerns regarding the Modified Rider RRS Proposal (Virtual  
14 PPA), I have concerns with Staff's Proposal regarding how the proposed funds  
15 given to the Companies will be used. Given that all FirstEnergy Corp. entities are  
16 in the same tax jurisdiction (i.e., USA Corporate Tax), there is no impediment  
17 from a corporate tax perspective to move funds among subsidiaries of a company  
18 (as opposed to when companies move funds between foreign entities, which  
19 normally triggers cash tax payments). Staff's testimony fails to address how  
20 Staff's Proposal will guarantee that the revenue collected from the rider will not  
21 be used to support or bolster FES or other unregulated generator affiliates.

22  
23



1 **Q. Have your prior recommendations and conclusions with respect to the**  
2 **Modified Rider RRS Proposal by the Companies changed in any way as a**  
3 **result of Staff's Proposal?**

4 A. No. Regardless of Staff's Proposal, I continue to recommend that the  
5 Commission reject the Modified Rider RRS Proposal as unjust and unreasonable,  
6 bad public policy, and not in the public interest. Additionally, I recommend that  
7 the Commission reject Staff's Proposal for the same reasons.

8

9 **Q. What impact will Staff's Proposal have on manufacturers in the state of**  
10 **Ohio?**

11 A. OMAEG and its manufacturing companies firmly believe that if the Commission  
12 grants any form of a bailout to FirstEnergy Corp., it will have a domino effect as  
13 it will cause electric intensive manufacturers to become less competitive in the  
14 global marketplace. It will also establish bad public policy by sending a negative  
15 message to businesses looking to initiate or expand operations in the state of  
16 Ohio. From a statewide economic impact perspective, granting any form of a  
17 bailout to FirstEnergy Corp., and its subsidiaries, has a much greater negative  
18 impact on the state compared to forcing FirstEnergy Corp. to take the fiscally  
19 responsible actions that all other Ohio companies are forced to do.

20

21 **Q. Does this conclude your rebuttal testimony?**

22 A. Yes, but I reserve the right to supplement my testimony as new information  
23 becomes available.

# **Energy Market Update**

August 2016

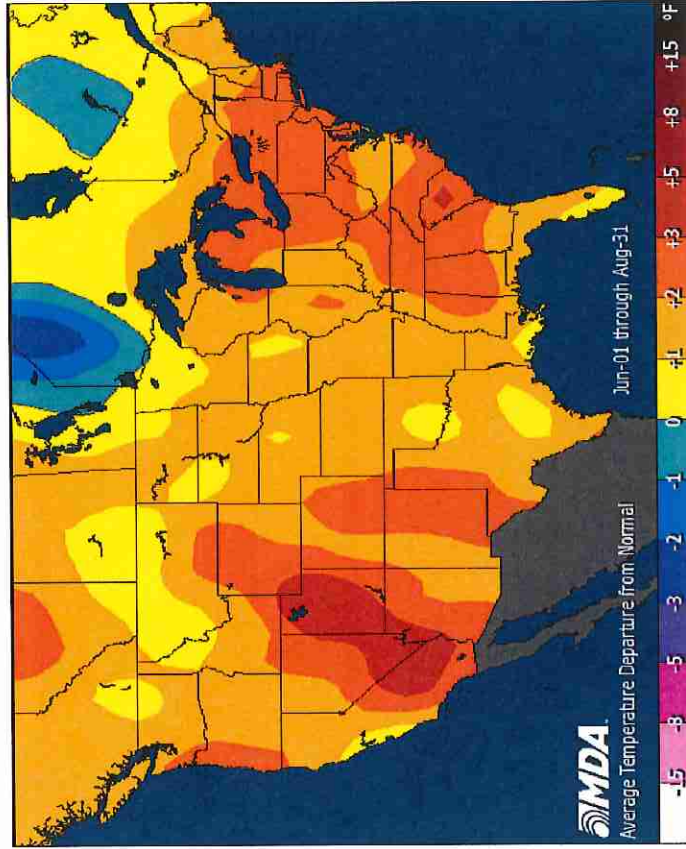


scioto energy



## Above Normal Temperatures this Summer

- Above normal temps through much of the country
- Jun – Aug will likely be 3<sup>rd</sup> hottest on record since 1950
- Majority of models predicting weak La Nina winter (cooler Pacific water temps) which can lead to colder than normal temps in Midwest and Eastern US

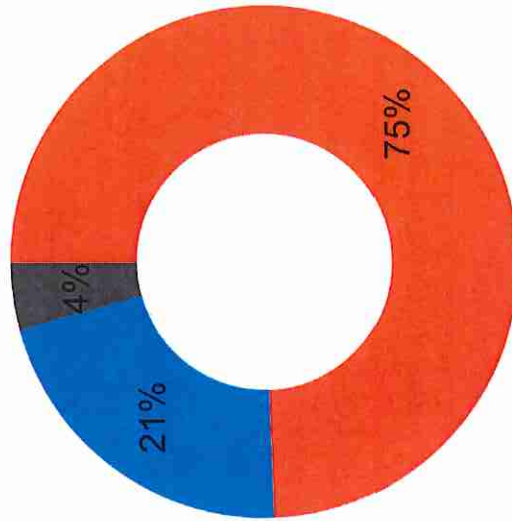






## PLC Hours

Retail Price Components



■ Energy ■ Capacity ■ Ancillary Svc & Losses

Capacity Costs = PLC (MW) \* PJM Auction Rate (\$/MW-d) \* PJM  
Scalars \* Weather Adjustment \* Days

PLC Hours = The average meter consumption during  
PJM's five highest consumption hours occurring on  
different days



## PLC Hours

### Summer 2016 Peak To Date

Date	Hour Ending	Peak Demand
8/11/2016	17	152,830
7/25/2016	16	151,867
8/12/2016	15	148,542
7/27/2016	17	146,211
8/10/2016	17	<b>144,963</b>

### Summer 2015 5 CP

Date	Hour Ending	Peak Demand
7/28/2015	17	143,496
7/20/2015	17	142,897
7/29/2015	17	142,291
9/03/2015	17	141,228
8/17/2015	15	139,468

### Summer 2014 5 CP

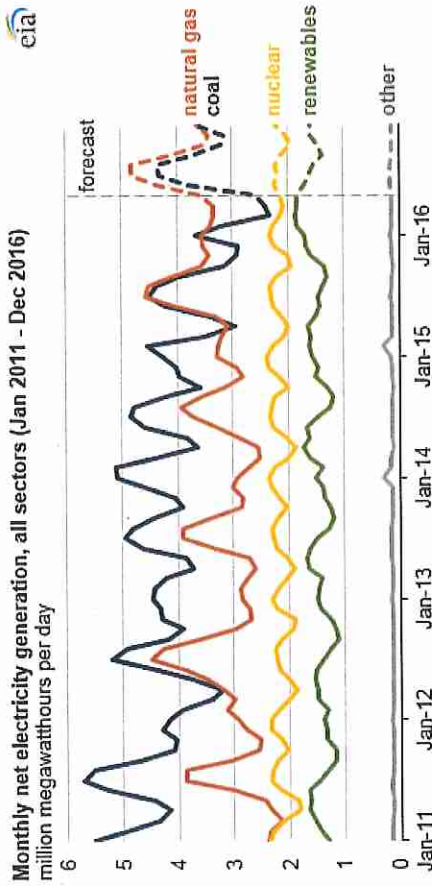
Date	Hour Ending	Peak Demand
6/17/2014	18	141,402
6/18/2014	17	139,368
7/01/2014	18	139,180
9/05/2014	16	137,955
7/22/2014	18	137,946



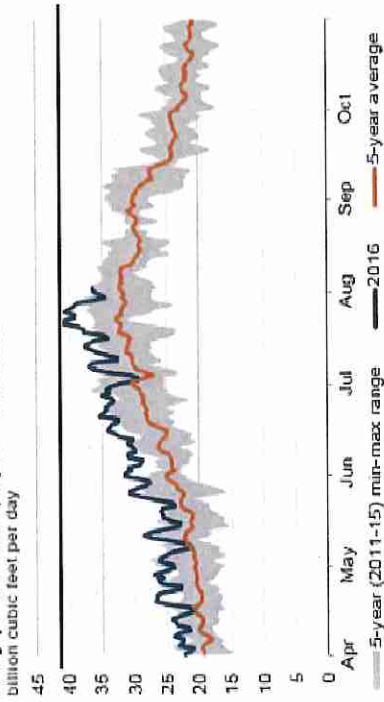


**Generation**

Monthly net electricity generation, all sectors (Jan 2011 - Dec 2016)  
million megawatthours per day



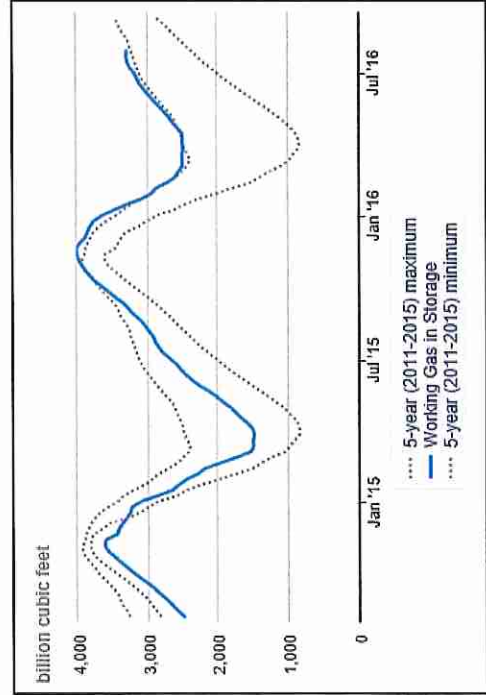
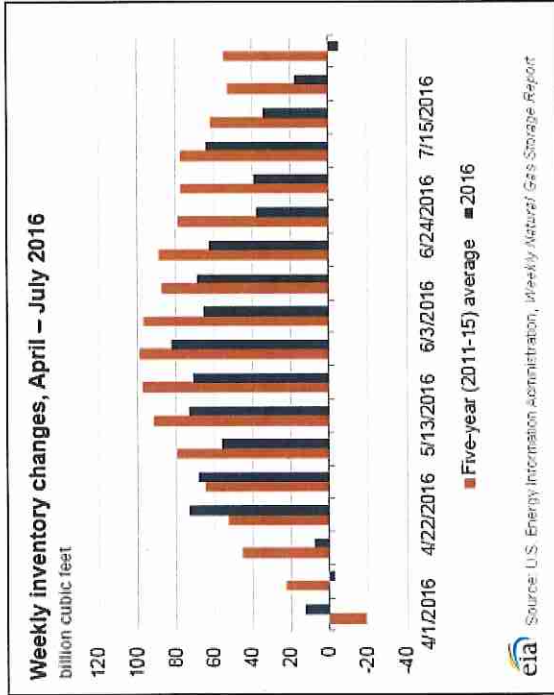
Daily power burn, April - October



- Natural gas generation expected to exceed coal generation on an annual basis for the first time
- Record high natural gas burn for power generation due to warm weather and low natural gas prices

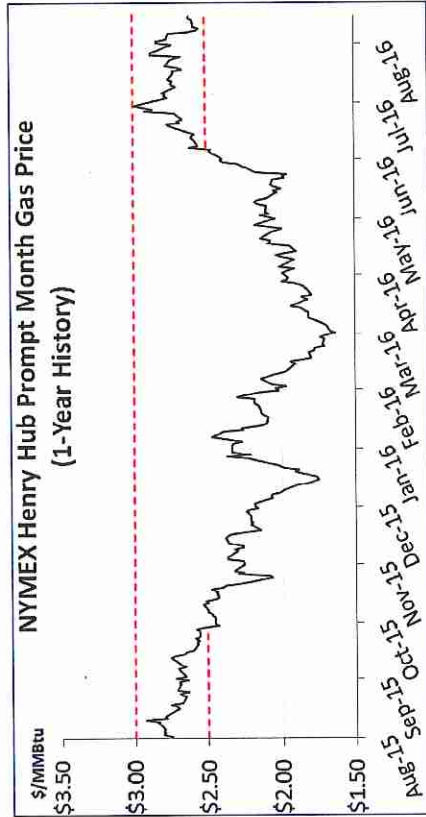


## Natural Gas Storage

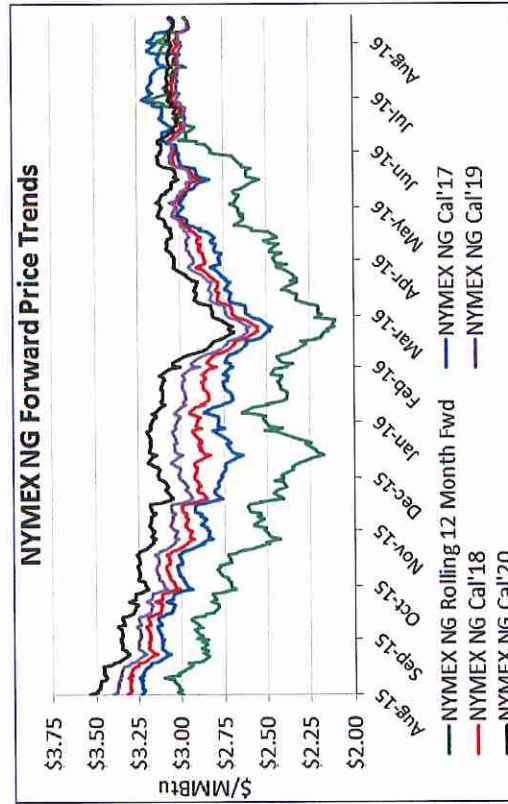


- First summertime withdrawal in 10 years
- Even with power generation burn storage levels are above 5 year average
- EIA predicts storage to be around the 4.1 TCF mark going into the heating season

### Nat Gas NYMEX



- Prompt month is range bound similar to last summer
- Highs are resisted by abundant amount of gas in storage
- Lows are supported by power generation burn



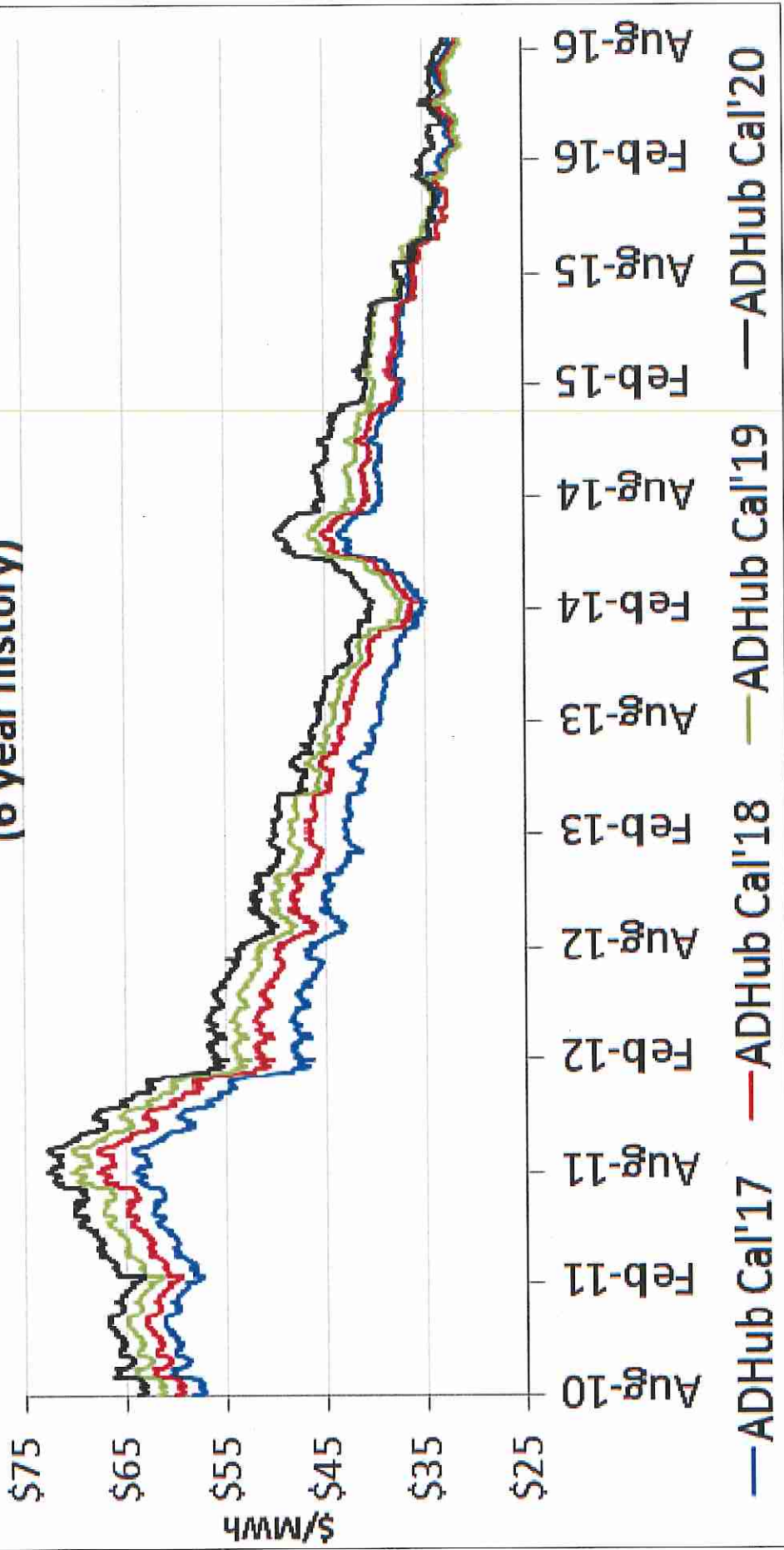
- Complete consolidation of year over year spreads





Wholesale Power Forwards – Around the Clock

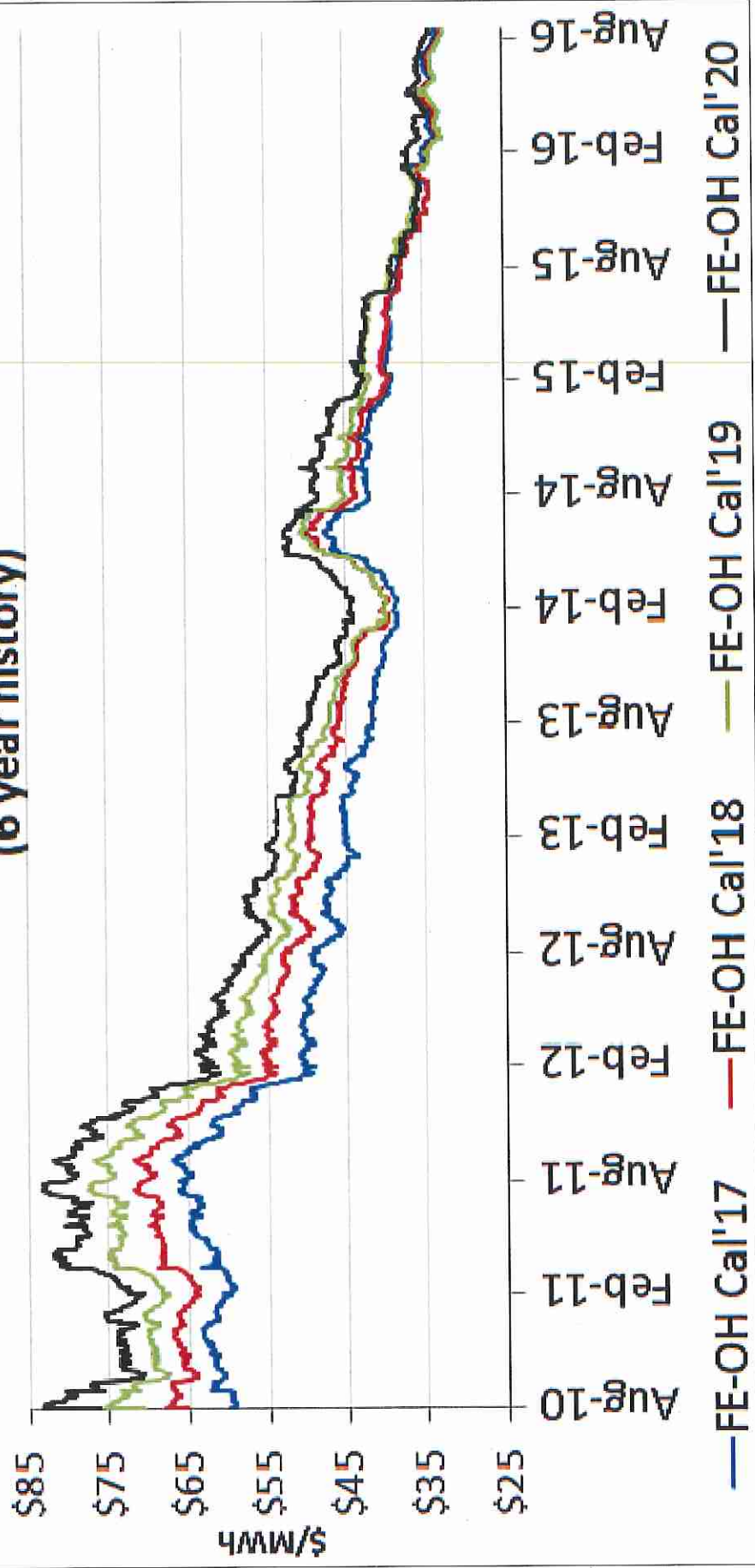
**ADHub Historical RTC Forward Price Trends  
(6 year history)**





Wholesale Power Forwards – Around the Clock

**FE-OH Historical RTC Forward Price Trends  
(6 year history)**



**Natural Gas Update  
OMA Energy Committee**

**Richard Ricks  
NiSource  
August 25, 2016**



# Agenda

- **Weather & Outlook**
- **Gas Storage & Pricing**
- **Domestic Gas Production & Rig Counts**
- **Energy Related Developments**

# Weather & Outlook

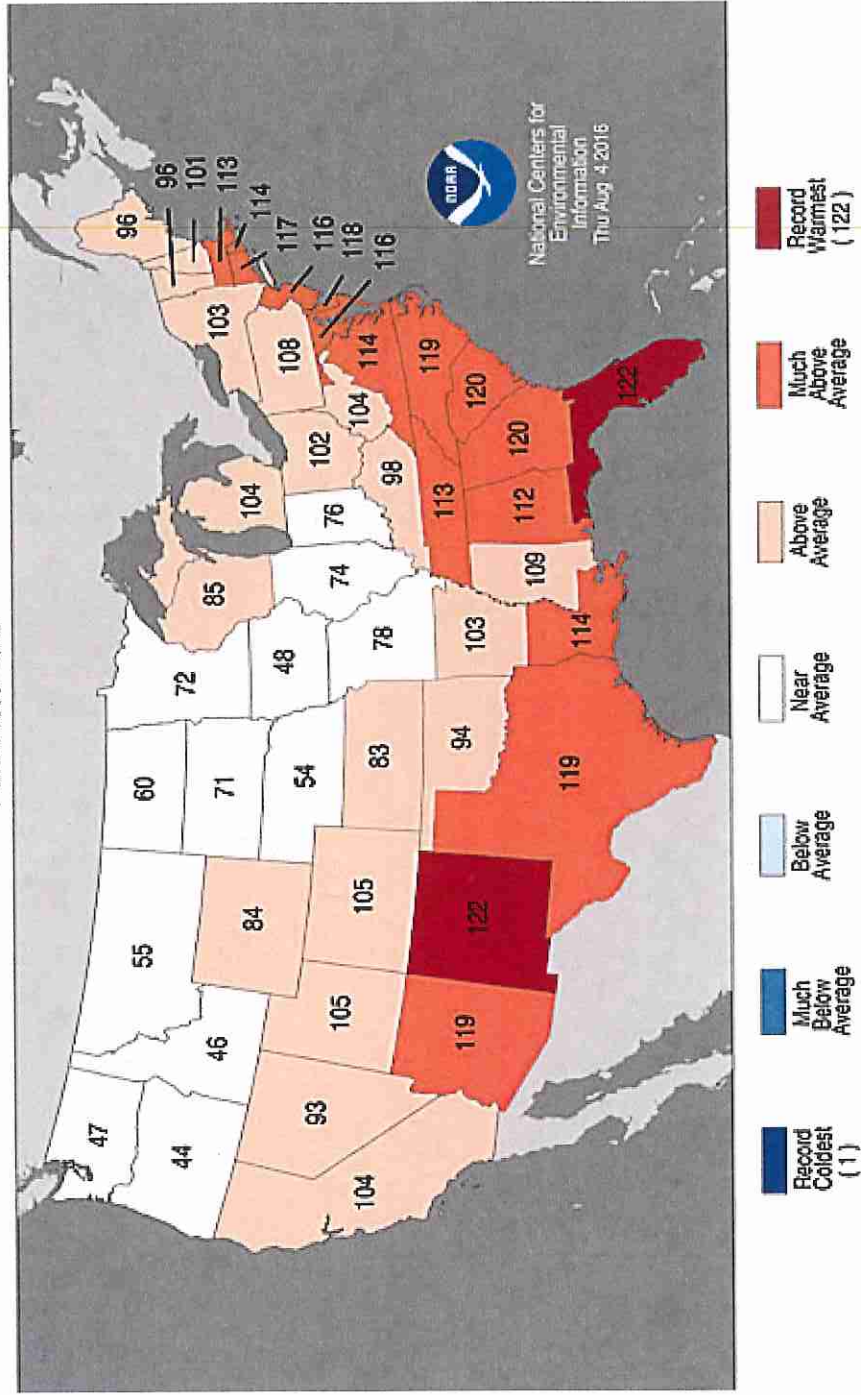
# Average U.S. Temperature during July was 75.3°F

## 14<sup>th</sup> Warmest on Record

### Statewide Average Temperature Ranks

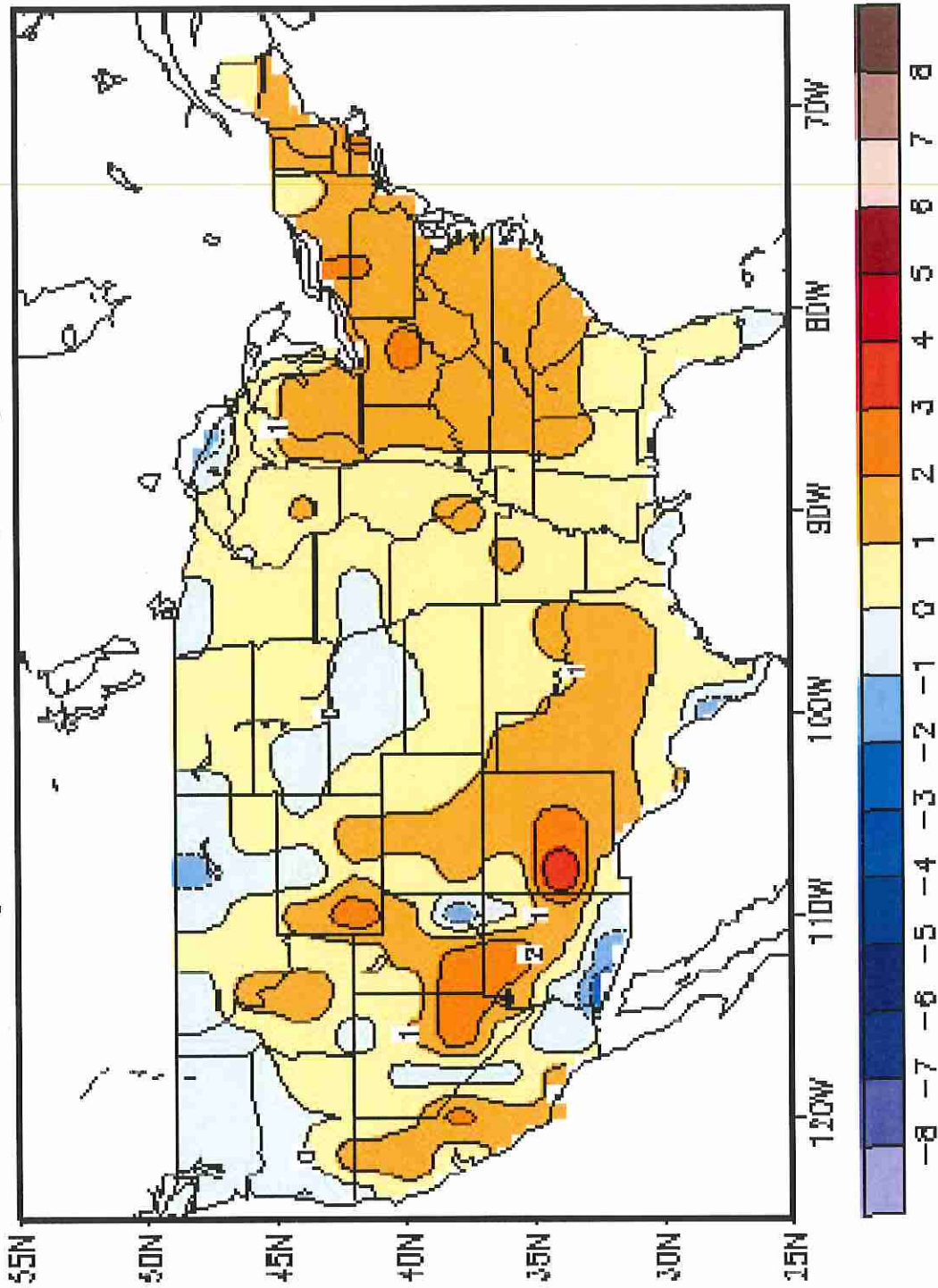
July 2016

Period: 1895-2016

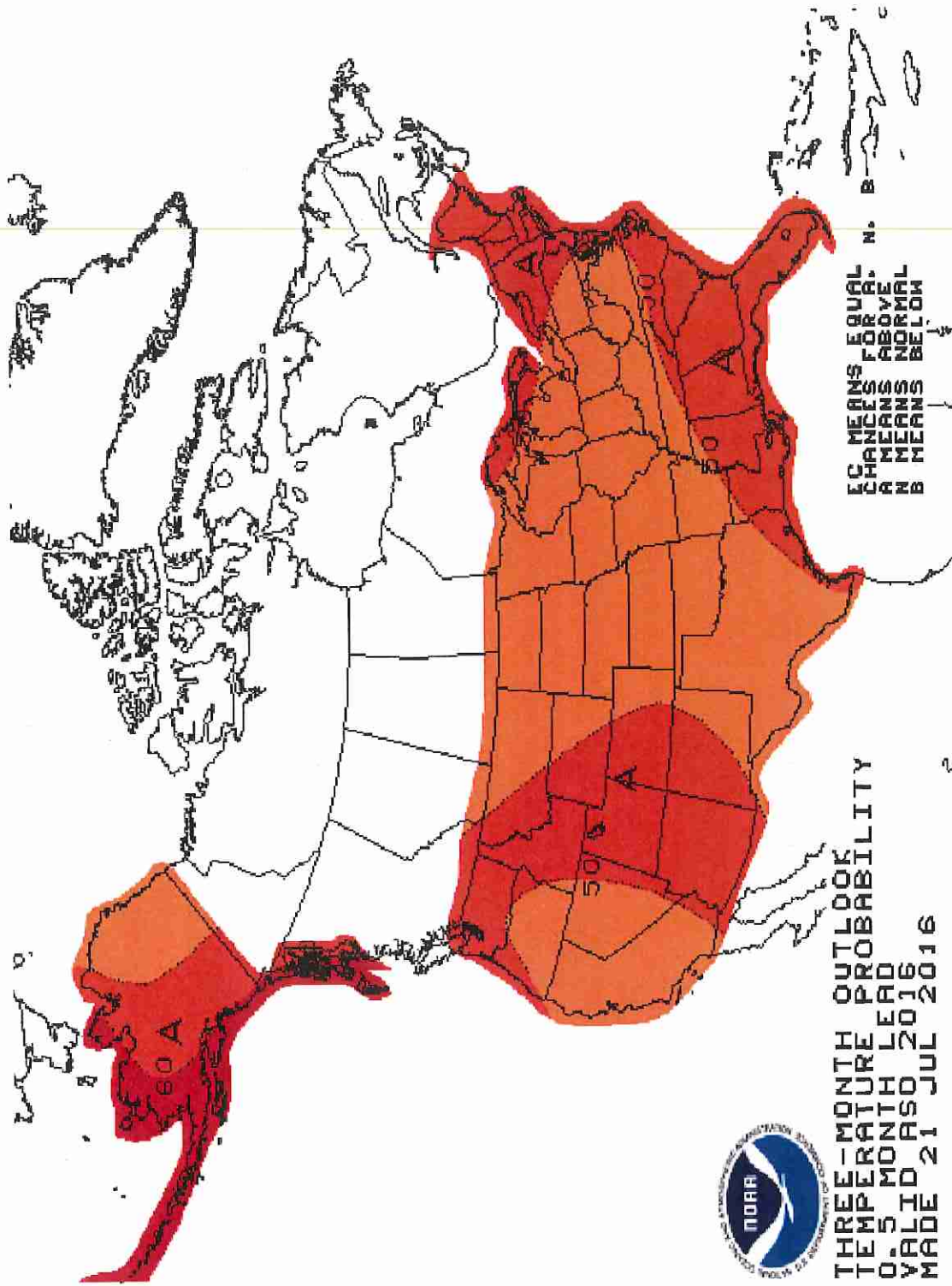




# It's been hot – Temp deviations last 30 days



# Temperature Outlook – Aug, Sept, & Oct 16

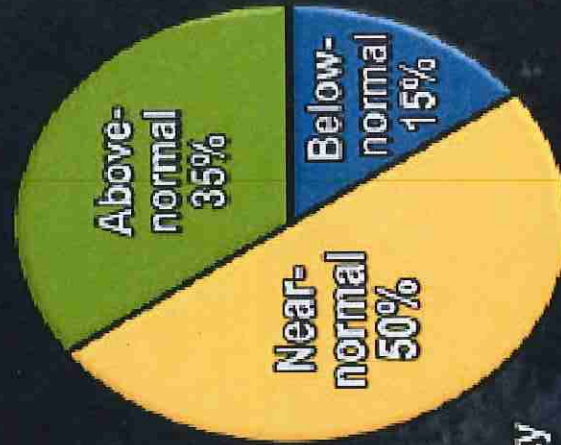




# 2016 Hurricane Outlook (June 1 to Nov 1)

2016 Atlantic hurricane season outlook update

**Named storms: 12-17**  
**Hurricanes: 5-8**  
**Major hurricanes: 2-4**



Outlook  
probability

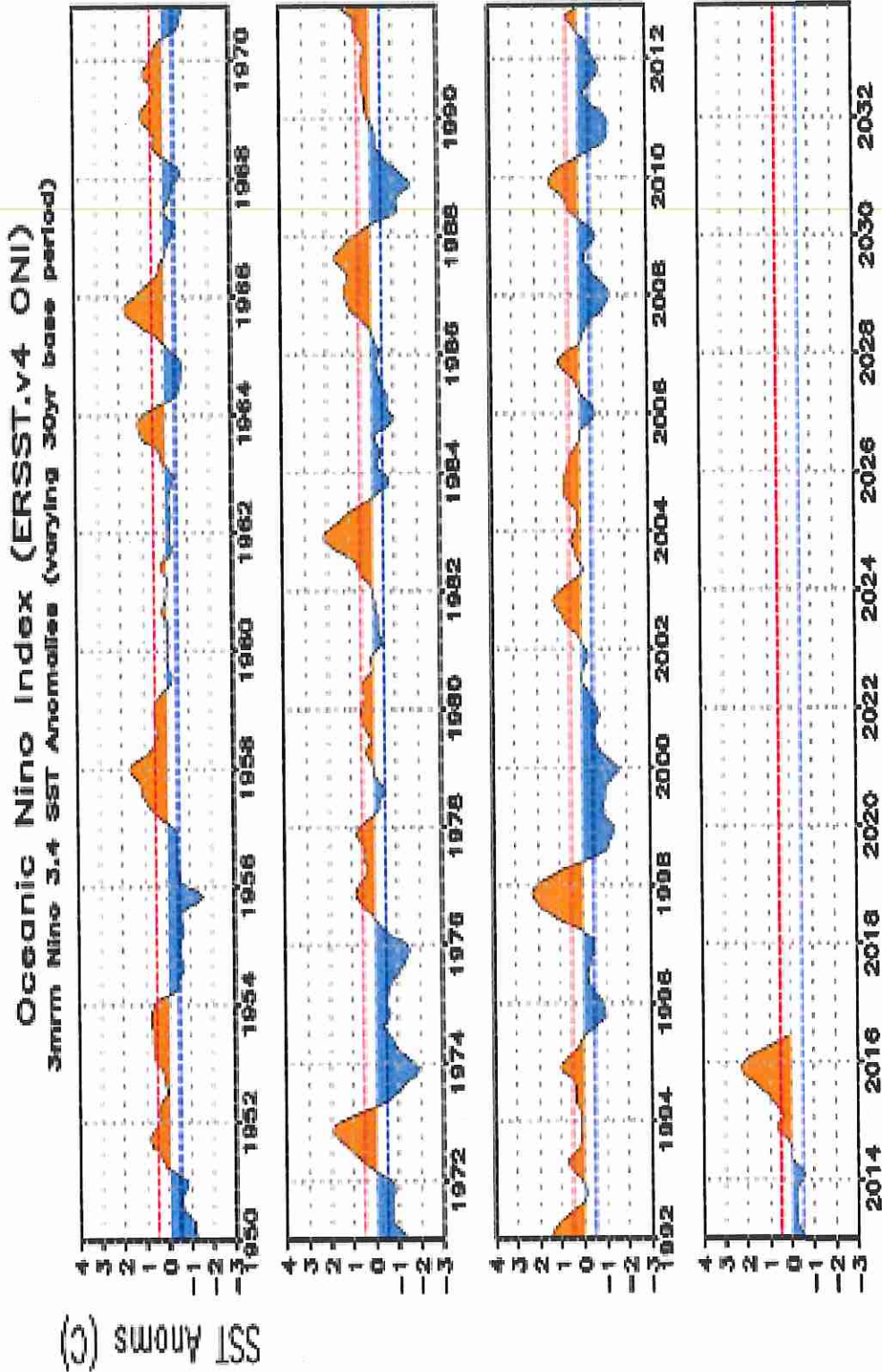


Be prepared: Visit [hurricanes.gov](http://hurricanes.gov)  
and follow @NWS and @NHC\_Atlantic on Twitter

Source: National Oceanic and Atmospheric Administration



# NOAA downgrades La Nina Outlook 8-15-16 to 55% to 60% probability

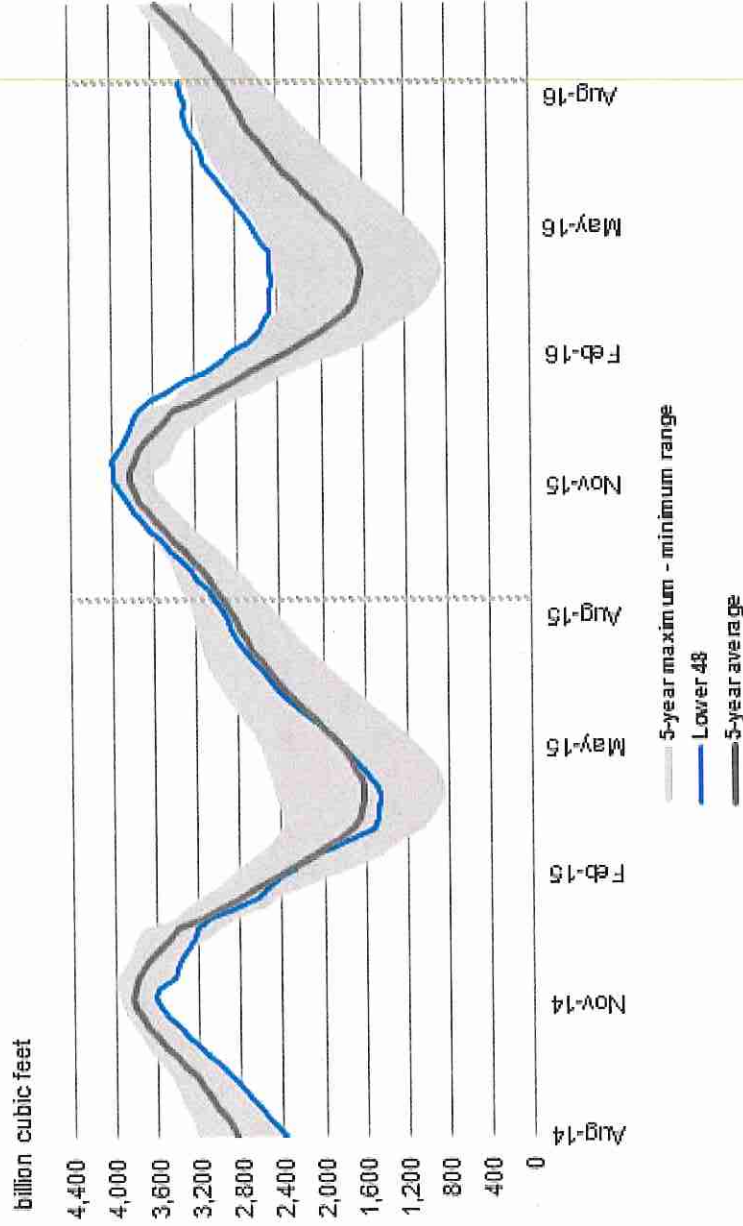


# Storage & Gas Pricing

# Storage – Still Full

Working gas in storage was 3,339 Bcf as of Friday, August 12, 2016, according to EIA estimates. This represents a net increase of 22 Bcf from the previous week. Stocks were 327 Bcf higher than last year at this time and 405 Bcf above the five-year average of 2,934 Bcf. At 3,339 Bcf, total working gas is above the five-year historical range.

Working gas in underground storage compared with the 5-year maximum and minimum



Source: U.S. Energy Information Administration

**Note:** The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2011 through 2015. The dashed vertical lines indicate current and year-ago weekly periods.



# State Storage Capacity – Ohio #8

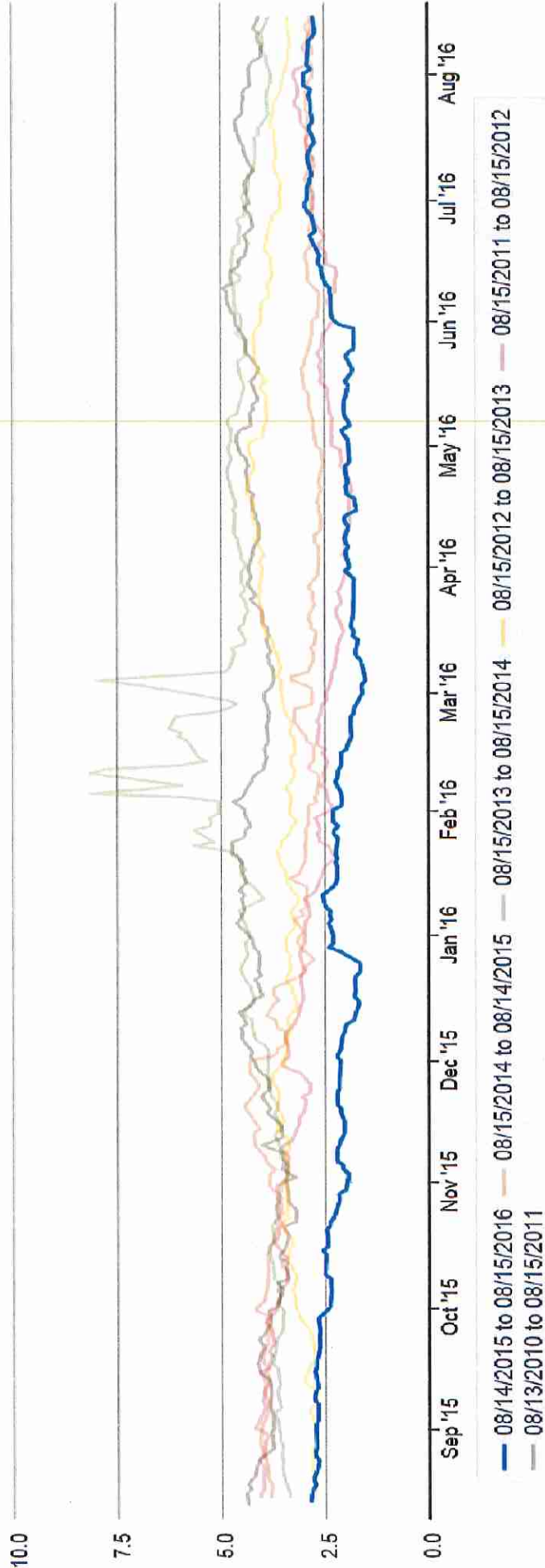
2015 L48 U.S. Working NatGas Storage Capacity (Bcf) By State			
<u>State</u>	<u>Bcf</u>	<u>% of L48</u>	<u>State</u>
Michigan	685.7	14.5%	Iowa
Texas	528.3	11.2%	Colorado
Louisiana	457.5	9.7%	New Mexico
Pennsylvania	429.8	9.1%	Utah
California	375.5	7.9%	Indiana
West Virginia	333.0	7.0%	Alabama
Illinois	303.6	6.4%	Washington
Ohio	230.8	4.9%	Maryland
Mississippi	201.4	4.3%	Oregon
Montana	197.5	4.2%	Nebraska
Oklahoma	191.5	4.1%	Arkansas
New York	126.9	2.7%	Missouri
Kansas	123.0	2.6%	Virginia
Kentucky	107.6	2.3%	Minnesota
<b>TOTAL</b>			<b>4724.7</b>
			<b>100.0%</b>

Source: EIA, NGI's Daily Gas Price Index calculations

# NYMEX Prompt Month Settlement – 5 Years

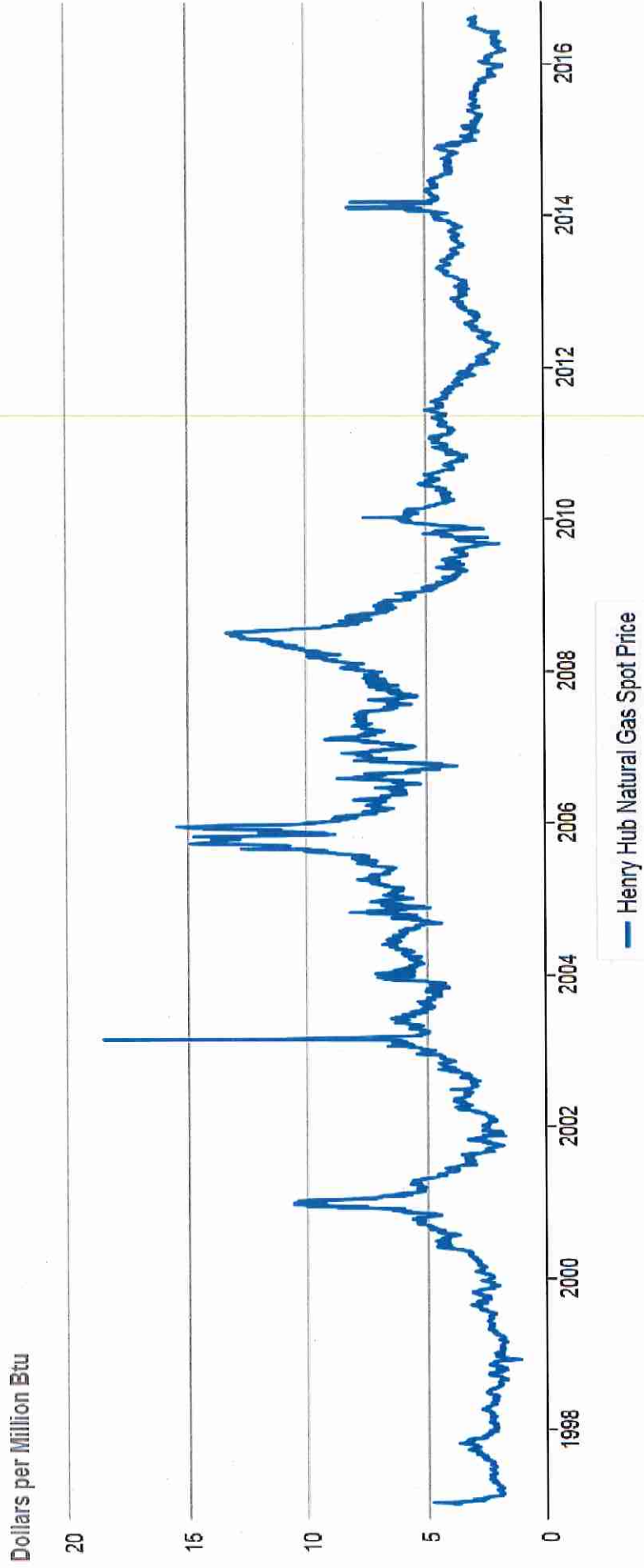
## Henry Hub Natural Gas Spot Price

Dollars per Million Btu



# NYMEX Prompt Month Settlement History

## Henry Hub Natural Gas Spot Price - Daily





# **NYMEX Term Pricing – August 22, 2016**

<b><u>TERM</u></b>	<b><u>PRICE 5-20-16</u></b>	<b><u>PRICE 8-22-16</u></b>
<b>3 month</b>	<b>\$2.18</b>	<b>\$2.66 (+\$0.48)</b>
<b>6 month</b>	<b>\$2.32</b>	<b>\$2.89 (+\$0.57)</b>
<b>12 month</b>	<b>\$2.61</b>	<b>\$2.92 (+\$0.31)</b>
<b>18 month</b>	<b>\$2.69</b>	<b>\$2.98 (+\$0.29)</b>



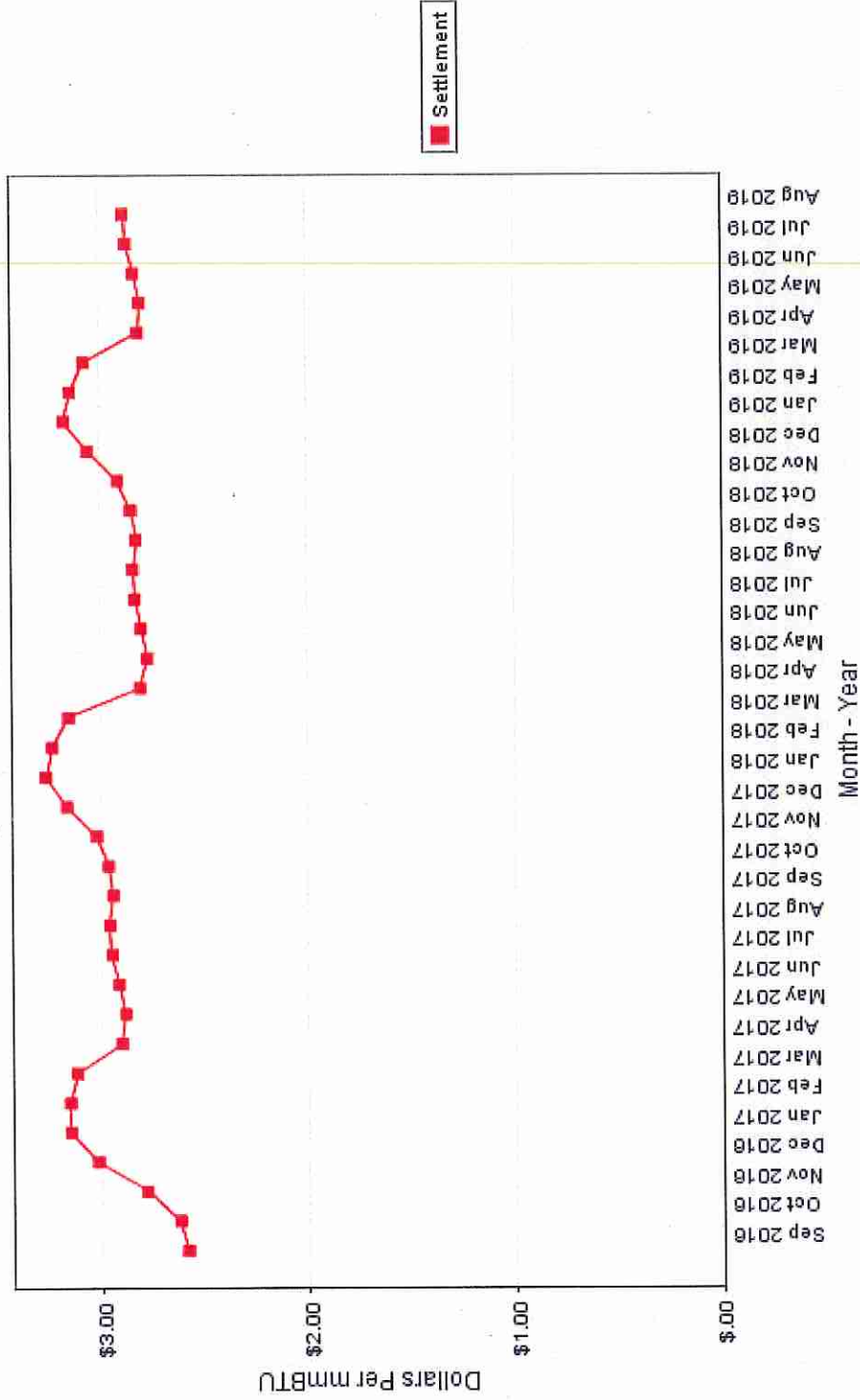
# Select Hub Pricing February 19, 2016

<u>HUB LOCATION</u>	<u>5-20-16</u>	<u>8-22-16</u>
Henry Hub	\$1.82	\$2.64 (-\$0.82)
TCO Pool	\$1.74	\$2.53 (-\$0.79)
Houston Ship Channel	\$1.74	\$2.60 (-\$0.86)
Dominion South Point	\$1.33	\$1.20 (-\$0.13)
TETCO M-3	\$1.30	\$1.27 (-\$0.03)
TGP Zone 4	\$1.27	\$1.18 (+\$0.09)

Dominion, TCO, TETCO, & TGP pricing is Marcellus Area

# NYMEX Futures Settlement

Nymex Settlement  
 Futures @ Henry Hub  
 Updated As Of 8/19/2016



# Production & Rig Count

# Shale Play Oil & Gas Production

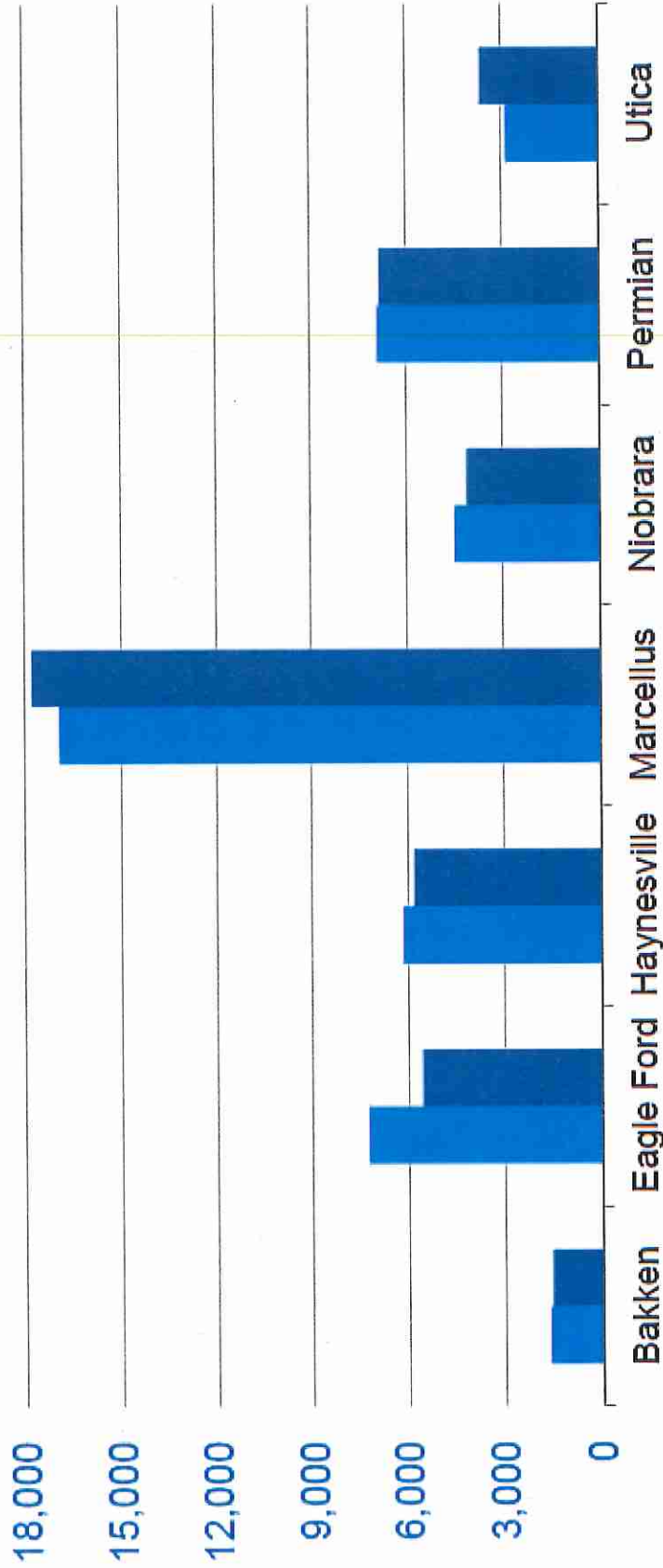
Region	Oil production thousand barrels/day			Gas production million cubic feet/day		
	July 2016	August 2016	change	July 2016	August 2016	change
	Bakken	998	965	(32)	1,591	1,560
Eagle Ford	1,127	1,079	(48)	6,014	5,805	(209)
Haynesville	47	46	(1)	5,916	5,880	(36)
Marcellus	40	40	-	17,976	17,950	(26)
Niobrara	383	371	(12)	4,068	3,994	(74)
Permian	1,980	1,974	(6)	6,914	6,868	(46)
Utica	77	77	-	3,663	3,668	5
<b>Total</b>	<b>4,652</b>	<b>4,553</b>	<b>(99)</b>	<b>46,142</b>	<b>45,725</b>	<b>(417)</b>



# Year-over-Year Summary Drilling Productivity Report

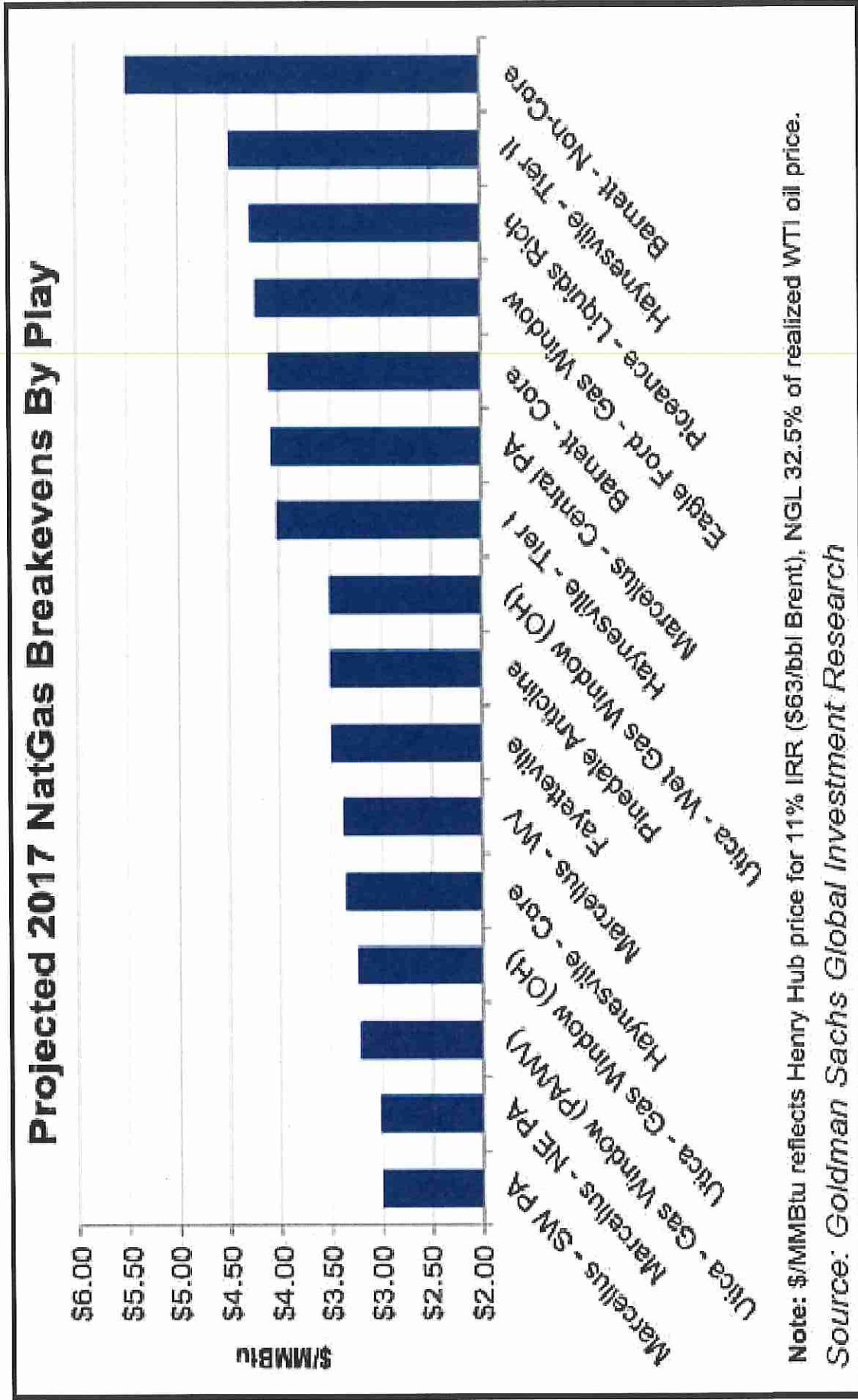
**Natural gas production**  
million cubic feet/day

■ September-2015   ■ September-2016



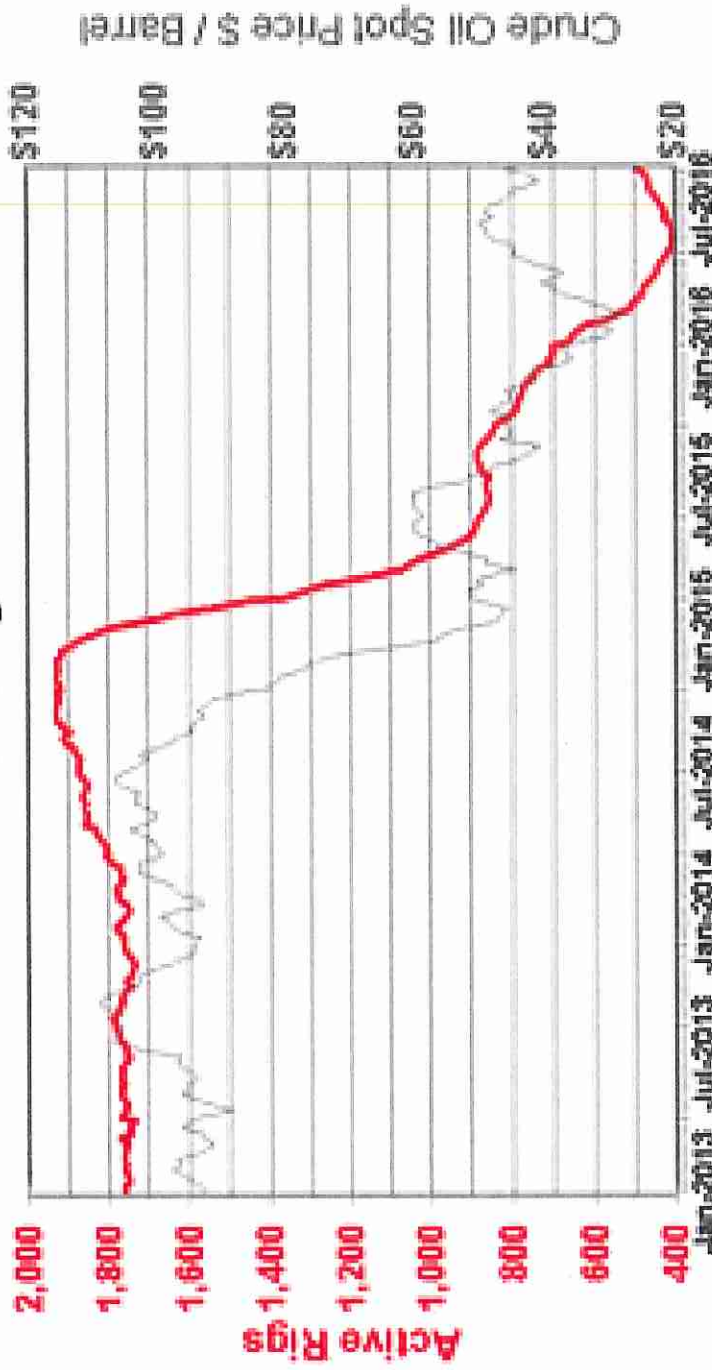


# Shale Play “Break Even” Production Price



# Short Term Active Rig Count

U. S. Rotary Rig Count  
Total Active Rigs



January 2013 - August 19, 2016

WTREG Economics ©2016

www.wtrg.com  
(479) 293-4081

Sources: Baker-Hughes, Energy  
Information Administration (EIA),  
WTREG Economics

# 2016 World Wide Rig Count

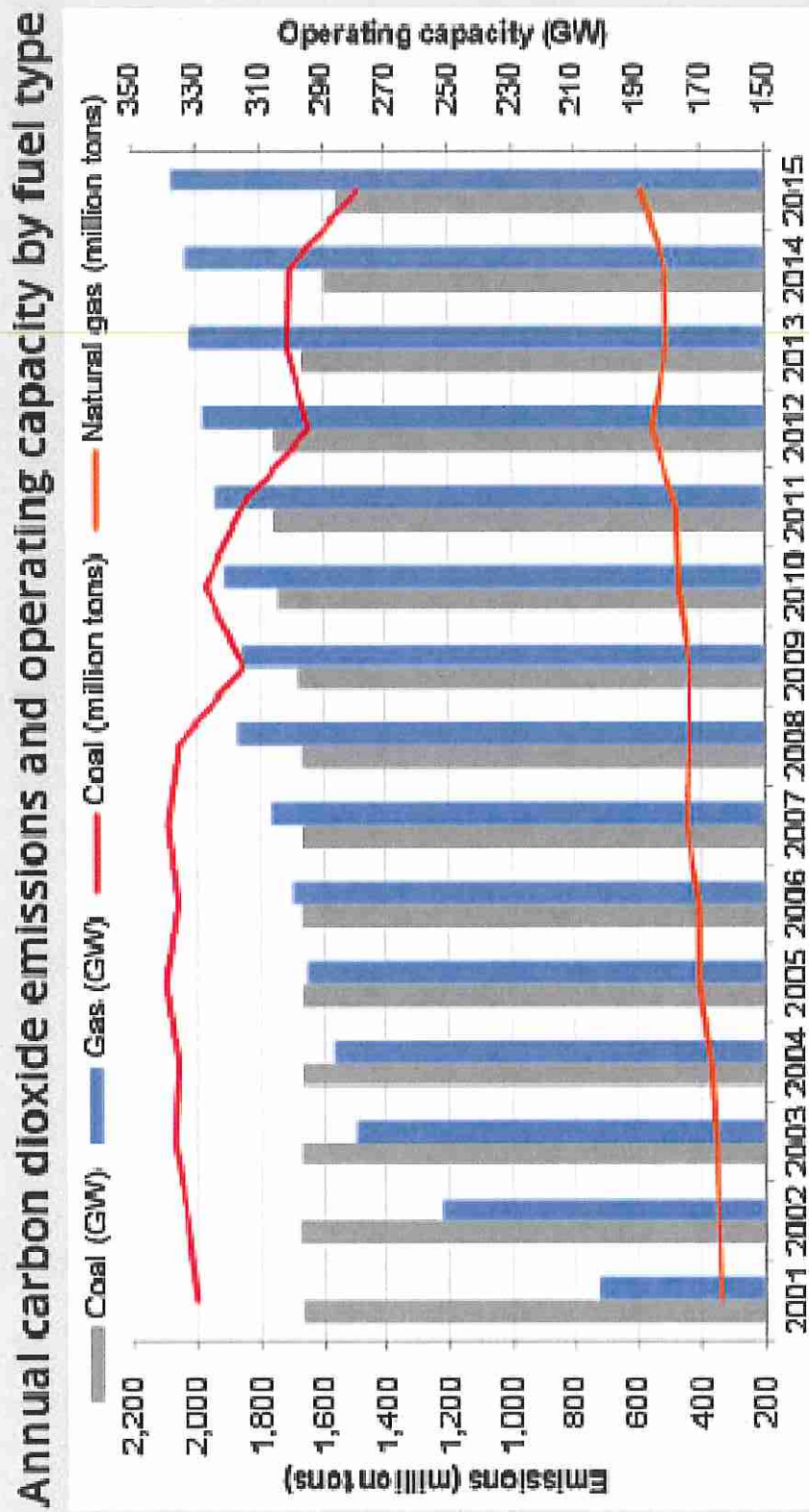
## BAKER HUGHES INCORPORATED WORLDWIDE RIG COUNT

2016	Latin America	Europe	Africa	Middle East	Asia Pacific	Total Intl.	Canada	U.S.
Jan	243	108	94	407	193	1045	192	654
Feb	237	107	88	404	182	1018	211	532
Mar	218	96	91	397	183	985	88	478
Apr	203	90	90	384	179	946	41	437
May	188	95	91	391	190	955	42	408
Jun	178	91	87	389	182	927	63	417
Jul	186	94	82	390	186	938	94	449
								1481



# Related Developments

# Coal & Gas Generation & CO2 Emissions



As of Aug. 17, 2016.  
 Emissions and operating capacity are attributed to the primary fuel group of the unit.  
 Included units that reported both emissions and operating capacity for the given year.  
 Source: SNL Energy, an offering of S&P Global Market Intelligence



# Sierra Club comments: Gas Infrastructure

## Source: SNL Energy, August 8, 2016

News of rising carbon emissions from gas consumption was greeted with dismay by the Sierra Club, which has maintained a major campaign against coal-fired generation. The group has also lobbied **against the expansion of natural gas infrastructure**, and Beyond Dirty Fuels Campaign Director Lena Moffitt said the EIA data underscores the importance of that fight.

"In addition to this being a significant wake-up call for hopefully all Americans, it's also a real indication of where the **next climate fight** is going to be and that really **is with gas**," Moffitt said in an Aug. 17 interview. "As we're trying to meet our climate goals, it is very clear that we cannot afford to expand infrastructure and reliance on fossil fuels, including gas."

Moffitt called the rising carbon emissions from gas "concerning" and said the trend is one of the reasons the Sierra Club will continue to lobby for increasing investments in zero-carbon resources of energy, energy efficiency and **slowing down investments in fossil fuel infrastructure**

# Thank You