AMERICA'S POWER PLANT MERCURY POLLUTERS: THE GOOD, THE BAD, AND THE DIRTY

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Coal-fired power plants are the single largest source of mercury air pollution in the United States.² For more than two decades, the electric power industry has delayed cleanup and dragged its feet in making the necessary technology upgrades to reduce emissions of this toxic pollutant, and regulatory inaction has allowed mercury pollution to continue largely unabated. However, by the end of 2011, the U.S. Environmental Protection Agency (EPA) will promulgate long overdue standards to cut power plant mercury and other toxic pollution.

Mercury is a highly toxic metal, and once released from power plant smokestacks into the atmosphere, settles in lakes and rivers, where it moves up the food chain to humans. According to EPA, roughly half of the nation's lakes and reservoirs have levels of mercury that exceed safe levels. A U.S. Geological Survey study found that 25 percent of fish sampled from U.S. rivers and streams have unsafe levels of mercury.³ Humans are primarily exposed to mercury through eating fish contaminated with methylmercury, a potent form of mercury created naturally from mercury pollution and taken up by aquatic organisms. Exposure to methylmercury can harm the brain, heart, kidneys, lungs, and immune systems of people of all ages.⁴ However, fetuses and young children are particularly sensitive to methylmercury exposure, with concern for developmental and neurological health effects, even at low levels that are common in the United States. Prenatal exposure may harm the developing nervous system, impairing the child's ability to learn and process information.⁵

In addition to mercury emissions, coal-fired power plants emit a suite of other toxic air pollutants, including antimony, beryllium, cadmium, cobalt, lead, manganese, nickel, arsenic, chromium, and selenium. Human exposure to these toxic pollutants can cause a range of serious health impacts such as cancer,⁶ damage to the liver, kidney and the nervous and circulatory

¹ The Environmental Integrity is a nonpartisan nonprofit organization dedicated to enforcement of the nation's antipollution laws. Visit EIP's website at <u>www.environmentalintegrity.org</u>

² See, <u>http://www.epa.gov/mercury/about.htm</u>

³ Mercury in Fish, Bed Sediment, and Water from Streams Across the United States, 1998-2005, Scientific Investigations Report 2009-5109, United States Geological Survey, http://pubs.usgs.gov/sir/2009/5109/pdf/sir20095109.pdf.

 ⁴ EPA's Roadmap for Mercury, Executive Summary, http://www.epa.gov/mercury/executivesummary.htm.
⁵ Id; EPA website, Blood Mercury Level, http://cfpub.epa.gov/eroe/index.cfm?fuseaction=detail.view Ind&lv=list.listByAlpha&r=188247&subtop=381.

⁶EPA Air Toxics Website, Arsenic Compounds, <u>http://www.epa.gov/ttnatw01/hlthef/arsenic.html</u>.

systems,⁷ respiratory effects, including a type of asthma specific to nickel, decreased lung function, and bronchitis.⁸

In 1990, recognizing the harmful impacts of toxic air pollutants, Congress passed the Clean Air Act amendments requiring EPA to regulate toxic emissions, such as mercury, from power plants. EPA finally adopted a weak cap and trade scheme for mercury in 2005, the Clean Air Mercury Rule, but the rule was overturned by a federal Court of Appeals. Fortunately, in 2011, EPA is slated to promulgate stricter regulation of mercury. Under the terms of a consent decree, EPA has until March 16, 2011 to propose stringent mercury emission standards for power plants and until November 16, 2011 to issue a final rule. The forthcoming rule will establish maximum achievable control technology (MACT) standards-the strictest standards set out in the federal Clean Air Act-for mercury emissions from coal and oil-fired power plants. As this report demonstrates, a large portion of the power plants in this country continue to emit mercury at unsafe and inexcusable levels, given the available pollution control technologies. The new MACT standards must ensure that mercury pollution from these power plants decreases significantly over the coming years. However, as this report also exposes, a smaller group of power plants have installed pollution controls, such as sorbent injection, baghouses, sulfur dioxide scrubbers, and selective catalytic reduction, and greatly cut mercury emissions. The best performing power plants are proof that mercury emissions can be controlled through off-theshelf pollution controls. EPA's long-awaited power plant toxics standards should require all coal plants to meet, at the very least, the lowest levels shown to be achievable.

This report ranks the best performing sold-fuel fired power plants, in terms of mercury emission rates by pounds per unit of electricity generated. Furthermore, this report shows that most of the nation's large coal-fired power plants continue to emit mercury at unnecessarily high levels. The top fifty worst power plant mercury polluters are ranked according to both the *total amount emitted*, which measures the total pounds of mercury reported by each power plant, and by *emission rate*, which measures the amount of mercury pollution per gigawatt-hour of electricity generated.

DATA

This report contains mercury emissions data obtained from EPA's Toxics Release Inventory (TRI), and electric generation data obtained from EPA's Clean Air Markets (also known as the Acid Rain program) databases.

⁷ EPA, Technical Factsheet on: Selenium, <u>http://www.epa.gov/ogwdw/pdfs/factsheets/ioc/</u>tech/ selenium.pdf; EPA Air Toxics Web Site, Cadmium Compounds, <u>http://www.epa.gov/ttn/atw/hlthef/cadmium.html</u>.

⁸ EPA, Nickel Compounds, <u>http://www.epa.gov/ttnatw01/hlthef/nickel.html</u>.

EPA's *Toxic Release Inventory* (TRI) tracked mercury emissions for 456 electric generating facilities in the United States (including Puerto Rico) in 2009, the latest year for which data is publicly available. Although the majority of these plants are traditional coal-fired power plants, a handful also burn waste coal and/or petroleum coke. TRI data is self-reported by the utility industry to EPA. These plants reported a combined 35.4 tons, or 72,778 pounds, of mercury air emissions released into the atmosphere in 2009.

The following rankings include only power plants listed in EPA's TRI database classified as an electric utility under the North American Industrial Classification System (NAICS).

The Good

Table 1, *Top 25 Performing Power Plants for Mercury by Pounds per Unit of Electricity*, ranks the top 25 large solid fuel-fired power plants with the lowest mercury emission rates.⁹ These plants demonstrate that with the installation of modern pollution control technologies, efficient mercury removal is achievable in practice.

Highlights:

- Total mercury emissions of the top 25 performers in 2009 were significantly less than emissions from just two facilities, Luminant's Martin Lake and Big Brown plants, which collectively emit close to 3,000 pounds per year of mercury. Yet, the best 25 performers produced over eleven times the amount of electricity as the two Luminant plants.
- PNM Resources' San Juan Generating Station, a 1,798 megawatt (MW) four unit coalfired power plant constructed between 1973 and 1982, slashed mercury emissions over 93 percent from 2005 levels, to become one of the nation's best performing large coalfired power plants in terms of mercury emissions. PNM installed an activated carbon injection system, a mercury emissions reduction technology, among other pollution control upgrades.
- Two of Dominion's coal-fired power plants were among the top ten performers for mercury emissions in 2009. Over the past five years, Dominion installed scrubbers and activated carbon injection on all three units at the Brayton Point facility, reducing emissions by 66 percent from 2005 levels. The Clover facility has the lowest mercury emission rate of any large coal-fired power plant in the nation at 0.0025 lbs of mercury per gigawatt-hour (GWh), due to a suite of pollution controls, including fabric filters, wet scrubbers, and selective non-catalytic reduction (SNCR) technology.
- DPL's Stuart Station, a four unit 2,388 MW plant constructed between 1970 and 1974 reduced mercury emissions by 88 percent from 2005 levels and 74 percent from 2005

⁹ "Large" plants are those that generated more than 5,000,000 megawatt hours (MWh) of electricity in 2009. Solidfuel fired plants include plants that burn coal, waste coal, petroleum coke, or a mix of these fuels. Note for Table 1 that we removed the Big Rivers Electric Corporation plants in Kentucky from the table due to highly suspect data.

levels. DPL retrofitted this older plant with wet scrubbers and selective catalytic reduction technology.

• Three of Duke Energy's coal-fired power plants performed in the top 25 for mercury emissions. All three facilities, Gibson, Belews Creek, and Zimmer have wet scrubbers, selective catalytic reduction (SCR) technology, and baghouses.

Table 1: Top 25 Performing Plants for Mercury by Pounds per Unit of Electricity2009								
Rank	Facility	Owner	State	County	2009 Hg (lbs)	Rank (TRI Hg Emissions)	Gross Generation (MWh)	lbs of Hg per GWh
1	Clover	Dominion	VA	Halifax	15.0	347	6,015,309	0.0025
2	Craig	Tri-State Generation and Transmission	СО	Moffat	30.0	296	10,116,835	0.0030
3	Huntington	Berkshire Hathaway - MidAmerican Energy	UT	Emery	25.8	312	7,182,153	0.0036
4	San Juan	PNM Resources	NM	San Juan	47.8	260	12,854,366	0.0037
5	Stuart	DPL	OH	Adams	94.0	195	16,555,368	0.0057
6	Wansley	Southern Company	GA	Carroll	79.0	215	7,843,531	0.0101
7	Brayton Point	Dominion	MA	Bristol	50.6	253	7,652,616	0.0066
8	Gibson	Duke Energy	IN	Gibson	141.8	151	20,495,764	0.0069
9	Bruce Mansfield	FirstEnergy	PA	Beaver	137.0	158	18,949,455	0.0072
10	Cross	State of South Carolina	SC	Berkeley	114.4	177	15,568,621	0.0073
11	St Johns River/Northside	City of Jacksonville	FL	Duval	107.0	182	13,489,410	0.0079
12	Cumberland	Tennessee Valley Authority	TN	Stewart	140.0	153	16,966,734	0.0083
13	Winyah	State of South Carolina	SC	Georgetown	56.5	248	6,503,922	0.0087
14	La Cygne	Great Plains Energy	KS	Linn	87.5	202	9,996,572	0.0088
15	Belews Creek	Duke Energy	NC	Stokes	146.1	150	15,708,266	0.0093
16	Hunter	Berkshire Hathaway - MidAmerican Energy	UT	Emery	96.2	192	10,123,611	0.0095
17	Paradise	Tennessee Valley Authority	KY	Muhlenberg	170.0	138	15,505,248	0.0110
18	Ghent	E.ON	KY	Carroll	139.9	155	12,520,615	0.0112
19	Big Bend	TECO Energy	FL	Hillsborough	100.0	186	8,939,675	0.0112
20	Roxboro	Progress Energy	NC	Person	83.0	206	7,308,533	0.0114
21	Pleasants Willow	Allegheny Energy	WV	Pleasants	79.3	214	6,896,561	0.0115
22	Bowen	Southern Company	GA	Bartow	264.4	89	22,933,794	0.0115
23	Naughton	Berkshire Hathaway - MidAmerican Energy	WY	Lincoln	59.7	242	5,109,994	0.0117
24	Zimmer	Duke Energy	OH	Clermont	93.9	196	7,920,584	0.0119
25	Harrison	Allegheny Energy	WV	Harrison	134.0	161	10,900,896	0.0123

The Bad

Table 2, *Top 50 Dirtiest Power Plants for Mercury by Total Pounds*, ranks the top 50 power plants with the highest total mercury emitted, expressed in pounds.

Highlights:

- The top 50 power plants mercury polluters accounted for 33,280 pounds of mercury, or 47 percent of the electric power industry's mercury emissions.
- The State of Nebraska's four coal-fired plants (North Omaha, Shelda, Nebraska City and Gerald Gentlemen) increased mercury emissions from 1,109 pounds in 2008 to 1,331 pounds in 2009, a 20 percent increase.
- Six American Electric Power (AEP) plants located in Indiana, Ohio, Texas and West Virginia are ranked among the top 50 mercury emitters, emitting 3,890 pounds of mercury.
- Five Southern Company plants located in Alabama and Georgia are ranked among the top 50 mercury emitters, emitting 3,486 pounds of mercury.
- Texas is home to four of the top ten mercury emitters.
- Dallas based Luminant (formerly TXU) accounted for three of the top ten mercury emitters. Luminant's Big Brown, Martin Lake, Monticello and Sandow 4 plants emitted 4,800 pounds of mercury or 6.7 percent of all mercury emissions nationwide. Sandow 4's emissions increased by 71.4 percent from 2008, to 809 pounds of mercury. (The Oak Grove plant and a fifth unit at the Sandow plant commenced operation in the later part of 2009 and are likely to significantly increase Luminant's mercury emissions in coming years.)
- Texas accounted for 15.2 percent of nationwide mercury emissions from electric generators. The next highest state is Pennsylvania at 6.4 percent.

Table 2: Top 50 Dirtiest Power Plants for Mercury by Total Pounds - 2009								
Rank	Facility	Owner	State	County	2009 Hg (lbs)			
1	Martin Lake	Luminant	TX	Rusk	1,566.0			
2	Big Brown	Luminant		Freestone	1,362.0			
3	Labadie	Ameren	MO	Franklin	1,297.3			
4	Miller	Southern Company	AL	Jefferson	1,205.7			
5	Limestone	NRG Energy	TX	Limestone	1,077.0			
6	Monticello	Luminant	TX	Titus	1,063.0			
7	Scherer	Southern Company	GA	Monroe	888.5			
8	Coal Creek	Great River Energy	ND	Mclean	861.8			
9	Gavin	American Electric Power	OH	Gallia	852.0			
10	Rockport	American Electric Power	IN	Spencer	852.0			
11	Monroe	DTE Energy	MI	Monroe	848.2			
12	W.A. Parish	NRG Energy	TX	Fort Bend	844.6			
13	Sandow 4	Luminant	TX	Milam	809.0			
14	Big Cajun 2	NRG Energy	LA	Pointe Coupee	798.0			
15	Keystone	RRI Energy	PA	Armstrong	795.0			
16	H.W. Pirkey	American Electric Power	ТХ	Harrison	791.0			
17	Columbia (WI)	Alliant Energy	WI	Columbia	626.2			
18	Sherburne County	Xcel Energy	MN	Sherburne	624.5			
19	Milton R Young	Minnkota Power Cooperative	ND	Oliver	587.0			
20	Independence	Entergy	AR	Independence	582.0			
20	Nebraska City	State of Nebraska	NE	Otoe	572.7			
21	Conemaugh	RRI Energy	PA	Indiana	569.4			
22	L aramie River	Basin Electric Power Cooperative	WY	Platte	560.0			
23	Colstrin	PPI	MT	Rosebud	560.0			
25	White Bluff	Fntergy	AR	Iefferson	559.0			
25	Navajo	Salt River Project		Coconino	558.0			
20	Rush Island	A meren	MO	Lefferson	553.2			
27	Gaston	Southern Company		Shelby	545.3			
20	Shawville	RELEnergy		Clearfield	540.2			
30	Diegsant Prairie	Wisconsin Energy	WI	Kenosha	527.4			
30	Homer City	Edison International		Indiana	526.1			
31	Lim Bridger	Barskehira Hathaway MidAmarican Enorgy	WV	Sweetwater	526.0			
32	Coronado	Salt Divor Project		Apacha	526.0			
24	Amos	A mariaan Elastria Dowar		Butnom	526.0			
25	Allios	San Migual Electric Cooperative Inc.		F utilalli	524.0			
35		Wester Energy		Atascosa Dottomotomio	512.5			
27	Detersburg	westar Energy	IN	Pottawatolille	505.9			
20	Latfield's Esere	AES Allachany Energy		Creare	505.0			
20	Faund S Ferry	Arizona Dublia Samiaa	PA	Son Juan	303.0			
39	Four Corners	Arizona Public Service		San Juan	487.3			
40	Hugo	Western Farmers Electric Cooperative		Choctaw	4/1.5			
41	Antelope valley	Basin Electric Power Cooperative	ND TTV	Mercer	4/0.0			
42	Welsh	American Electric Power		1 itus	462.0			
43	North Omaha	State of Nebraska	NE	Douglas	458.0			
44	R.M. Schahfer	NiSource	IN	Jasper	431.0			
45	J.H. Campbell	CMS Energy	MI	Ottawa	430.7			
46	Barry	Southern Company	AL	Mobile	426.3			
47	Cardinal	American Electric Power	OH	Jefferson	407.0			
48	Clifty Creek	Ohio Valley Electric Corporation	IN	Jefferson	405.0			
49	Greene County	Southern Company	AL	Greene	402.7			
50	George Neal North	Berskshire Hathaway - MidAmerican Energy	IA	Woodbury	400.0			

Table 3, *Top 50 Dirtiest Power Plants for Mercury by Pounds per Unit of Electricity*, ranks power plants with the highest mercury emission rates, expressed as pounds of mercury per gigawatt-hour (GWh) generated. The ranking excludes power plants that generated under 2,000,000 megawatt-hours in 2009.

Highlights:

- The top 50 mercury emitters ranked by pounds of mercury emitted per unit of electricity generated accounted for 36.2 percent of mercury emissions while only producing 16.1 percent of electric generation.¹⁰
- Texas is home to five of the top ten dirtiest power plants.
- Five Southern Company plants located in Alabama, Florida and Georgia are ranked among the top 50 dirtiest plants.
- Four Luminant plants located in Texas are ranked among the top 50.
- Four RRI Energy (formerly Reliant) power plants located in Ohio and Pennsylvania are ranked among the top 50.
- Four government-owned plants rank in the top 50, including the Nebraska City and North Omaha plants owned by the State of Nebraska, Stanton Energy Center owned by the City of Orlando, and John Sevier owned by the Tennessee Valley Authority (a federally owned corporation).

¹⁰ Facilities that did not report electric generation data were excluded from this analysis.

Table 3: Top 50 Dirtiest Power Plants for Mercury by Pounds per Unit of Electricity2009								
Rank	Facility	Owner	State	County	2009 Hg Emissions	Rank (TRI Hg Emissions)	Gross Generation (MWh)	lbs of Hg per GWh
1	Shawville	RRI Energy	PA	Clearfield	540.2	29	2,470,611	0.2187
2	H.W. Pirkey	American Electric Power	TX	Harrison	791.0	16	3,721,111	0.2126
3	Sandow 4	Luminant	TX	Milam	809.0	13	4,705,547	0.1719
4	Big Brown	Luminant	TX	Freestone	1,362.0	2	8,238,647	0.1653
5	San Miguel Electric Cooperative Inc	San Miguel Electric Cooperative Inc	TX	Atascosa	524.0	35	3,207,088	0.1634
6	Greene County	Southern Company	AL	Greene	402.7	49	2,590,642	0.1554
7	Hugo	Western Farmers Electric Cooperative	ОК	Choctaw	471.3	40	3,306,191	0.1425
8	North Omaha	State of Nebraska	NE	Douglas	458.0	43	3,311,481	0.1383
9	Twin Oaks	OptimEnergy	TX	Robertson	320.0	69	2,475,596	0.1293
10	Milton R Young	Minnkota Power Cooperative	ND	Oliver	587.0	19	5,467,012	0.1074
11	Neil Simpson Complex	Black Hills Corporation	WY	Campbell	256.0	96	2,384,567	0.1074
12	Coyote	Otter Tail Power	ND	Mercer	272.4	81	2,661,660	0.1023
13	Holcomb	Sunflower Electric Power	KS	Finney	289.0	77	2,861,304	0.1010
14	Columbia (WI)	Alliant Energy	WI	Columbia	626.2	17	6,890,164	0.0909
15	Apache	Arizona Electric Power Cooperative	AZ	Cochise	213.7	112	2,355,027	0.0907
16	Coal Creek	Great River Energy	ND	Mclean	861.8	8	9,816,560	0.0878
17	Stanton Energy Center	City of Orlando	FL	Orange	198.0	120	2,289,051	0.0865
18	Martin Lake	Luminant	TX	Rusk	1,566.0	1	18,353,042	0.0853
19	Limestone	NRG Energy	TX	Limestone	1,077.0	5	12,702,381	0.0848
20	Coronado	Salt River Project	AZ	Apache	526.0	34	6,264,508	0.0840
21	Crist	Southern Company	FL	Escambia	298.2	73	3,613,355	0.0825
22	Avon Lake	RRI Energy	OH	Lorain	261.0	91	3,255,911	0.0802
23	Ottumwa	Alliant Energy	IA	Wapello	323.0	65	4,058,448	0.0796
24	Morrow	South Mississippi Electric Power Association	MS	Lamar	158.4	146	2,079,693	0.0762
25	Fort Martin	Allegheny Energy	WV	Monongalia	329.0	62	4,352,937	0.0756
26	Pawnee	Xcel Energy	СО	Morgan	166.0	142	2,243,612	0.0740
27	Portland	RRI Energy	PA	Northampton	178.0	133	2,426,146	0.0734
28	Gibbons Creek	Texas Municipal Power Agency	ТХ	Grimes	260.0	93	3,590,421	0.0724
29	Labadie	Ameren	MO	Franklin	1,297.3	3	18,158,979	0.0714
30	Keystone	RRI Energy	PA	Armstrong	795.0	15	11,249,861	0.0707
31	Nebraska City	State of Nebraska	NE	Otoe	572.7	21	8,594,668	0.0666
32	Pleasant Prairie	Wisconsin Energy	WI	Kenosha	527.4	30	7,989,638	0.0660
33	Monticello	Luminant	TX	Titus	1,063.0	6	16,192,563	0.0656
34	Rush Island	Ameren	MO	Jefferson	553.2	27	8,484,079	0.0652
35	Gaston	Southern Company	AL	Shelby	545.3	28	8,553,882	0.0637
36	Antelope Valley	Basin Electric Power Cooperative	ND	Mercer	470.0	41	7,423,025	0.0633
37	Merrimack	Northeast Utilities	NH	Merrimack	160.0	144	2,547,727	0.0628
38	Louisa	Berskshire Hathaway - MidAmerican Energy	IA	Louisa	320.0	68	5,116,191	0.0625
39	Big Cajun 2	NRG Energy	LA	Pointe Coupee	798.0	14	12,775,558	0.0625
40	George Neal South	Berskshire Hathaway - MidAmerican Energy	IA	Woodbury	260.0	92	4,241,320	0.0613

Table 3: Top 50 Dirtiest Power Plants for Mercury by Pounds per Unit of Electricity2009								
Rank	Facility	Owner	State	County	2009 Hg Emissions	Rank (TRI Hg Emissions)	Gross Generation (MWh)	lbs of Hg per GWh
41	John Sevier	Tennessee Valley Authority	TN	Hawkins	240.0	102	3,930,738	0.0611
42	Boardman	Portland General Electric	OR	Morrow	204.9	118	3,365,683	0.0609
43	Leland Olds	Basin Electric Power Cooperative	ND	Mercer	270.0	84	4,552,766	0.0593
44	George Neal North	Berskshire Hathaway - MidAmerican Energy	IA	Woodbury	400.0	50	6,790,790	0.0589
45	Meramec	Ameren	MO	Saint Louis	335.7	60	5,779,515	0.0581
46	Michigan City	NiSource	IN	La Porte	130.0	166	2,256,474	0.0576
47	Dunkirk	NRG Energy	NY	Chautauqua	159.1	145	2,774,155	0.0574
48	Miller	Southern Company	AL	Jefferson	1,205.7	4	21,861,488	0.0552
49	Iatan	Great Plains Energy	MO	Platte	224.0	106	4,107,657	0.0545
50	Yates (GA)	Southern Company	GA	Coweta	257.1	95	4,903,540	0.0524

And the Dirty: Twenty-five Plants Make Both "Top 50" Dirtiest Lists

Twenty-five plants in eleven states ranked in the top 50 for both total pounds of mercury emitted and pounds emitted per unit of electricity generated. These plants represent the "worst of the worst" in terms of mercury pollution of power plants operating in the United Sates. Not only do these plants emit large quantities of the potent neurotoxin, mercury, but also control mercury pollution extremely less efficiently, by putting out more mercury per unit of electricity they produce as compared to similar plants.

- Seven out of the twenty-five plants are located in Texas. Four of those power plants are owned by Luminant.
- Three out of the twenty-five plants are located in Alabama and are owned by Southern Company.

Plants Ranked in Both "Top 50" Lists							
Facility	Company	State	County				
Gaston	Southern Company	AL	Shelby				
Greene County	Southern Company	AL	Greene				
Miller	Southern Company	AL	Jefferson				
Coronado	Salt River Project	AZ	Apache				
George Neal North	Berskshire Hathaway - MidAmerican Energy	IA	Woodbury				
Big Cajun 2	NRG Energy	LA	Pointe Coupee				
Labadie	Ameren	MO	Franklin				
Rush Island	Ameren	MO	Jefferson				
Antelope Valley	Basin Electric Power Cooperative	ND	Mercer				
Coal Creek	Great River Energy	ND	Mclean				
Milton R Young	Minnkota Power Cooperative	ND	Oliver				
Nebraska City	State of Nebraska	NE	Otoe				
North Omaha	State of Nebraska	NE	Douglas				
Hugo	Western Farmers Electric Cooperative	OK	Choctaw				
Keystone	RRI Energy	PA	Armstrong				
Shawville	RRI Energy	PA	Clearfield				
Big Brown	Luminant	TX	Freestone				
H.W. Pirkey	American Electric Power	TX	Harrison				
Limestone	NRG Energy	TX	Limestone				
Martin Lake	Luminant	TX	Rusk				
Monticello	Luminant	TX	Titus				
San Miguel Electric Cooperative Inc	San Miguel Electric Cooperative Inc	TX	Atascosa				
Sandow 4	Luminant	TX	Milam				
Columbia (WI)	Alliant Energy	WI	Columbia				
Pleasant Prairie	Wisconsin Energy	WI	Kenosha				