

BEFORE THE  
CORPORATION COMMISSION OF OKLAHOMA

APPLICATION OF PUBLIC SERVICE COMPANY OF )  
OKLAHOMA FOR COMMISSION AUTHORIZATION OF )  
A PLAN AND COST RECOVERY OF ACTIONS OF PSO )  
TO BE IN COMPLIANCE WITH CERTAIN )  
ENVIRONMENTAL RULES PROMULGATED BY THE )  
UNITED STATES ENVIRONMENTAL PROTECTION )  
AGENCY; SUCH ACTIVITIES TO INCLUDE, BUT NOT )  
BE LIMITED TO, CAPITAL EXPENDITURES FOR )  
EQUIPMENT AND FACILITIES; CONSTRUCTION OR )  
PURCHASE OF AN ELECTRIC GENERATING FACILITY )  
OR ENTER INTO A LONG-TERM PURCHASE POWER )  
CONTRACT (AND POSSIBLE EARNING ON THE )  
CONTRACT); CHANGE IN DEPRECIATION RATES )  
AND/OR ESTABLISHMENT AND RECOVERY OF A )  
REGULATORY ASSET; AND FOR SUCH OTHER RELIEF )  
AS THE COMMISSION DEEMS PSO IS ENTITLED. )

**FILED**  
MAR 22 2013

COURT CLERK'S OFFICE - OKC  
CORPORATION COMMISSION  
OF OKLAHOMA

Cause No. PUD 201200054

**SURREBUTTAL TESTIMONY OF**

**JONATHAN WALLACH**

**ON BEHALF OF**

**THE SIERRA CLUB**

Resource Insight, Inc.

**MARCH 22, 2013**

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**TABLE OF EXHIBITS**

Exhibit JFW-10      *Updated List of Retirement Announcements*

1 **I. Introduction**

2 **Q: Please state your name, occupation, and business address.**

3 A: My name is Jonathan F. Wallach. I am Vice President of Resource Insight,  
4 Inc., 5 Water Street, Arlington, Massachusetts.

5 **Q: Are you the same Jonathan Wallach that filed responsive and rebuttal**  
6 **testimony in this proceeding?**

7 A: Yes.

8 **Q: On whose behalf are you testifying?**

9 A: I am testifying on behalf of the Sierra Club.

10 **Q: What is the purpose of your surrebuttal testimony?**

11 A: This surrebuttal testimony responds to the rebuttal testimony by OIEC  
12 witness Scott Norwood regarding: (1) the impact of the Company's proposed  
13 Compliance Plan on fuel diversity; (2) future environmental costs; and (3)  
14 trends in coal retirements across the U.S.

15 **II. Fuel Diversity**

16 **Q: How does Mr. Norwood respond to your responsive testimony with**  
17 **regard to the issue of fuel diversity?**

18 A: Mr. Norwood raises three concerns with regard to my responsive testimony  
19 on the issue of fuel diversity. First, as he did in his responsive testimony, Mr.  
20 Norwood claims that I (along with all other witnesses in the proceeding) have

1 ignored the “significant upside cost exposure of the EPA Settlement” to  
2 higher-than-expected natural gas prices.<sup>1</sup>

3 Second, Mr. Norwood argues that I understate the consequences from  
4 reduced fuel diversity with retirement of the Northeastern units, because I  
5 allegedly believe that “PSO could likely replace the coal-fired energy from  
6 these units with lower-cost energy efficiency and wind resources.”<sup>2</sup> Contrary  
7 to my alleged belief, Mr. Norwood contends that:

8 The potential for wind generation to be a cost effective replacement for  
9 coal energy currently supplied by PSO’s Northeastern units seems very  
10 low, due to the fact that wind energy is an intermittent resource and  
11 requires backup capacity from conventional generating resources in  
12 order to be comparable to a coal-fired generating unit. Wind energy also  
13 often requires significant transmission investment due to the often  
14 remote location of wind generation facilities. Additionally, the  
15 economics of wind energy are highly dependent on the future extension  
16 of wind production tax credits and the passage of mandated renewable  
17 energy standards, both of which are uncertain.<sup>3</sup>

18 Finally, Mr. Norwood notes that average rates in California and New  
19 England currently exceed those in Oklahoma, and attributes these rate  
20 differences to “more stringent environmental policies..., along with  
21 renewable energy mandates and energy efficiency standards.”<sup>4</sup> Mr. Norwood  
22 further contends that California and states in New England “have generally  
23 adopted the Sierra Club’s energy supply model advocated in this case by Mr.  
24 Wallach,” insinuating that the Company’s rates would increase dramatically

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<sup>1</sup> *Rebuttal Testimony of Scott Norwood on behalf of Oklahoma Industrial Energy Consumers*, Cause No. PUD 201200054, February 11, 2013, p. 4.

<sup>2</sup> *Id.*, p. 3.

<sup>3</sup> *Id.*, p. 5.

<sup>4</sup> *Id.*, pp. 5-6.

1 if PSO were to implement the proposed Compliance Plan and increase its  
2 reliance on cost-effective energy efficiency and wind resources.<sup>5</sup>

3 **Q: Did you ignore the risk of higher-than-expected natural gas prices, as**  
4 **Mr. Norwood contends?**

5 A: No. As I discussed in my responsive and rebuttal testimony, Mr. Norwood's  
6 concern that the Company's economic analysis does not capture gas price  
7 risk is unwarranted. To the contrary, the Company's economic analysis  
8 already incorporates this risk as a certainty by relying on an outdated base-  
9 case price forecast that forecasts gas prices well in excess of current market  
10 prices. Consequently, the Company's economic analysis of the proposed  
11 Compliance Plan already captures the cost impact from higher-than-expected  
12 gas prices.

13 **Q: Is Mr. Norwood correct in his understanding of your testimony**  
14 **regarding the potential for clean resources to reduce the expected cost of**  
15 **the proposed Compliance Plan?**

16 A: No. Mr. Norwood mischaracterizes my testimony when he states that I  
17 believe that "PSO could likely replace the coal-fired energy from these units  
18 with lower-cost energy efficiency and wind resources." Instead, I testified  
19 that the Company's economic analysis conclusively showed that the portfolio  
20 of measures in the proposed Compliance Plan, including the addition of new  
21 gas combined-cycle capacity after retirement of Northeastern Unit 3 in 2026,  
22 would be less expensive than the retrofit of DFGD and continued operation  
23 of the Northeastern units. I then argued that this cost advantage could be  
24 widened even further by substituting a portfolio of energy efficiency, wind

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<sup>5</sup> *Id.*, p. 6.

1 generation, and market purchases for a portion of the new gas CC additions.  
2 Thus, I argue that this alternative resource portfolio may be less expensive  
3 than investment in new gas combined-cycle capacity. However, I did not  
4 testify as to whether this alternative portfolio would be less expensive than  
5 the running costs from existing coal plants.

6 **Q: Do you agree with Mr. Norwood’s contention that the potential for cost-**  
7 **effective wind generation “seems very low?”**

8 A: No. To the contrary, wind capacity in the Southwest Power Pool currently  
9 appears to be cost-competitive. For example, Oklahoma Gas & Electric  
10 Company (OG&E) finds in its 2012 Integrated Resource Plan that adding  
11 new wind capacity at current pricing levels (\$30/MWh with production tax  
12 credits) reduces total system production costs, even though the new wind  
13 capacity is in addition to, rather than a replacement for, new gas combined-  
14 cycle capacity.<sup>6</sup> Thus, according to OG&E, new wind generation appears to  
15 be cost-effective, even after accounting for the fact that wind is an  
16 intermittent resource and even when it is not credited with avoiding  
17 investment in new gas CC capacity.<sup>7</sup>

18 Moreover, while the cost-effectiveness of wind capacity may currently  
19 depend on the availability of production tax credits, wind costs have been

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<sup>6</sup> Oklahoma Gas & Electric Company, *Integrated Resource Plan*, October, 2012, p. 38. Previously provided in Sierra Club response to OIEC Data Request 2-9.

<sup>7</sup> Likewise, in recent testimony before the Arkansas Public Service Commission, Southwestern Electric Power Company estimates that the integration of six new wind projects will reduce total system production costs by an average of about \$29 million per year from 2013 through 2022. See *Direct Testimony of Jon R. MacLean on behalf of Southwestern Electric Power Company*, Arkansas Public Service Commission Docket No. 13-033-U, March 8, 2013, p. 6. (Available at: [http://www.apscservices.info/pdf/13/13-033-u\\_5\\_1.pdf](http://www.apscservices.info/pdf/13/13-033-u_5_1.pdf).)

1 declining rapidly and may soon reach a level where they are competitive  
2 without tax subsidies.<sup>8</sup> In fact, analyses by Lazard and Bloomberg New  
3 Energy Finance indicate that tax subsidies may no longer be required or  
4 won't be required within a few years in order for new wind capacity to be  
5 competitive with new gas combined-cycle capacity.<sup>9</sup> According to UBS,  
6 NextEra Energy is reporting contract pricing for new wind resources as low  
7 as \$25/MWh.<sup>10</sup>

8 Finally, while Mr. Norwood is correct in his claim that transmission  
9 upgrades may be required to integrate new wind resources, it does not appear  
10 that accounting for the added cost for new transmission would materially  
11 impact the economics of new wind investment. For example, a 2009 survey  
12 of transmission planning studies by the Lawrence Berkeley National  
13 Laboratory estimated a median transmission cost of \$15 per megawatt-hour  
14 of wind generation.<sup>11</sup> The study's authors noted that their cost estimate likely  
15 overstated the additional transmission cost required to integrate wind:

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<sup>8</sup> See, for example, Ryan Wiser, et. al., "Recent Developments in the Levelized Cost of Energy from U.S. Wind Power Projects", National Renewable Energy Laboratory, February, 2012. (Available at: <http://eetd.lbl.gov/ea/ems/reports/wind-energy-costs-2-2012.pdf>.)

<sup>9</sup> Lazard Ltd., Levelized Cost of Energy Analysis – Version 5.0, June, 2011. (Available at: [http://www.narucmeetings.org/Presentations/2008%20EMP%20Levelized%20Cost%20of%20Energy%20-%20Master%20June%202008%20\(2\).pdf](http://www.narucmeetings.org/Presentations/2008%20EMP%20Levelized%20Cost%20of%20Energy%20-%20Master%20June%202008%20(2).pdf).) Bloomberg New Energy Finance, "Onshore Wind Energy to Reach Parity with Fossil-Fuel Electricity by 2016", November 10, 2011. (Available at: <http://bnef.com/PressReleases/view/172>.)

<sup>10</sup> UBS Investment Research, "Nuggets from NextEra's Analyst Day", March 13, 2012.

<sup>11</sup> Andrew Mills, et. al, *The Cost of Transmission for Wind Energy: A Review of Transmission Planning Studies*, Ernest Orlando Lawrence Berkeley National Laboratory, February, 2009, p. xi. (Available at: <http://eetd.lbl.gov/ea/emp/reports/lbnl-1471e.pdf>.) This study cites a number of studies for transmission expansion in the Southwest Power Pool, with costs ranging from less than \$10 to about \$25 per megawatt-hour of wind generation.

1           It deserves note that transmission expansion is not unique to wind: other  
2           generation sources will also require transmission expenditures, not  
3           surveyed here. Additionally, transmission expansion typically serves  
4           multiple purposes, and our approach to assigning the full costs of that  
5           expansion to generation capacity additions effectively ignores those  
6           other benefits. Finally, in some of the studies in our sample, transmission  
7           is purposefully oversized to allow for future generation expansion,  
8           leading to an overestimate of the transmission costs uniquely associated  
9           with the specific wind capacity additions. In general, the limitations in  
10          our methodology err towards an over-statement of the unit cost of  
11          transmission for wind.<sup>12</sup>

12           In addition, testimony by Mr. Norwood in Cause No. PUD 200800148  
13          indicates a cost of only \$5 per megawatt-hour of wind generation for  
14          Oklahoma Gas & Electric's Windspeed transmission line.<sup>13</sup>

15           Assuming additional transmission costs of \$15/MWh, the cost of wind  
16          generation would increase from \$30/MWh (as estimated by OG&E) to only  
17          \$45/MWh. In contrast, using the Company's capital and operating cost  
18          assumptions for new gas CC, assuming no additional transmission  
19          interconnection costs for the new CC, and accounting for the higher capacity  
20          value of gas CC relative to wind, I estimate a levelized cost of about  
21          \$62/MWh for new gas combined-cycle plant.<sup>14</sup> Consequently, even after

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<sup>12</sup> *Id.*

<sup>13</sup> *Responsive Testimony of Scott Norwood on behalf of Oklahoma Industrial Energy Consumers*, Cause No. PUD 200800148, July 11, 2008, p. 11. In his testimony, Mr. Norwood estimates an average cost for the Windspeed project of about \$15/MWh, assuming delivery of only 640MW of wind energy over a transmission line with a transfer capacity of 1,800 MW. Assuming full use of the available transfer capacity reduces the effective cost of the project to about \$5/MWh.

<sup>14</sup> This estimate is based on the capital and operating cost data provided in 'Ex SCW-5 WP (NE Option\_Fixed Cost Modeling Parameters).xls' and the Company's lower band gas price forecast provided in response to OIEC Data Request 6-10. In addition, this estimate includes a capacity credit to account for the conservative assumption that 1 MW of gas CC nameplate capacity is equivalent to 10 MW of wind nameplate capacity for reserve planning purposes.



1 accounting for transmission costs and lower wind capacity value, wind  
2 capacity would be about 27% less expensive than new gas combined-cycle  
3 plant.

4 **Q: Is there any merit to Mr. Norwood’s comparison of Oklahoma rates to**  
5 **those in California and New England?**

6 A: No. Mr. Norwood has no basis other than anecdotal evidence for attributing  
7 the difference between Oklahoma and California or New England rates to  
8 more-stringent environmental regulations, renewable portfolio standards, or  
9 energy efficiency standards.<sup>15</sup> For that matter, Mr. Norwood ignores a host of  
10 other factors that could explain these rate differentials, such as differences in:  
11 (1) distribution and transmission costs; (2) fuel mixes; (3) regional labor,  
12 equipment, or land costs; (4) legacy PURPA contract costs; (5) taxes; (6)  
13 customer demographics; or (7) general economic conditions.

14 Moreover, Mr. Norwood fails to offer any basis for equating, as he does,  
15 the rate impact of various environmental and energy policies in New England  
16 and California with that from the proposed Compliance Plan and from  
17 increased reliance on energy efficiency and wind resources. Instead, Mr.  
18 Norwood simply offers the unsupported claim that “the policies in these  
19 regions of the country are reflective of Sierra Club’s recommendations in this  
20 case,” and then illogically infers that the Sierra Club’s recommendations  
21 would increase rates in Oklahoma to levels comparable to those in California  
22 and New England.<sup>16</sup>

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<sup>15</sup> See OIEC response to Sierra Club Data Request 5-7.

<sup>16</sup> *Rebuttal Testimony of Scott Norwood*, p. 6.

1 **Q: Is there reason to believe that differences in rates between Oklahoma**  
2 **and California or New England might be attributable to factors other**  
3 **than differences in environmental or energy policies?**

4 A: Yes. In particular, the fact is that these rate differentials have persisted for at  
5 least two decades – i.e., since before adoption of renewable portfolio and  
6 energy efficiency standards – and have been fairly stable over time even as  
7 such standards have come into play. As indicated in Figure 1, since 1990, the  
8 percentage differences between average rates in California or New England  
9 and rates in Oklahoma have generally stayed within a range of 60%-80%, or  
10 fallen rapidly back within that range.

11 Table 1 provides the effective dates for legislation enacting renewable  
12 portfolio or energy efficiency standards in California and the New England  
13 states.<sup>17</sup> As shown in Table 1, renewable portfolio or energy efficiency  
14 standards did not become effective until 2003 in California and not until  
15 1998 in New England.<sup>18</sup> Clearly, rate differences in the years prior to these  
16 effective dates could not have been caused by implementation of such  
17 standards. Moreover, as noted above, these standards apparently have not  
18 resulted in long-term increases in these rate differentials. These trends over  
19 the last twenty years suggest that current rate differentials are attributable to  
20 factors other than the adoption of more-stringent environmental regulations,  
21 renewable portfolio standards, or energy-efficiency standards during this time  
22 period.

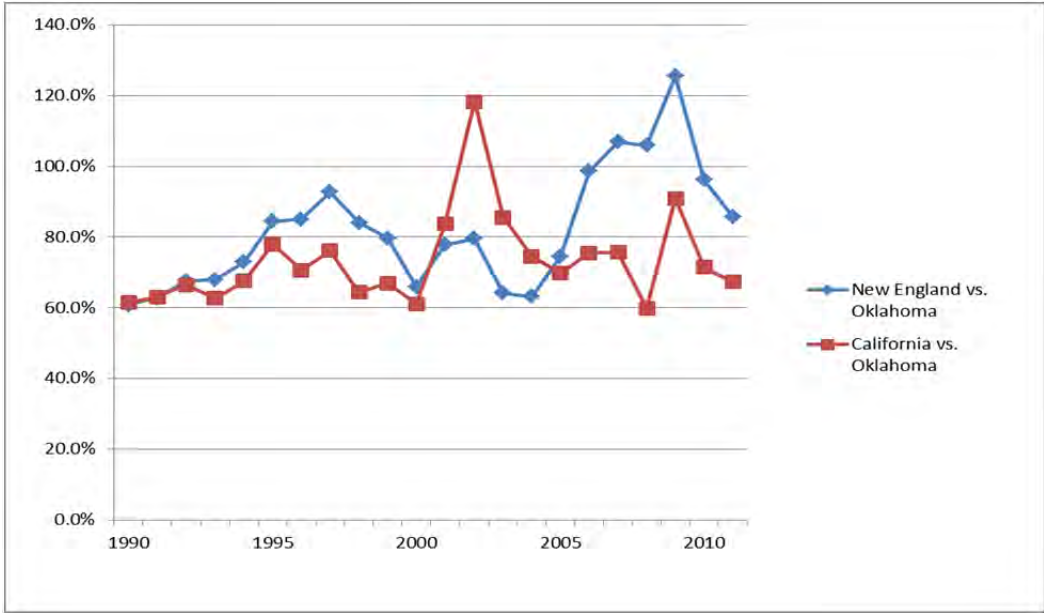
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<sup>17</sup> The information in Table 1 was compiled from the Database of State Incentives for Renewables & Efficiency (<http://www.dsireusa.org>).

<sup>18</sup> Table 1 provides the effective date for the enacting legislation. However, such legislation may defer implementation of explicit compliance goals or targets for several years after the effective date.

1

**Figure 1: Historical Rate Differentials 1990-2011**



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**Table 1: Effective Dates for Renewable Portfolio and Energy Efficiency Standards**

	<b>Renewable Portfolio Standard</b>	<b>Energy Efficiency Standard</b>
California	2003	2003
Connecticut	1998	1998
Maine	2000	2010
Massachusetts	2002	2009
New Hampshire	2007	NA
Rhode Island	2004	2006
Vermont	2005	NA

4

**III. Future Environmental Compliance Costs**

**Q: Please summarize your findings and conclusions regarding future environmental compliance costs.**

**A:** As I discussed in my responsive and rebuttal testimony, it is reasonable to expect that the Northeastern units will be subject to a number of new or tighter environmental regulations in the future, and that the Company will

1 incur substantial costs to comply with these regulations. As the Company  
2 acknowledges, its economic analysis of the sensitivity cases that assume  
3 operation of the Northeastern units for 25 years following the DFGD retrofit  
4 do not account for these potentially substantial compliance costs. As a result,  
5 the Company's economic analysis understates the benefits of the proposed  
6 Compliance Plan relative to those sensitivity cases. I therefore recommend  
7 that the Commission give little weight to the results of these sensitivity  
8 analyses.

9 **Q: How does Mr. Norwood respond to your testimony regarding this issue?**

10 A: Mr. Norwood states that:

11 The proponents all argue that potential environmental regulations are  
12 likely to lead to additional compliance costs and premature retirement of  
13 the Northeastern coal units. In fact, these speculative arguments that  
14 future regulations will force early retirement of the Northeastern coal  
15 units are the primary basis for the Proponents conclusion that the EPA  
16 Settlement represents the lowest reasonable cost compliance alternative  
17 for PSO....<sup>19</sup>

18 **Q: Did you argue that future environmental regulations will force early  
19 retirement of the Northeastern units, as Mr. Norwood alleges?**

20 A: No. Contrary to Mr. Norwood's allegation, I did not claim that future  
21 environmental regulations would "force early retirement" of the Northeastern  
22 units or that it would necessarily be less expensive to retire the Northeastern  
23 units in 2031 than to incur compliance costs and continue operations for  
24 another ten years. Instead, I determined that the Company's Option #1A  
25 sensitivity case likely substantially understated the costs of that sensitivity  
26 relative to the EPA Settlement Option case, because it excluded any costs of

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<sup>19</sup> *Rebuttal Testimony of Scott Norwood*, p. 7.

1 compliance with a number of impending environmental regulations. If the  
2 Option #1A sensitivity case had included such compliance costs, it is possible  
3 that this sensitivity case would no longer appear less expensive than the EPA  
4 Settlement Option case, whether or not the Northeastern units were “forced  
5 to retire.”<sup>20</sup> Accordingly, I concluded there was little merit to the Option #1A  
6 sensitivity case.

#### 7 **IV. Coal Retirement Trends**

8 **Q: Please summarize your testimony regarding coal retirements around the**  
9 **U.S.**

10 A: In my responsive testimony, I noted that the proposal to prematurely retire  
11 Northeastern Unit 4 was not an exceptional response to impending  
12 environmental requirements, as indicated by the fact that numerous owners  
13 of coal plants around the country have responded to the prospect of  
14 additional regulations by announcing the retirement of coal generation. I  
15 provided a list of those announcements in Exhibit JFW-2, and then updated  
16 that list in Exhibit JFW-6 to my rebuttal testimony.<sup>21</sup>

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<sup>20</sup> In other words, my concern was not whether the Option #1A sensitivity case – with full consideration of future compliance costs – would be more expensive than the Option #1 base case (indicating likelihood of early retirement only 15 years after DFGD retrofit). Instead, my concern was that the Option #1A sensitivity case – with full consideration of future compliance costs – would be more expensive than the EPA Settlement Option case (indicating that DFGD retrofit and operation for 25 years would be more costly than the proposed Compliance Plan.)

<sup>21</sup> Exhibit JFW-10 updates the list of retirement announcements provided in Exhibit JFW-6 to reflect the announced retirement of five additional plants in four states since my rebuttal testimony was filed.

1 **Q: How does Mr. Norwood respond to your testimony regarding coal**  
2 **retirement trends?**

3 A: Mr. Norwood states that his analysis of the data in Exhibit JFW-2 shows that:

4 ... less than 10% of the total existing U.S. coal-fired generating capacity  
5 is scheduled for retirement and those units are for the most part much  
6 smaller, much older and less efficient than the Northeastern coal units. In  
7 short, there is no industry trend to shut down relatively new and efficient  
8 coal units in response to new and pending EPA regulations as  
9 Proponents claim.<sup>22</sup>

10 **Q: Did you claim in your testimony that there is an “industry trend to shut**  
11 **down relatively new and efficient coal units?”**

12 A: No, I did not.

13 **Q: Are there any industry trends discernible in the list of retirement**  
14 **announcements compiled by the Sierra Club?**

15 A: Yes. It appears from the retirements announced to-date that, regardless of age  
16 or size, a key factor driving the decision to retire is whether a coal plant is  
17 currently scrubbed. About 77% of the 263 plants on Sierra Club’s current list  
18 of announced retirements currently do not have scrubbers.

19 Based on EIA data, I estimate that about 60% of the operating coal  
20 capacity in the U.S. that is 50 years of age or older lacks scrubbers.<sup>23</sup> In  
21 contrast, only about 23% of operating coal capacity less than 50 years old  
22 lacks scrubbers. Thus, one reason why the bulk of the retirement  
23 announcements to-date have been for plants older than the Northeastern units  
24 might be that older plants are much more likely to not have scrubbers.

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<sup>22</sup> *Rebuttal Testimony of Scott Norwood*, p. 10.

<sup>23</sup> Based on data provided in Form EIA-860.

1           As relatively young and larger coal plants, the Northeastern units may  
2           not appear to fit within current industry trends in terms of coal plants that are  
3           retiring in response to impending environmental regulations. However, as  
4           members of the minority of younger coal plants that lack scrubbers, the  
5           Northeastern units appear to be typical candidates for premature retirement.

6   **Q: Does this conclude your surrebuttal testimony?**

7   A: Yes.

State	Plant Name	Boiler	Year Operational	Nameplate (MW)	2010 Capacity Factor	Planned Retirement Date	Announcement Date	Announcement Source
AL	Widows Creek	5	1954	141	11%	7/31/2015	4/14/2011	EPA TVA Settlement
AL	Widows Creek	6	1954	141	9%	7/31/2015	4/14/2011	EPA TVA Settlement
AL	Widows Creek	3	1952	141	0%	7/31/2014	4/14/2011	EPA TVA Settlement
AL	Widows Creek	4	1953	141	10%	7/31/2014	4/14/2011	EPA TVA Settlement
AL	Widows Creek	1	1952	141	5%	7/31/2013	4/14/2011	EPA TVA Settlement
AL	Widows Creek	2	1952	141	1%	7/31/2013	4/14/2011	EPA TVA Settlement
AL	E C Gaston	1	1960	272	29%	4/1/2015	4/25/2012	Platts Electric Power Daily
AL	E C Gaston	2	1960	272	38%	4/1/2015	4/25/2012	Platts Electric Power Daily
AL	E C Gaston	3	1961	272	54%	4/1/2015	4/25/2012	Platts Electric Power Daily
AL	E C Gaston	ST4	1962	245	50%	4/1/2015	4/25/2012	Platts Electric Power Daily
AL	Gadsden	1	1949	69	22%	12/31/2014	7/3/2012	The Gadsden Times
AL	Gadsden	2	1949	69	16%	12/31/2014	7/3/2012	The Gadsden Times
AL	Colbert	5	1965	550	38%	12/31/2015	2/1/2013	TVA Consent Decree
CA	ACE Cogeneration Facility	GEN1	1990	108	83%	12/31/2017	12/31/2012	SNL reports planned retirement announcement date
CO	Arapahoe	4	1955	112	44%	12/31/2014	8/1/2008	PUC Docket - Reduction Emission Plan
CO	Arapahoe	3	1951	46	45%	12/31/2013	8/1/2008	PUC Docket - Reduction Emission Plan
CO	Cherokee	3	1962	171	52%	12/31/2011	8/13/2010	PUC Docket - Reduction Emission Plan
CO	Cherokee	4	1968	381	51%	12/31/2017	8/13/2010	PUC Docket - Reduction Emission Plan
CO	Valmont	5	1964	192	65%	12/31/2017	8/13/2010	PUC Docket - Reduction Emission Plan
CO	W N Clark	1	1955	19	61%	12/31/2013	12/16/2010	PUC Compliance with "Clean Air-Clean Jobs" Bill
CO	W N Clark	2	1959	25	72%	12/31/2013	12/16/2010	PUC Compliance with "Clean Air-Clean Jobs" Bill
CT	AES Thames	GEN1	1989	214	74%	4/30/2013	12/12/2011	Canadian Business
DE	Indian River Generating Station	1	1957	82	26%	5/1/2011	7/15/2010	WGMD News Radio
DE	Indian River Generating Station	3	1970	177	36%	12/31/2013	7/15/2010	WGMD News Radio
DE	NRG Energy Center Dover	COG1	1985	18	44%	5/30/2012	8/28/2012	DNREC Public Affairs Office
FL	Central Power & Lime	GEN1	1988	125	55%	12/31/2012	9/23/2011	Application for minor source air construction permit
GA	Harlee Branch	1	1965	299	30%	12/31/2013	3/16/2011	Georgia Power News Release
GA	Harlee Branch	2	1967	359	27%	10/1/2013	3/16/2011	Georgia Power News Release
GA	Harlee Branch	3	1968	544	46%	4/16/2015	1/7/2013	Georgia Power/Southern Company announcement for Harlee Branch
GA	Harlee Branch	4	1969	544	40%	4/16/2015	1/7/2013	Georgia Power/Southern Company announcement for Harlee Branch
GA	Mitchell	3	1964	163	7%	12/31/2012	3/26/2009	Georgia PSC
GA	Yates	1	1950	123	37%	4/16/2015	1/7/2013	Georgia Power/Southern Company announcement for Yates
GA	Yates	2	1950	123	34%	4/16/2015	1/7/2013	Georgia Power/Southern Company announcement for Yates
GA	Yates	3	1952	123	36%	4/16/2015	1/7/2013	Georgia Power/Southern Company announcement for Yates
GA	Yates	4	1957	156	35%	4/16/2015	1/7/2013	Georgia Power/Southern Company announcement for Yates
GA	Yates	5	1958	156	34%	4/16/2015	1/7/2013	Georgia Power/Southern Company announcement for Yates
GA	Yates	6	1974	404	50%	4/16/2015	1/7/2013	Georgia Power/Southern Company announcement for Yates
GA	Yates	7	1974	404	50%	4/16/2015	1/7/2013	Georgia Power/Southern Company announcement for Yates
GA	Kraft	ST1	1958	50	59%	4/16/2016	1/7/2013	Georgia Power/Southern Company announcement for Kraft
GA	Kraft	2	1961	54	56%	4/16/2016	1/7/2013	Georgia Power/Southern Company announcement for Kraft
GA	Kraft	3	1965	104	46%	4/16/2016	1/7/2013	Georgia Power/Southern Company announcement for Kraft
IA	Dubuque	3	1959	29	23%	1/1/2015	11/1/2010	IP&L Docket 08-673
IA	Dubuque	4	1952	38	29%	1/1/2015	11/1/2010	IP&L Docket 08-673
IA	Pella	6	1972	27	14%	12/31/2012	6/16/2011	Missouri River Energy Press Release
IA	Pella	5	1964	12	13%	12/31/2012	6/16/2011	Missouri River Energy Press Release
IA	Sutherland	1	1955	38	47%	1/1/2015	11/1/2010	IP&L Docket 08-673
IA	George Neal North	1	1964	147	71%	4/30/2016	1/22/2013	MidAmerican Consent Decree



IA	George Neal North	2	1972	349	65%	4/30/2016	1/22/2013	MidAmerican Consent Decree
IA	Walter Scott Jr Energy Center (Council	1	1954	49	69%	4/30/2016	1/22/2013	MidAmerican Consent Decree
IA	Walter Scott Jr Energy Center (Council	2	1958	82	87%	4/30/2016	1/22/2013	MidAmerican Consent Decree
IA	Riverside	3HS	1949	5	19%	4/30/2016	1/22/2013	MidAmerican Consent Decree
IA	Riverside	5	1961	136	49%	4/30/2016	1/22/2013	MidAmerican Consent Decree
IL	University of Illinois Abbott Power Plt	T10	2004	13	0%	12/31/2017	5/15/2010	IL Climate Action Plan
IL	University of Illinois Abbott Power Plt	T11	2004	13	0%	12/31/2017	5/15/2010	IL Climate Action Plan
IL	University of Illinois Abbott Power Plt	T12	2004	7	47%	12/31/2017	5/15/2010	IL Climate Action Plan
IL	University of Illinois Abbott Power Plt	T6	1959	8	33%	12/31/2017	5/15/2010	IL Climate Action Plan
IL	University of Illinois Abbott Power Plt	T7	1962	8	15%	12/31/2017	5/15/2010	IL Climate Action Plan
IN	CC Perry K	4	1925	15	2%	12/31/2014	11/16/2011	Indianapolis Business Journal
IN	CC Perry K	6	1938	5	10%	12/31/2014	11/16/2011	Indianapolis Business Journal
IN	CC Perry K	7	2009	2	24%	12/31/2014	11/16/2011	Indianapolis Business Journal
IN	CC Perry K	8	2009	2	0%	12/31/2014	11/16/2011	Indianapolis Business Journal
IN	Tanners Creek	1	1951	153	25%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
IN	Tanners Creek	2	1952	153	21%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
IN	Tanners Creek	3	1954	215	25%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
IN	Whitewater Valley	2	1973	61	25%	2/28/2013	8/2/2011	Louisville Platts
IN	Whitewater Valley	1	1955	33	27%	2/28/2013	8/2/2011	Louisville Platts
IN	Frank E Ratts	1	1970	117	75%	12/31/2015	5/9/2012	Power Engineering
IN	Frank E Ratts	2	1970	117	63%	12/31/2015	5/9/2012	Power Engineering
IN	Tanners Creek	4	1964	579.7	55%	12/31/2015	2/22/2013	Washington Post article
KS	Riverton	7	1950	38	39%	12/31/2015	12/31/2012	SNL reports planned retirement announcement date
KS	Riverton	8	1954	50	74%	12/31/2015	12/31/2012	SNL reports planned retirement announcement date
KY	Big Sandy	1	1963	281	36%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
KY	Cane Run	4	1962	163	65%	5/31/2015	9/15/2011	LG&E Press Release
KY	Cane Run	5	1966	209	61%	5/31/2015	9/15/2011	LG&E Press Release
KY	Cane Run	6	1969	272	51%	5/31/2015	9/15/2011	LG&E Press Release
KY	Green River	3	1954	75	53%	12/31/2015	9/15/2011	LG&E Press Release
KY	Green River	4	1959	114	55%	12/31/2015	9/15/2011	LG&E Press Release
KY	Shawnee	10	1956	175	12%	12/31/2015	4/14/2011	EPA TVA Settlement
KY	Tyrone	3	1953	75	21%	12/31/2015	9/15/2011	LG&E Press Release
KY	Robert A Reid	1	1966	96	1%	1/1/2014	4/2/2012	CPCN application in KY PSC case no. 2012-00063
KY	Big Sandy	2	1969	816	79%	12/31/2015	2/22/2013	Washington Post article
LA	Big Cajun 2	2	1982	626	70%	4/15/2015	11/21/2012	Consent Decree
MA	Salem Harbor	1	1952	82	42%	6/1/2014	5/12/2011	PR Newswire
MA	Salem Harbor	2	1952	82	37%	6/1/2014	5/12/2011	PR Newswire
MA	Salem Harbor	3	1958	166	47%	6/1/2014	5/12/2011	PR Newswire
MI	B C Cobb	4	1956	156	78%	1/1/2015	12/2/2011	Gongwer News Michigan
MI	B C Cobb	5	1957	156	64%	1/1/2015	12/2/2011	Gongwer News Michigan
MI	Harbor Beach	1	1968	121	16%	12/31/2015	9/30/2011	PSCR Plan
MI	J C Weadock	7	1955	156	67%	1/1/2015	12/2/2011	Gongwer News Michigan
MI	J C Weadock	8	1958	156	60%	1/1/2015	12/2/2011	Gongwer News Michigan
MI	J R Whiting	1	1952	106	61%	1/1/2015	12/2/2011	Gongwer News Michigan
MI	J R Whiting	2	1952	106	66%	1/1/2015	12/2/2011	Gongwer News Michigan
MI	J R Whiting	3	1953	133	68%	1/1/2015	12/2/2011	Gongwer News Michigan
MN	Silver Lake	1	1948	8	-2%	12/31/2015	8/7/2012	RPU Utility Board Decision
MN	Silver Lake	2	1953	12	-1%	12/31/2015	8/7/2012	RPU Utility Board Decision
MN	Silver Lake	3	1962	25	7%	12/31/2015	8/7/2012	RPU Utility Board Decision
MN	Silver Lake	4	1969	54	2%	12/31/2015	8/7/2012	RPU Utility Board Decision

MN	Hoot Lake	2	1959	54	72%	12/31/2020	1/31/2013	Star Tribune
MN	Hoot Lake	3	1964	74	71%	12/31/2020	1/31/2013	Star Tribune
MN	Syl Laskin	1	1953	58	50%	12/31/2015	1/30/2013	Minnesota Power announcement
MN	Syl Laskin	2	1953	58	52%	12/31/2015	1/30/2013	Minnesota Power announcement
MN	Taconite Harbor Energy Center	GEN3	1967	84	57%	12/31/2015	1/30/2013	Minnesota Power announcement
MO	Asbury	2	1986	19	0%	1/31/2014	7/3/2012	Missouri PSC Docket
MO	Chamois	1	1953	15	31%	9/30/2013	3/6/2013	Power Engineering Article
MO	Chamois	2	1960	44	98%	9/30/2013	3/6/2013	Power Engineering Article
NC	Buck	5	1953	125	49%	1/1/2015	8/31/2010	Duke Energy Carolinas IRP
NC	Buck	6	1953	125	46%	1/1/2015	8/31/2010	Duke Energy Carolinas IRP
NC	L V Sutton	1	1954	113	41%	12/31/2014	12/1/2009	Progress Energy Retirement Plan
NC	L V Sutton	2	1955	113	44%	12/31/2014	12/1/2009	Progress Energy Retirement Plan
NC	L V Sutton	3	1972	447	45%	12/31/2014	12/1/2009	Progress Energy Retirement Plan
NC	Riverbend	4	1952	100	27%	1/1/2020	8/31/2010	Duke Energy Carolinas IRP
NC	Riverbend	5	1952	100	26%	1/1/2020	8/31/2010	Duke Energy Carolinas IRP
NC	Riverbend	6	1954	133	35%	1/1/2020	8/31/2010	Duke Energy Carolinas IRP
NC	Riverbend	7	1954	133	35%	1/1/2020	8/31/2010	Duke Energy Carolinas IRP
NC	Univ of NC Chapel Hill Cogen Facility	TG3	1991	28	27%	12/31/2020	5/4/2010	UNC News
NC	Lumberton	GEN1	1985	35	0%	4/1/2009	7/10/2012	SELC existing and proposed biomass facilities
NJ	B L England	1	1962	136	9%	10/31/2013	5/1/2012	Press of Atlantic City
NJ	B L England	2	1964	163	33%	5/31/2016	5/1/2012	Reuters
NM	Four Corners	1	1963	190	81%	12/31/2012	11/8/2010	Arizona Public Service Company News Release
NM	Four Corners	2	1963	190	73%	12/31/2012	11/9/2010	Arizona Public Service Company News Release
NM	Four Corners	3	1964	253	75%	12/31/2012	11/10/2010	Arizona Public Service Company News Release
NY	Cornell University Central Heat	TG2	1988	5	0%	6/1/2011	1/10/2010	Ithaca Journal
NY	Cornell University Central Heat	TG1	1988	1	0%	6/1/2011	1/10/2010	Ithaca Journal
NY	Black River Generation	GEN1	1989	56	17%	3/31/2013	8/28/2012	Black River company fuel swtich announcement
NY	Danskammer Generating Station	3	1959	147	52%	12/31/2102	12/10/2012	Dynegy retirement announcement
NY	Danskammer Generating Station	4	1967	239	49%	12/31/2102	12/10/2012	Dynegy retirement announcement
NY	S A Carlson	5	1951	25	1%	1/1/2015	12/31/2012	Jamestown Board of Public Utilities announcement
NY	S A Carlson	6	1968	25	20%	1/1/2015	12/31/2012	Jamestown Board of Public Utilities announcement
OH	Ashtabula	5	1958	256	39%	9/1/2012	1/26/2012	First Energy
OH	Avon Lake	7	1949	86	4%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
OH	Avon Lake	12	1970	680	47%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
OH	Eastlake	1	1953	123	71%	9/1/2012	1/26/2012	First Energy
OH	Eastlake	2	1953	123	52%	9/1/2012	1/26/2012	First Energy
OH	Eastlake	3	1954	123	47%	9/1/2012	1/26/2012	First Energy
OH	Lake Shore	18	1962	256	34%	9/1/2012	1/26/2012	First Energy
OH	Lausche Heating Plant	OUG1	1994	1	0%	12/31/2015	3/29/2011	Sierra Club - OU Press Release
OH	Miami Fort	6	1960	163	69%	1/1/2015	8/8/2011	Cincinnati.com
OH	Muskingum River	1	1953	220	38%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
OH	Muskingum River	2	1954	220	34%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
OH	Muskingum River	3	1957	238	44%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
OH	Muskingum River	4	1958	238	50%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
OH	Niles	2	1954	133	19%	6/30/2012	2/29/2012	GenOn Planned Retirement Announcement
OH	Picway	5	1955	106	7%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
OH	Shelby Municipal Light Plant	1	1968	13	26%	3/31/2011	10/1/2010	WMFD TV
OH	Shelby Municipal Light Plant	2	1973	13	34%	3/31/2011	10/1/2010	WMFD TV
OH	Shelby Municipal Light Plant	3	1948	5	0%	3/31/2011	10/1/2010	WMFD TV
OH	Shelby Municipal Light Plant	4	1954	7	3%	3/31/2011	10/1/2010	WMFD TV

OH	Walter C Beckjord	1	1952	115	-1%	1/1/2015	7/15/2011	Wall Street Journal
OH	Walter C Beckjord	2	1953	113	0%	1/1/2015	7/15/2011	Wall Street Journal
OH	Walter C Beckjord	3	1954	125	-1%	1/1/2015	7/15/2011	Wall Street Journal
OH	Walter C Beckjord	4	1958	163	39%	1/1/2015	7/15/2011	Wall Street Journal
OH	Walter C Beckjord	5	1962	245	56%	1/1/2015	7/15/2011	Wall Street Journal
OH	Walter C Beckjord	6	1969	461	51%	1/1/2015	7/15/2011	Wall Street Journal
OH	O H Hutchings	1	1948	69	0.05%	6/1/2015	5/10/2012	PJM Reliability Study
OH	O H Hutchings	2	1949	69	0.22%	6/1/2015	5/10/2012	PJM Reliability Study
OH	O H Hutchings	4	1951	69	4%	6/1/2013	6/28/2012	PJM Reliability Study
OH	O H Hutchings	5	1952	69	9%	12/31/2015	4/4/2012	Air Pollution Permit
OH	O H Hutchings	6	1953	69	8%	12/31/2015	4/4/2012	Air Pollution Permit
OH	Muskingum River	5	1968	615	62%	12/31/2015	2/22/2013	Washington Post article
OK	Northeastern	3	1979	473	78%	12/31/2017	4/24/2012	Sierra Club Press Release
OK	Northeastern	4	1980	473	67%	12/31/2026	4/24/2012	Sierra Club Press Release
OR	Boardman	1	1980	601	78%	12/31/2019	10/27/2011	PUC Docket
PA	Elrama Power Plant	1	1952	100	3%	6/30/2012	2/29/2012	GenOn Planned Retirement Announcement
PA	Elrama Power Plant	2	1953	100	11%	6/30/2012	2/29/2012	GenOn Planned Retirement Announcement
PA	Elrama Power Plant	3	1954	125	7%	6/30/2012	2/29/2012	GenOn Planned Retirement Announcement
PA	Elrama Power Plant	4	1960	185	20%	6/30/2012	2/29/2012	GenOn Planned Retirement Announcement
PA	New Castle Plant	3	1952	98	23%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
PA	New Castle Plant	4	1958	114	24%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
PA	New Castle Plant	5	1964	136	25%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
PA	Portland	1	1958	172	46%	1/31/2015	2/29/2012	GenOn Planned Retirement Announcement
PA	Portland	2	1962	255	45%	1/31/2015	2/29/2012	GenOn Planned Retirement Announcement
PA	Shawville	1	1954	125	46%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
PA	Shawville	2	1954	125	44%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
PA	Shawville	3	1959	188	46%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
PA	Shawville	4	1960	188	51%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
PA	Sunbury Generation LP	1	1949	89	56%	12/31/2014	12/28/2011	Centre Daily News
PA	Sunbury Generation LP	2	1949	89	51%	12/31/2014	12/28/2011	Centre Daily News
PA	Sunbury Generation LP	3	1951	104	36%	12/31/2014	12/28/2011	Centre Daily News
PA	Sunbury Generation LP	4	1953	156	40%	12/31/2014	12/28/2011	Centre Daily News
PA	Titus	1	1951	75	38%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
PA	Titus	2	1951	75	36%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
PA	Titus	3	1953	75	39%	4/30/2015	2/29/2012	GenOn Planned Retirement Announcement
SC	W S Lee	1	1951	90	30%	10/1/2014	8/31/2010	Duke Energy Carolinas IRP
SC	W S Lee	2	1951	90	31%	10/1/2014	8/31/2010	Duke Energy Carolinas IRP
SC	W S Lee	3	1958	175	38%	10/1/2014	8/31/2010	Duke Energy Carolinas IRP
SC	Canadys Steam	1	1962	136	26%	12/31/2012	5/30/2012	SCE&G announces planned retirement per the IRP
SC	Canadys Steam	2	1964	136	34%	12/31/2015	5/30/2012	SCE&G announces planned retirement per the IRP
SC	Canadys Steam	3	1967	218	33%	12/31/2015	5/30/2012	SCE&G announces planned retirement per the IRP
SC	Urquhart	3	1955	100	46%	12/31/2012	5/30/2012	SCE&G announces planned retirement per the IRP
SC	McMeekin	1	1958	147	60%	12/31/2015	5/30/2012	SCE&G announces planned retirement per the IRP
SC	McMeekin	2	1958	147	52%	12/31/2015	5/30/2012	SCE&G announces planned retirement per the IRP
SC	Dolphus M Grainger	1	1966	82	26%	12/31/2015	10/19/2012	Santee Cooper Retirement Announcement
SC	Dolphus M Grainger	2	1966	82	31%	12/31/2015	10/19/2012	Santee Cooper Retirement Announcement
SC	Jefferies	3	1970	173	26%	12/31/2015	10/19/2012	Santee Cooper Retirement Announcement
SC	Jefferies	4	1970	173	17%	12/31/2015	10/19/2012	Santee Cooper Retirement Announcement
SD	Ben French	ST1	1961	25	60%	8/30/2012	8/6/2012	Black Hills Company Announcement
TN	John Sevier	3	1956	200	55%	12/31/2012	4/14/2011	EPA TVA Settlement

TN	John Sevier	4	1957	200	51%	12/31/2012	4/14/2011	EPA TVA Settlement
TN	Johnsonville	1	1951	125	52%	12/31/2015	4/14/2011	EPA TVA Settlement
TN	Johnsonville	2	1951	125	55%	12/31/2015	4/14/2011	EPA TVA Settlement
TN	Johnsonville	3	1952	125	53%	12/31/2015	4/14/2011	EPA TVA Settlement
TN	Johnsonville	4	1952	125	48%	12/31/2015	4/14/2011	EPA TVA Settlement
TN	Johnsonville	5	1952	147	41%	12/31/2015	4/14/2011	EPA TVA Settlement
TN	Johnsonville	6	1953	147	45%	12/31/2015	4/14/2011	EPA TVA Settlement
TN	Johnsonville	7	1958	173	54%	12/31/2017	4/14/2011	EPA TVA Settlement
TN	Johnsonville	8	1959	173	43%	12/31/2017	4/14/2011	EPA TVA Settlement
TN	Johnsonville	9	1959	173	54%	12/31/2017	4/14/2011	EPA TVA Settlement
TN	Johnsonville	10	1959	173	42%	12/31/2017	4/14/2011	EPA TVA Settlement
TX	J T Deely	1	1977	486	59%	12/31/2017	6/20/2011	CPS CEO Announcement
TX	J T Deely	2	1978	446	78%	12/31/2017	6/20/2011	CPS CEO Announcement
TX	Welsh	2	1980	558	75%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
UT	Kennecott Utah Power Plant	3	1946	25	60%	12/31/2013	12/15/2010	Rio Tinto News Release
UT	Kennecott Utah Power Plant	2	1943	25	60%	12/31/2013	12/15/2010	Rio Tinto News Release
UT	Kennecott Utah Power Plant	1	1943	50	46%	12/31/2013	12/15/2010	Rio Tinto News Release
UT	Carbon	1	1954	75	80%	4/30/2015	3/1/2012	Filing of Revised Tariff Schedules
UT	Carbon	2	1957	114	77%	4/30/2015	3/1/2012	Filing of Revised Tariff Schedules
VA	Altavista	1	1992	71	26%	12/31/2012	4/1/2011	Dominion Resources News Release
VA	Bremo Bluff	3	1950	69	38%	12/31/2014	9/1/2010	Dominion Resources IRP
VA	Bremo Bluff	4	1958	185	46%	12/31/2015	9/1/2010	Dominion Resources IRP
VA	Chesapeake	3	1959	185	54%	12/31/2015	9/1/2011	DailyPress
VA	Chesapeake	ST1	1953	113	62%	12/31/2015	9/1/2011	DailyPress
VA	Chesapeake	ST2	1954	113	64%	12/31/2015	9/1/2011	DailyPress
VA	Chesapeake	ST4	1962	239	59%	12/31/2015	9/1/2011	DailyPress
VA	Clinch River	2	1958	238	24%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
VA	Clinch River	1	1958	238	36%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
VA	Clinch River	3	1961	238	12%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
VA	Glen Lyn	5	1944	100	2%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
VA	Glen Lyn	6	1957	238	10%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
VA	Hopewell Power Station	1	1992	71	27%	12/31/2012	4/1/2011	Dominion Resources News Release
VA	Southampton Power Station	1	1992	71	28%	12/31/2012	4/1/2011	Dominion Resources News Release
VA	Yorktown	1	1957	188	42%	12/31/2014	9/1/2011	DailyPress
VA	Yorktown	2	1959	188	52%	12/31/2014	9/1/2011	DailyPress
WA	Transalta Centralia Generation	1	1972	730	70%	12/31/2020	3/5/2011	Washington governor press release
WA	Transalta Centralia Generation	2	1973	730	63%	12/31/2025	3/5/2011	Washington governor press release
WI	Univ of Wisc Madison Charter Sreet Pla	1	1965	10	0%	12/31/2011	2/19/2010	Wisconsin State Journal
WI	Valley	1	1968	136	25%	12/31/2015	5/5/2011	Milwaukee Journal-Sentinel
WI	Valley	2	1969	136	41%	12/31/2015	5/5/2011	Milwaukee Journal-Sentinel
WI	Waupun Correctional Central Heating f	1	1951	1	0%	12/31/2011	3/13/2010	Wisconsin State Journal
WI	Waupun Correctional Central Heating f	2	1951	1	0%	12/31/2011	3/13/2010	Wisconsin State Journal
WI	Nelson Dewey	1	1959	100	70%	12/31/2015	7/27/2012	Alliant Press Release
WI	Nelson Dewey	2	1962	100	66%	12/31/2015	7/27/2012	Alliant Press Release
WI	Edgewater	3	1951	60	6%	12/31/2015	7/27/2012	Alliant Press Release
WI	Edgewater	4	1969	330	63%	12/31/2018	7/30/2012	Journal Sentinal Online
WI	Pulliam	5	1949	50	32%	12/31/2015	1/4/2013	News release for settlement
WI	Pulliam	6	1951	69	40%	12/31/2015	1/4/2013	News release for settlement
WI	Weston	1	1954	60	47%	12/31/2015	1/4/2013	News release for settlement
WI	Weston	2	1960	82	73%	12/31/2015	1/4/2013	News release for settlement

WV	Kammer	1	1958	238	24%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
WV	Kammer	2	1958	238	28%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
WV	Kammer	3	1959	238	20%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
WV	Kanawha River	1	1953	220	20%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
WV	Kanawha River	2	1953	220	40%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
WV	North Branch	1	1992	80	0%	12/31/2015	12/3/2010	Wheeling News-Register
WV	Philip Sporn	1	1950	153	50%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
WV	Philip Sporn	2	1950	153	41%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
WV	Philip Sporn	3	1951	153	38%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
WV	Philip Sporn	4	1952	153	39%	12/31/2014	6/9/2011	American Electric Power EPA Regulations Compliance Plan
WV	Philip Sporn	5	1960	496	5%	12/31/2011	10/1/2010	American Electric Power 2010 IRP
WY	Naughton	3	1971	326	89%	12/31/2014	4/9/2012	PSC Testimony
WY	Neil Simpson	5	1969	22	80%	3/31/2014	8/6/2012	Black Hills Company Announcement
WY	Osage	1	1948	12	47%	3/31/2014	8/6/2012	Black Hills Company Announcement
WY	Osage	2	1949	12	47%	3/31/2014	8/6/2012	Black Hills Company Announcement
WY	Osage	3	1952	12	39%	3/31/2014	8/6/2012	Black Hills Company Announcement