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November 26, 2014

Via Electronic Mail Transmission via the Federal eRulemaking Portal and U.S. Mail Delivery

Ms. Gina McCarthy
Administrator
Environmental Protection Agency
EPA Docket Center (EPA/DC)
Mailcode 28221T
Attention: Docket ID No. OAR–2013–0602
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator McCarthy:

The attached comments document is submitted jointly on behalf of both the Arkansas Department of Environmental Quality ("ADEQ") and the Arkansas Public Service Commission ("APSC") (collectively "the Agencies"). The purpose of our comments is to provide to the Environmental Protection Agency ("EPA") our technical analysis of and recommendations for the "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units" proposed rule that was published in the Federal Register on June 18, 2014 ("Proposed Rule"). The Agencies understand that the Attorney General of the State of Arkansas will comment on the legality of the Proposed Rule.

As the agencies that regulate environmental issues and ensure reliable utility service at just and reasonable rates respectively in our state, ADEQ and APSC began collaborating in preparation for the release of EPA's Proposed Rule months before its publication. These comments are the result of our joint efforts in evaluating the components of the Proposed Rule as they pertain to Arkansas.

Under the Proposed Rule, Arkansas would have one of the most stringent goals in the country for reducing the rate of carbon emissions from its electric generating units. As a state small in population, and which is a net exporter of electricity and is home to the nation's only super ultra- critical coal-fired power plant, Arkansas presents unique circumstances which are not adequately accounted for in the goal setting-formula within the Proposed Rule.

The 2030 Arkansas goal, which is the sixth most stringent in the United States, is technically flawed and is unattainable under the contemplated timeframe. The Agencies urge changes in the Proposed Rule to avoid unreasonable and inequitable results that may include disruptions to electric service and significant cost impacts in Arkansas and in neighboring states. Also, the Proposed Rule should be clarified and changed in various ways to better enable compliance, particularly for states like Arkansas that can reasonably be expected to rely on net imports from renewable energy generators for some or all of their renewable electricity generation.

We appreciate this opportunity to provide our comments to you and we hereby request that they be given your utmost consideration.

Sincerely,

J. Ryan Benefield, P.E.
ADEQ Interim Director

Colette D. Honorable
APSC Chairman

Contents

The Arkansas Department of Environmental Quality (hereinafter "ADEQ" or "the Department") and the Arkansas Public Service Commission (hereinafter "the Commission") (hereinafter collectively, "the Agencies") comment below on the Clean Power Plan Proposed Rule (hereinafter "Proposed Rule") published by the U.S. Environmental Protection Agency (hereinafter "EPA") on June 18, 2014.[1] The Agencies acknowledge that there will be those who comment on the legality of the Proposed Rule, including the Attorney General of the State of Arkansas. However, the purpose of these comments is not to focus on the legal framework and underpinnings of the Proposed Rule. Rather, the Agencies request that EPA consider these comments on the technical aspects of the Proposed Rule. Accordingly, the Agencies urge changes in the Proposed Rule to avoid unreasonable and inequitable results that may include disruptions to electric service and significant cost impacts in Arkansas and in neighboring states, and to clarify and enhance opportunities for state compliance.

I. Background and General Observations

A. Background

The Proposed Rule provides guidelines for states to follow in developing plans to reduce CO_2 emissions from electric generating units (hereinafter "EGUs"). The guidelines include a formula that would establish goals for each state to reduce the carbon intensity of EGUs located within its borders. The goals are expressed as emissions rates—pounds of CO_2 emitted per megawatt-hour of net electricity generation (hereinafter "lbs CO_2/MWh"). The formula establishes for each state an interim emissions goal for the period 2020-2029, and a final emissions goal for 2030. States meet their interim goals through an adjusted average emissions rate. Starting January 1, 2030, each affected state must meet its final goal on a three-calendar year rolling average.

EPA bases the interim and final state emission goals on a proposed "best system of emissions reduction" (hereinafter "BSER") for CO_2 emissions from existing power plants. The proposed BSER includes the following four categories of potential emission reductions, or "building blocks" (hereinafter "Block"): 1. Improving efficiency at individual coal-fired units; 2. Increasing use of existing natural gas combined cycle units (hereinafter "NGCC") in place of higher-emitting coal-fired units; 3. Expanding low- and zero- emissions generation, such as renewable energy (hereinafter "RE") sources or nuclear energy; and 4. Implementing demand-side energy efficiency (hereinafter "EE") measures. The goal-setting formula calculates the effect of applying these four policies to an initial fossil EGU emissions rate, which is the weighted average of the emissions rates of a state's coal and natural gas EGUs during 2012.

[1] Source: Docket ID, EPA-HQ-OAR-2013-0602.

For Arkansas, EPA's calculated initial 2012 fossil EGU CO_2 emissions rate is 1,722 lbs CO_2/MWh. However, when existing renewables and "at-risk" nuclear generation are factored in, Arkansas's initial 2012 rate from which reductions must occur is 1,634 lbs CO_2/MWh.[2] According to the formula, the four BSER policies would reasonably produce an average Arkansas EGU emissions rate of 968 lbs CO_2/MWh during 2020-2029. The same four policies theoretically would reduce the average Arkansas EGU emissions rate to 910 lbs CO_2/MWh in 2030. EPA proposes that these two emissions rates, which represent 41% and 44% emissions rate reductions,[3] respectively, from the initial 2012 fossil EGU rate as adjusted for existing renewable and nuclear generation, should become interim and final goals for Arkansas.[4]

B. General Observations

Conceptually, a formula that sets state-specific goals based upon electric generation and demand-side resources within, and available to, a state, can form a reasonable basis for state or regional plans that reduce CO_2 pollution. For such an approach to be reasonable, each element in the formula, the formula as a whole, and the results produced by the formula must be reasonable. The comments in later sections of this letter largely address technical adjustments needed in each element of the proposed formula.

It is difficult for any mathematical formula based on general principles to capture, without adjustments, the many unique circumstances that affect the level of CO_2 emissions within particular states or time periods from the highly-complex electric power sector. In addition, any actions contemplated in the underlying formula for the development of goals binding on the state should be within the power and authority of the state to implement. The following comments in this section of the letter address issues of needed adjustment, with further observations provided in later sections.

The 2030 Arkansas goal, which is the sixth most stringent in the United States, is technically flawed and is unattainable under the contemplated time frame. Further, as detailed below in comments regarding establishment of the baseline, the actual emissions reductions needed to meet the goal will exceed the

[2] Source: EPA's "Goal Computation Technical Support Document."

[3] Interim % change from initial adjusted rate:

$$\frac{Interim\ Rate - Initial\ Adjusted\ Rate}{Initial\ Adjusted\ Rate} \times 100\%$$

Final % change from initial adjusted rate:

$$\frac{Final\ Rate - Initial\ Adjusted\ Rate}{Initial\ Adjusted\ Rate} \times 100\%$$

[4] Sources: EPA's "Data File: Goal Computation - Appendix 1 and 2 (XLS)" and "Goal Computation Technical Support Document."

apparent 44% level.[5] Without correction, these goals may threaten to cause electric service disruptions in Arkansas and may also affect electricity service and cost in other states.

Of equal importance is the fact that the Arkansas interim goal is almost the same as the final goal. The Agencies understand that EPA intends for the interim goal to allow the state—through the averaging of emissions across a series of individual years—to implement a flexible glidepath to compliance in 2030. However, the Arkansas interim goal is so close to the 2030 goal that, based on a straight-line decline starting in 2020, the state would have to plan, seek approval for, and implement a suite of actions producing a CO_2 emissions reduction of roughly 37% between 2016 and 2020.[6] In practical terms, such a large undertaking in so short a time is unworkable. Any delays in meeting this near-term goal would essentially move the 2030 goal forward in time.

Emissions reductions of this magnitude within less than four years imply a major, permanent change in the electricity operations within the state. The magnitude of the change in the case of Arkansas cannot properly be characterized as "redispatch," as the EPA has provided within the portion of the goal-setting formula that dominates the Arkansas goal.[7] "Dispatch" refers to a selection by a utility company or grid operator between existing generation resources to meet fluctuations in load. The Arkansas goal, by contrast, requires state regulators and EGU owners to take actions on a different time scale and with a fundamentally different effect. It requires long-range, multi-utility resource planning that will likely permanently retire and replace major resources and will include major new policy initiatives.

Also, the EPA goal-setting formula does not adequately account for the interstate nature of electricity system operations, or for the closely related disparity in compliance burdens that affects small states that export a significant share of power generated within the State. Wholesale transactions within this federally-regulated marketplace are outside of state jurisdiction. Arkansas has roughly half

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[5] Sources: *Id.*

[6] Sources: EPA's "Goal Computation Data File" and "Goal Computation Technical Support Document"

$$\frac{2020\ Rate - Initial\ Adjusted\ Rate}{Initial\ Adjusted\ Rate} \times 100\%$$

[7] Perhaps in other states with smaller goals, or with known, approved or expected changes which will lead to significant CO_2 emissions reductions, "redispatch" is more descriptive. The Agencies focus here, however, on the impact of a general mathematical formula that in itself, absent adjustment, and additionally because of factual changes outside of the formula, produces an extreme result for the state of Arkansas.

$$\frac{2020\ Rate - Initial\ Adjusted\ Rate}{Initial\ Adjusted\ Rate} \times 100\%$$

the population of the average state, and generates approximately 29% more electricity than it sells at retail.[8,9] Arkansas is thus currently a significant net exporter of energy.[10] In part, because it is a smaller state (and in part because, for historic reasons, it is home to large base-load generators), the retirement or addition of one EGU, or slight changes in the assumptions underlying one variable in the goal-setting formula, could significantly and arbitrarily affect the magnitude of the Arkansas goal. Because much of the generation serves regional loads, compliance decisions by Arkansas will significantly affect neighboring states, possibly pitting against each other the interests of states that, according to EPA, could otherwise coordinate. While EPA correctly observes in the Proposed Rule that states have the option to coordinate with other states, no state can force such cooperation on an unwilling neighbor, and thus no state should be held responsible to require emissions reductions that reasonably depend on interstate coordination.

Also, the Agencies note that it can be reasonable to assign states different starting and ending points for emission rate reductions, particularly during an initial period of carbon regulation. Such an approach takes into account the diverse characteristics of geography, policy and existing generation portfolios in the different states. Over the longer term, however, all costs are variable costs. To the degree that states transition away from carbon-intensive generation, states should move towards a lower mean carbon emissions rate, and disparities reflected in historic policy differences also should narrow. A rule taking into account (indeed, promoting) this longer-term shift in technology should not permanently establish very high allowed emissions rates for some states, and low ones for others. From the start, it should be designed to mitigate extremes, and to include mechanisms for adjustment towards a reasonable lower mean. The narrowing of real-world disparities in emissions rates under rule implementation is itself a reasonable basis to mitigate the extreme state-by-state differences in emissions rate goals under the Proposed Rule.

It is therefore reasonable and necessary for EPA to adjust its goal-setting formula in ways that tend to bring "outlier" state goals towards the mean, that provide more time and/or flexibility for those states with large goals to comply, and that establish clear and definite pathways for multistate cooperation or interstate compliance. The Agencies thus provide the following general recommendations regarding the goal-setting formula:

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[8] $\frac{Total\ Generation}{Retail\ Sales \times 1.0751} \times 100\%$

[9] Sources: "2012 Form EIA 861 Data – Retail Sales" and "Net Generation by State by Type of Producer by Energy Source (EIA-906, EIA-920, and EIA-923)."

[10] "For example, South Mississippi Electric Power Associates has a 202 MW Power Purchase Agreement with Plum Point, which represents 30.08% of that particular facility's output.

- EPA should consider setting upper (and possibly lower) limits on the size of the goal any particular state must meet that will bring individual state goals closer to the average goal.

- For states with a more stringent goal, EPA should consider establishing a longer compliance period, and particularly a less stringent interim goal, thereby allowing states a reasonable opportunity to plan for major changes;[11] alternatively, or in addition, EPA could establish a ramp-rate for its assumptions about redispatch from coal to gas, as further detailed below, to allow a more realistic timeframe for public utility planning.

- As also further detailed below, EPA should establish a suite of "safe-harbor" compliance strategies, including particularly multistate or national compliance strategies (such as standard recognition of a Purchased Power Agreement (hereinafter "PPA") for RE and a recognized RE credit market strategy) to help avoid conflict between states and to promote compliance generally.

II. Baseline and Building Block 1 "Heat Rate Improvement"

A. Background

Table 1 lists the five coal-fired power plants (totaling seven EGUs) that are located within Arkansas:

Table 1: Generator-Specific Emission Rate Method [12]

Plant Name[13]	Year Operations Began	Nameplate Capacity	Nameplate EGUs
Flint Creek	1978	558 MW	1 unit
White Bluff	1980-1981	1,800 MW	2 units
Independence	1983-1984	1,800 MW	2 units
Plum Point	2010	720 MW	1 unit
Turk	2012	609 MW	1 unit
Total Nameplate Capacity		**5,487 MW**	

[11] The Agencies note that, within the context of criteria pollutant nonattainment, jurisdictions with more severe nonattainment are in some cases accorded more time to reach attainment.
[12] Source: "2012 Form EIA 860 Data – Schedule 3, Generator Data."
[13] Full plant names, per "2012 Form EIA 860 Data – Schedule 3, Generator Data:" Plum Point Energy Station (hereinafter "Plum Point"); John W Turk, Jr. Power Plant (hereinafter "Turk").

The 609 megawatt (hereinafter "MW") Turk plant began operation in December of 2012. It was the last coal-fired power plant in the nation to enter service during the 12-month period used by EPA to establish an emissions baseline for state goal-setting. As further noted below, the timing and characteristics of this plant mean that it affects the proposed emissions-reduction goal in a number of ways unique to Arkansas.

Similarly, the 670 MW Plum Point plant initiated operation in August 2010. Plum Point is jointly owned by partners who are largely outside of the state, and is contracted to serve significant loads in Missouri and Mississippi.[14] In addition, the owners of the Flint Creek plant were approved during 2013 to invest over $400 million in environmental control projects, and construction of those projects is underway.[15,16] Together, these three plants represent 34% of the coal-fired EGU capacity in the State. Because two of them are brand new and the third is undergoing a major upgrade, each has a remaining useful life that extends well beyond the proposed 2030 compliance date.

B. New Plant Emissions (Turk) Almost Completely Excluded from EPA Goal-Setting Compliance Baseline

The CO_2 emissions from the normal operation of Turk are almost entirely omitted from the calculation of the initial Arkansas emissions baseline. The Turk plant emitted less than 0.2 million tons of CO_2 during 2012. During its first full year of operation (2013), however, it emitted 3.7 million tons of CO_2. Despite a 3% decrease in generation from all affected units from 2012 to 2013,[17] with the addition of full operation of the Turk plant, CO_2 emissions from affected units in 2013 increased by 1% from 2012.[18] This increase in emissions above the 2012 level,

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[14] Source: FERC Docket No. ER14-2046-001, "Order Accepting and Suspending Proposed Rate Schedule and Establishing Hearing and Settlement Judge Procedures," August 28, 2014, at FN 1.

[15] Source: Arkansas Public Service Commission, Docket No. 12-008-U.

[16] The White Bluff and Independence facilities are also in the process of seeking permits for environmental controls to ensure MATS compliance and could thus also be subject to decreased efficiency and loss of HRI opportunities. Source: White Bluff Draft Permit 0263-AOP-R8 and Independence Draft Permit 0449-AOP-R8.

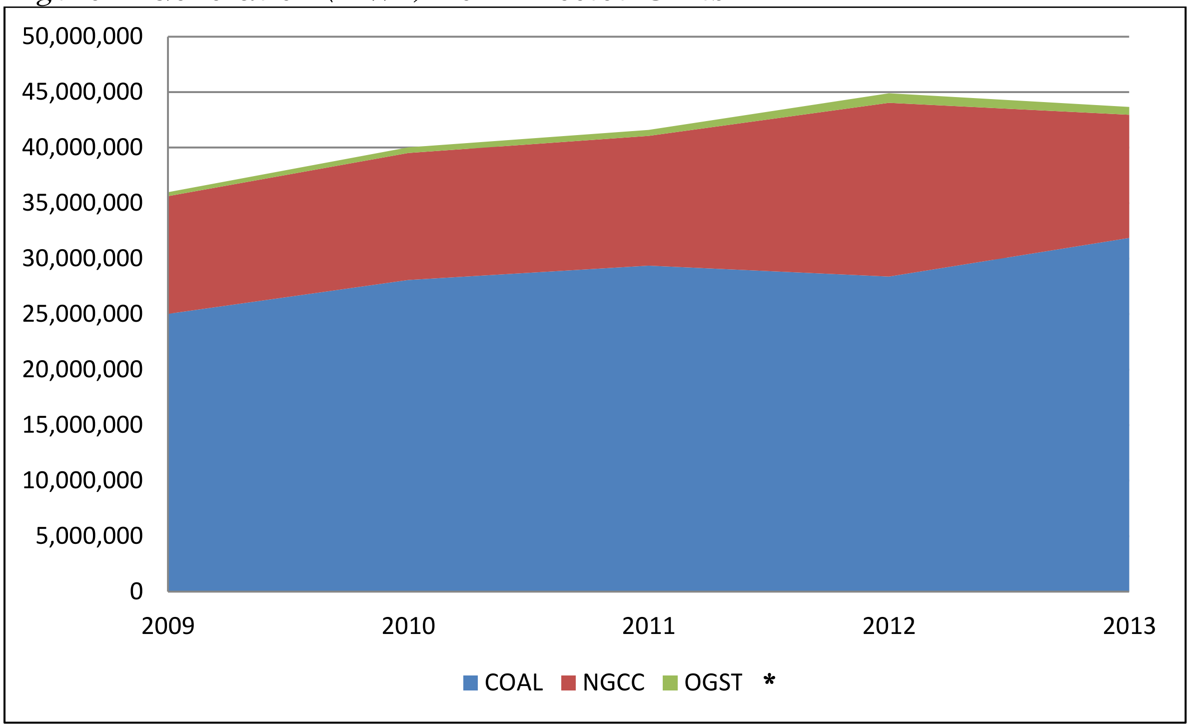
[17]The ADEQ replicated EPA's methodology as described in the Unit-Level Data using eGRID Methodology TSD for 2013 using monthly data. Source: "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *Base Year Comparison Summary, 2013 eGRID Methodology ADEQ,* and *Base Year Goal Calculation* tabs (see attached).

$$\frac{2013\ Affected\ Generation - 2012\ Affected\ Generation}{2012\ Affected\ Generation} \times 100\%$$

[18] Source: "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *Base Year Comparison Summary* tab (see attached).

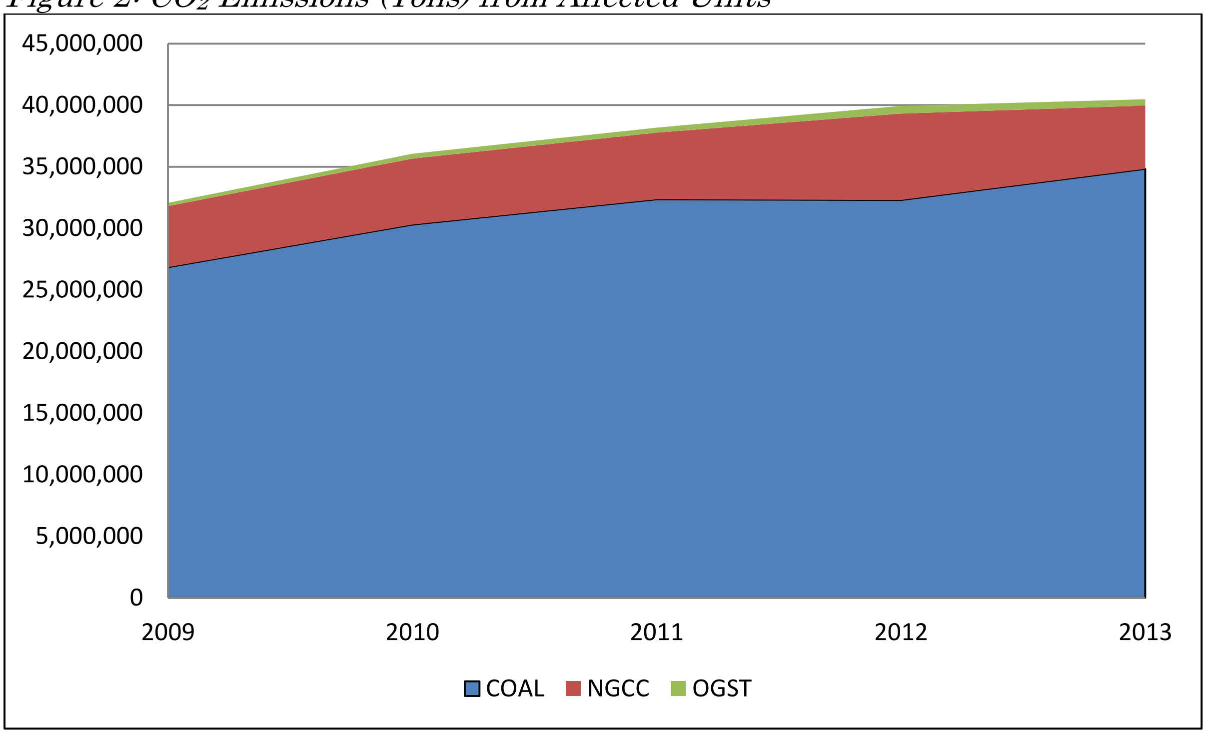
despite decreased overall net generation, is graphically displayed in Figures 1 and 2 below:

Figure 1: Generation (MWh) from Affected Units



*****Oil/Gas Steam Turbine

Figure 2: CO_2 Emissions (Tons) from Affected Units



The effect of including a fully operational Turk plant in 2013 would make Arkansas's initial adjusted fossil rate 1,698 lbs CO_2/MWh (1,793 lbs CO_2/MWh unadjusted) as compared to 1,634 lbs CO_2/MWh adjusted (1,722 lbs CO_2/MWh unadjusted).[19,20] Thus, if the 2012 goal-setting baseline is retained in its current form, Arkansas will have a higher actual initial emissions rate than contemplated in the compliance baseline, and will thus be required to make significantly larger reductions than EPA proposed within the formula. This base year selection also would exacerbate the difficulty with meeting the interim goal and the implementation problems resulting from wide disparity among states.

While it might seem reasonable to adopt instead a 2013 baseline, or a baseline that averages emissions from a series of years, the Agencies believe that those approaches would not reach the underlying problems highlighted by the addition of the Turk plant and its interaction with goal compliance for at least three reasons. First, the addition of highly efficient, low-fuel-cost coal generation in part displaces other generation, including existing combined-cycle generation.[21] Thus, in part because of the addition of the Turk plant, a 2013 baseline (and other future years) will reflect decreased NGCC utilization in Arkansas (indeed, avoiding reliance upon natural gas generation was the chief economic argument made to regulators to justify building the plant).[22]

Second, because of differences between 2012 and 2013 in weather, electricity load, and fuel prices, it may be impossible to exactly quantify this effect within any single year, but even a small impact would significantly affect the Arkansas goal. This is because (as described in detail regarding Block 2 of the formula below), the EPA formula's Block 2 "redispatch" from coal to natural gas is by far the largest component of the Arkansas goal. The reduction in 2013 NGCC generation under the proposed formula caused by the combination of Turk generation, increased natural gas prices, reduced load, weather, and other effects would—if the proposed formula were applied to 2013 data—require even greater Arkansas emissions

[19] Source: *Id., Base Year Goal Calculation* tab (see attached).
Initial Fossil Rate:
$$\frac{(Coal\ Rate \times Coal\ Gen\ ) + (NGCC\ Rate \times NGCC\ Gen\ ) + (\ O/G\ Rate \times O/G\ Gen) + Other\ Emissions}{Coal\ Gen + \ NGCC\ Gen + O/G\ Gen + Other\ Gen}$$

Adjusted Initial Fossil Rate:
$$\frac{(Coal\ Rate \times Coal\ Gen\ ) + (NGCC\ Rate \times NGCC\ Gen\ ) + (O/G\ Rate \times O/G\ Gen\ ) + Other\ Emissions}{Coal\ Gen + \ NGCC\ Gen + O/G\ Gen + Other\ Gen + Nuclear\ UC\ and\ AR + Hist\ \ RE}$$

[20] The Agencies note that this example also illustrates a general principle not recognized in the formula: the addition, retirement, or market-based operation of a single plant will tend to affect compliance in a small state much more than in a large state. This is another reason for providing reasonable adjustments to the formula.
[21] Source: "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *Base Year Goal Calculation* tab (see attached).
[22] *See, for instance,* Arkansas Public Service Commission, Docket No. 06-154-U, Order No. 11 at 25-26, 64 and FN 15.

reductions, even though the real-world effect of the displacement of NGCC by new coal would make the reductions more difficult to achieve.[23] A similar result would follow from using a 3-year average for baseline goal-setting emissions.

A third, and more fundamental baseline issue, is that the interstate nature of the electricity generation and transmission system does not harmonize with the state-specific jurisdiction of state air environmental (and generally) utility regulators. The new Turk emissions were added to Arkansas, in significant part, to provide electricity over an interstate transmission system: for instance, the plant's owners include electricity suppliers in four states and its inclusion in retail electricity rates has recently been litigated in Texas and Louisiana.[24] As suggested above, a more reasonable approach would be to make adjustments to the formula that take into account unique situations and that tend to bring the outlier states towards the mean.

Therefore, with respect to partial-year emissions from Turk, and perhaps the other five coal-fired EGUs nationally that commenced service during 2012, EPA should:

- Exclude the post-2012 share of annual emissions from the goal-setting formula on the basis that the remaining useful life of the plant clearly places it outside the proposed compliance period (much as EPA has already provided that a state may exclude the emissions from new combined cycle natural gas EGUs from § 111(d) and account for them only under § 111(b)).

- Alternatively, EPA could gradually phase-in the incorporation of Turk emissions for compliance purposes, recognizing these emissions through a higher allowed fossil emissions rate (perhaps based upon a straight-line annual percentage ranging from 0% to 100% over its full remaining useful life).

C. <u>6% HRI Not Reasonable for Existing Coal-Fired EGUs in Arkansas</u>

In setting a state's emissions rate reduction target, EPA has proposed reducing emissions rates at existing coal-fired units based on a uniform average of 6% HRI that is derived from a national study.[25] EPA, further, inappropriately applied an analysis of gross heat rate data to a net heat rate goal. It is impractical

[23] Source: "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *Base Year Goal Calculation* tab (see attached).
[24] Source: Public Utilities Commission of Texas, Docket No. 40443; Louisiana Public Service Commission, Docket No. U-32220.
[25] Source: Sargent & Lundy 2009, Coal-Fired Power Plant Heat Rate Reductions, SL-009597, Final Report, January 2009, available at
http://www.epa.gov/airmarkets/resource/docs/coalfired.pdf

and unreasonable for EPA to assign an average HRI to states irrespective of the ability of a particular state's EGUs to make that HRI. The resulting HRI goal does not reasonably apply, given the facts on the ground, in Arkansas.

For instance, the Turk plant is the only ultra-supercritical coal-fired EGU and is the most fuel-efficient coal-fired EGU in the U.S. Plum Point began commercial operations in the latter part of 2010. Based upon information provided by Southwestern Electric Power Company and Plum Point, these newer EGUs will not be able to achieve any appreciable HRI. Given the lack of opportunity for HRI at those two facilities, the remaining five Arkansas coal-fired EGUs would need to implement HRI exceeding 8% in order to meet the 6% HRI goal. Information provided by Entergy to the Agencies indicates that if all of the items identified by Sargent and Lundy's report that could be implemented at the Independence and White Bluff facilities were fully implemented, the average HRI would be 2% to 4%. Thus, Arkansas's newer plants will likely not see any significant improvements or only trivial improvements in heat rate, and our older plants probably cannot achieve greater improvement beyond the design heat rate.

Further, the Flint Creek unit is being retrofitted with additional emission control equipment to comply with the Mercury and Air Toxics Standards (hereinafter "MATS") and Regional Haze rules.[26,27] The new equipment will increase the Flint Creek unit's heat rate above the 2012 base year heat rate, thus decreasing its efficiency. This environmental control project will thus likely reduce the available HRI assumed for Arkansas in Block 1. EPA should recognize within the goal-setting formula and for the purpose of goal-setting that currently un-scrubbed units which continue to operate at base-load levels will likely be required to implement controls that will create parasitic loads that will partially negate the theoretical benefits of investments in HRIs. Such units comprise 76% of the coal-fired EGU capacity in Arkansas. Additionally, the reduced coal EGU operations envisioned in Block 2 of the Proposed Rule will likely erode the operating efficiency of these EGUs.

Table 2 below indicates the heat rate ranking of Arkansas coal-fired EGUs among coal-fired EGUs nationally according to the 2012 EIA form 923 annual dataset and the 2013 EIA form 923 monthly dataset. It confirms that Turk is the most efficient coal-fired EGU in the U.S. It also suggests that it is unlikely that the Arkansas plants have the potential for the same level of cost-effective HRI improvements, on average, as plants in other states, since over half of the coal-fired capacity in Arkansas is most recently among the top 100 plants nationally for heat rate.

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[26] Source: Title V permit # 0276-AOP-R6; Plantwide Conditions section, Reasonable Possibility, Condition #15.

[27] See footnote 16 re: White Bluff and Independence facilities' proposed MATS upgrades and HRI opportunities.

Table 2: Arkansas Coal-Fired Plant Heat Rate Comparison[28]

Plant Name	2012 Approx. Heat Rate/Rank	2013 Approx. Heat Rate/ Rank
Turk	3	1
Plum Point	32	58
Independence	106	66
White Bluff	137	111
Flint Creek	129	165

It is the Agencies' preference that Arkansas be allowed to calculate its Block 1 goal by evaluating our specific facilities' actual opportunities for efficiency measures at their respective EGUs. Alternatively, rather than focusing on the percentage HRI, it may be more practical to set an average net heat rate in BTU/kWh for all affected EGUs (a method similar to traditional New Source Performance Standards) for Block 1 goal-setting.

In summary, regarding the goal-setting formula's Block 1 heat-rate improvements:

- EPA should exclude Turk's and Plum Point's capacity from any assumption in the Final Rule that all plants within Arkansas can be made more efficient.

- Similarly, the goal-setting formula should be amended to take into account at least the bright-line cases where remaining useful life precludes near-term retirement, such as plants that came into operation during and after 2010, and those currently undergoing major environmental control projects.

- The 2012 baseline assumptions should be adjusted to recognize the fact that environmental control projects occurring post-2012 will worsen heat rates, reducing the available opportunity for HRIs.

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[28] Source: "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *2012 Heat Rate Rankings and 2013 Heat Rate Rankings* tabs (see attached). Annual net heat rate for coal fuel consumption at facilities was calculated using net generation and total fuel consumption attributed to combustion of coal fuel types reported for use in the EIA form 923 annual dataset for 2012 and the EIA form 923 monthly dataset for 2013.

$$Total\ Facility\ Net\ Heat\ Rate\ (BTU/net\ KWh) = \frac{\sum(Total\ Fuel\ Consumption\ MMBTU\ with\ AER\ Fuel\ Type\ "COL"\ for\ Facility)\times 10^6}{\sum Net\ Generation\ Megawatthours\ with\ AER\ Fuel\ Type\ "COL"\ for\ Facility)\times 10^3}$$

Facilities with an annual total facility net heat rate greater than zero were ranked by heat rate.

III. Building Block 2 "Redispatch to NGCC"

Arkansas is among a handful of states for which the assumptions underlying Block 2 are the most important goal-setting issue: 67% of the required 2030 reductions from Arkansas's adjusted 2012 baseline emissions rate, and 73% of the 2020-2029 rate reductions from the adjusted 2012 baseline, stem from Block 2.[29] While EPA makes the general argument that a state may over-comply with actions contemplated within one Block in order to offset under-compliance within another Block, in the case of Arkansas so much of the goal is dependent on Block 2 that a significant shortfall in Block 2 compliance likely cannot be made up through the relatively small potential that EPA foresees in Arkansas from the other Blocks, particularly in the case of short-term compliance with the interim, goal.

The goal-setting formula establishes an imputed average emission rate for NGCC plants within Arkansas of 827 lbs CO_2/MWh. This average is based upon the amount of generation and the amount of emissions during 2012 for seven NGCC power plants, which are listed in Table 3 in order of the adjusted (imputed) EPA emissions rate.

[29] Source: "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *Base Year Goal Calculation* tab (see attached).

$$\frac{Initial\ Adjusted\ Rate - Building\ Blocks\ Only\ 2\ Rate}{Initial\ Adjusted\ Rate - Final\ Rate} \times 100\%$$

Table 3: 2012 Arkansas NGCC Emissions Rates Comparison[30, 31]

Plant Name[32]	Actual 2012 Emissions Rate (lbs CO_2/MWh)	EPA Adjusted Emissions Rate (lbs CO_2/MWh)
PBEC	1,132	602
	EPA Arkansas average	**827**
Magnet Cove	839	839
Union Power	868	868
Hot Spring	881	881
Dell	923	923
Oswald	1,013	1,013
Fitzhugh	1,133	1,133

Every NGCC plant in Arkansas has an actual emissions rate that is higher than the adjusted NGCC emissions rate imputed to Arkansas for existing NGCC. An adjustment to the actual emissions rate for a single plant (PBEC) significantly lowers the 2012 fleetwide average NGCC emissions rate. The formula then carries forward this imputed average to project total NGCC fleet emissions after "redispatch."

Carrying this imputed emissions rate through Block 2, which is the single largest factor in the goal-setting formula for Arkansas, misrepresents the effect of "redispatch" on CO_2 emissions. This discrepancy (in combination with other methodological issues, as further explained immediately below) establishes unreasonable interim and final goals, frustrating compliance for the State.

A. <u>EPA's Treatment of Combined Heat and Power</u>

EPA's treatment of Combined Heat and Power (hereinafter "CHP"), and particularly the emissions from PBEC unrealistically lowers the Arkansas NGCC

30 Source: EPA's "Data File: 2012 Unit-Level Data using eGRID Methodology."

31 Source: "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *2012 Rates and Utilization* tab (see attached). Emission rates reflect the 2012 average emissions rate for each facility based solely on 2012 CO_2 emissions and generation (for actual rate) or net energy output (for EPA-adjusted rate). Emission rates presented here do not reflect changes in emission rates that may occur under different utilization patterns for affected units."

32 Full Plant names, per EPA's "Data File: 2012 Unit-Level Data using eGRID Methodology:" Pine Bluff Energy Center (hereinafter "PBEC"); Union Power Partners, LP (hereinafter "Union Power"); Hot Spring Generating Facility (hereinafter "Hot Spring"); Dell Power Station (hereinafter "Dell"); Harry L. Oswald (hereinafter "Oswald"); Thomas Fitzhugh (hereinafter "Fitzhugh").

fleetwide CO_2 emissions rate during the 2012 baseline year, thereby skewing the baseline and redispatch assumptions.

The PBEC is the only CHP facility in Arkansas that is included within the 2012 NGCC baseline emissions rate (and thus in the Block 2 assumptions about redispatch for individual state goal-setting). PBEC is a 236 MW facility, comprising less than 5% of the total NGCC capacity in Arkansas.[33]

According to EPA data, PBEC's actual CO_2 emissions rate during 2012 was 1,132 lbs CO_2/MWh—37% higher than the EPA-imputed fleet wide average emission rate for NGCCs. However, because PBEC is a CHP plant, EPA accounts for its useful thermal output ("UTO"), attributing an emissions reduction to this useful heat. Through that attribution, PBEC is accorded an adjusted emissions rate of 602 lbs CO_2/MWh—28% better than any other NGCC in Arkansas.[34]

As indicated in Table 4 below, removing UTO from the goal computation would increase the fleet-wide NGCC emission rate by 8% and reduce the stringency of the overall Arkansas 2030 goal by 6% (see Table 4).[35] EPA's treatment of this one existing industrial cogenerator within the goal-setting formula thus could significantly steer statewide public utility planning through 2030, having an impact similar in magnitude to EPAs assumptions regarding RE, EE, or statewide HRIs for coal EGUs.

Table 4: Effects of UTO Inclusion Using EPA Historical Data[36]

	UTO (proposed)	No UTO
2012 NGCC Emissions Rate (lb CO_2/MWh)	827	896
Final Goal (lb CO_2/MWh)	910	960

Because PBEC is an industrial cogeneration facility, it generally runs to provide electricity and heat to its host paper mill, regardless of whether fuel prices and load conditions within the broader power market lead to a low or high level of annual dispatch for other NGCCs. During 2012, when every other NGCC in Arkansas ran less than half the time, PBEC operated on average at 72% of its nameplate capacity.

[33] Source: EPA's "Data File: 2012 Unit-Level Data using eGRID Methodology."

[34] $\frac{PBEC\ Rate - Magnet\ Cove\ Rate}{Magnet\ Cove\ Rate} \times 100\%$

[35] Source: "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *UTO Treatment* tab (see attached).

[36] Source: *Id.* Inclusion of UTO from one facility (PCEB) that is not expected to ramp up makes about a 50 lb/MWh difference in Arkansas's final goal.

The goal-setting formula creates a weighted average including PBEC running during 2012 at 72% capacity and the other (generally larger) NGCC generators running at capacity factors of 7% to 47% as shown in Table 5: [37, 38]

Table 5: 2012 Arkansas NGCC Capacity Utilization Comparison[39]

Plant Name	Total Nameplate Capacity (MW)	Capacity Utilization (%)	Adjusted Emission Rate (lbs CO_2/MWh)
Oswald	600	6.8	1,013
Fitzhugh	185	7.0	1,133
Hot Spring	715	8.2	881
Dell	679	11.5	923
Magnet Cove	746	36.3	839
Union Power	2,428	46.5	868
PBEC	236	71.8	602

Table 5 shows that four NGCC plants ran very little during 2012, at utilization factors ranging from 7-12%. These plants have almost 2180 MW of capacity, forming almost 40% of the total capacity among affected NGCC units in Arkansas. These units had 2012 CO_2 emissions rates between 11% and 37% higher than the EPA-imputed average of 827 lbs CO_2/MWh, in part because of their low utilization rate.

Second, two large plants comprising almost 3,200 MW—57% of total affected NGCC nameplate capacity—ran a little less than half the time during 2012. These NGCC plants had 2012 emissions rates above the 827 lbs CO_2/MWh EPA-imputed average, with the bulk of the capacity being 5% less efficient than EPA's average.

Finally, PBEC comprised the remaining capacity and ran over 70% of the time during 2012. It is the only plant with an adjusted emissions rate—based on useful thermal output—below the fleet average. Its adjusted emissions rate is 27% below the EPA-imputed average.[40]

Under EPA's goal-setting assumption, all of these plants would run, on average, 70% of the time. Under that scenario, it is clear that substantially all of

[37] Figures based upon "Data File: 2012 Unit-Level Data using EGRID Methodology." Individual EGU capacities are summed to form the total nameplate capacity for each plant for the purpose of this chart. See also, "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *2012 Rates and Utilization* tab (see attached).

[38] Source: EPA's "Data File: 2012 Unit-Level Data using eGRID Methodology."

[39] Source: "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *2012 Rates and Utilization* tab (see attached).

[40] $\frac{PBEC\ Rate - Average\ NGCC\ Rate}{Average\ NGCC\ Rate} \times 100\%$

the increase in NGCC generation would come from the roughly 40% of NGCC capacity with much higher 2012 emissions than the EPA average and the roughly 60% of NGCC capacity with slightly higher 2012 emissions than the EPA average. The single plant with lower emissions is already above 70% capacity utilization and would contribute little or nothing to 70% average operations, even if it were to run 100% of the time.

Absent an adjustment to remove UTO from the imputed average Arkansas emissions rate, it is thus unrealistic for EPA to assume that average emissions in Arkansas at the 70% NGCC utilization rate will match the adjusted NGCC emissions rate assigned to Arkansas in the goal-setting formula. Rather, if EPA does not omit imputed UTO from the Arkansas average emissions rate, then the actual fleetwide NCGG emissions rate at 70% NGCC capacity utilization will likely significantly exceed the EPA-imputed rate, impairing Arkansas's compliance with the goal.

The Agencies do not oppose accounting for useful heat input for CHP plants in § 111(d) compliance plans. Increased use of highly-efficient CHP in appropriate applications can be a significant, useful and realistic strategy to reduce CO_2 emissions. Disproportionately weighting existing CHP within the 2012 baseline, however, does not serve this purpose and severely distorts the real effect of increasing utilization of existing NGCC capacity.

Excluding the UTO from PBEC in the goal-setting formula would yield an Arkansas fleet-wide NGCC emission rate of approximately 896 lbs CO_2/MWh,[41] rather than the EPA-imputed 827 lbs CO_2/MWh. To the degree that the non-PBEC generation is actually available at the level assumed by EPA, this would be a more realistic representation of the effect of the redispatch envisioned in Block 2.

Another way to address UTO from PBEC would be to use the sum of plant-specific emissions from NGCC units after redispatch in the goal computation formula. In the latter solution, the "NGCC rate x Redispatched NGCC generation" term in the numerator of the goal computation formula would be replaced by the sum of unit-level emissions from NGCC units after redispatch. Unit-level NGCC emissions after redispatch can be calculated by multiplying plant-specific emission rates by unit-level generation expected at 70% capacity utilization for each unit. As demonstrated in Table 6, below, properly accounting in this way for plant-specific emissions and UTO from the NGCC units in Arkansas yields a significantly different overall emissions rate goal:

41 Source: "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *UTO Treatment* tab (see attached).

Table 6: Generator-Specific Emission Rate Method[42]

	Interim Goal	Final Goal
Application of generator-specific emission rate	**1,006**	**945**
EPA Goal (lb CO_2/MWh)	968	910

B. Effect of NGCC Utilization Patterns on Rate

A further complication of using a historical 2012 NGCC rate in the goal computation is that emission rates from individual units are likely to change if units that were largely inactive during 2012 are ramped up to 70%. NGCC units that are currently used to follow load are cycled on and off more frequently than they would if these units were used for base load. NGCC units at facilities which were operated at less than 12% of their capacity over the 2012 baseline period, such as Dell, Fitzhugh, Oswald, and Hot Spring, may achieve lower emission rates if ramped up to 70% capacity utilization. EPA should develop a method for calculating BSER under Block 2 which is not skewed by outlying emission rates from NGCCs due to UTO or low utilization with frequent startups and shutdowns.

C. Nameplate vs. Summer–Rated Capacity

EPA should take into account the summer-rated capacity (perhaps by incorporating average humidity and summer temperatures for a Region) when assuming potential NGCC capacity. NGCC units in Arkansas are not able to operate at the stated nameplate boiler capacity during summer months, in part due to atmospheric conditions. As such, EPA has overestimated the total capacity of Arkansas's NGCC units.

The most efficient NGCC plant in Arkansas, Magnet Cove, for instance, has a nameplate capacity of 746 MW, but a summer-rated capacity of 642 MW—almost 13% lower than the nameplate capacity. The largest NGCC in Arkansas is Union Power. The U.S. Energy Information Administration (hereinafter "EIA") records Union Power's nameplate capacity as 2,428 MW, but its summer-rated capacity (2,020 MW) is almost 17% lower than its nameplate capacity.[43] These two plants are perhaps the most likely to see increased operations under a scenario like EPA's Block 2. Table 7 compares nameplate capacity and summer-rated capacity of Arkansas NGCC plants.

[42] "ADEQ & PSC Supplemental Data File, Docket Item: *EPA–HQ–OAR–2013–0602," Unit-Specific NGCC Goal Calc* and *Unit-Specific NGCC Ramp Up* tabs (see attached).
[43] Source: "2012 Form EIA 860 Data" – Schedule 3, "Generator Data."

According to EIA, Arkansas's NGCC affected fleet nameplate capacity was 5,588 MW.[44] The EIA NGCC affected fleet summer-rated capacity was 4,661 MW—a difference of roughly 16%, or over 900 MW.[45]

Table 7: Nameplate Capacity v. Summer-Rated Capacity

Plant Name	Nameplate Capacity (MW)	Summer-Rated Capacity (MW)
Fitzhugh	185	165
Oswald	600	548
Magnet Cove	746	642
Hot Spring	715	630
Dell	679	464
PBEC	236	192
Union Power	2,428	2,020

The Agencies understand that EPA bases Block 2 goal-setting on nameplate capacity in part because summer-rated capacity may be more difficult to define in a manner that is uniform nationwide. The Agencies also understand that the Block 2 "redispatch" is essentially an energy-based, rather than capacity-based assumption. These considerations do not, however, obviate the reality that significantly less existing NGCC capacity is reliably available in Arkansas. Again, the Block 2 "redispatch" dominates EPA goal-setting for Arkansas, and EPA should adjust the Arkansas goal to take into account the actual reduction in annual energy generation that results from lower available summer NGCC capacity.

D. Air Permit Limitations, Natural Gas Delivery Constraints, and Potential Transmission Constraints

EPA includes the full nameplate capacity of the 600 MW Oswald plant within Block 2 of the goal-setting formula. Because Oswald operated at less than 7% capacity utilization during 2012, its remaining capacity contributes substantially to the Arkansas goal.[46]

According to the owners of the Oswald plant (Arkansas Electric Cooperatives Corporation, hereinafter "AECC"), its current Title V air permit includes NO_x emissions limitations that effectively limit the operation of the plant to a 60%

[44] Source: *Id.*
[45] Source: *Id.*
[46] The Harry L. Oswald plant is summer-rated at 548 MW.

capacity factor.[47] Operating Oswald in excess of these limitations may require a new permit that might necessitate physical improvements to the plant to conform to Prevention of Significant Deterioration air quality regulations.

AECC's Fitzhugh plant is another Arkansas NGCC plant with air permit limitations.[48] Specific Conditions within the plant's air permit limit natural gas usage to 9.6 billion cubic feet based on an annual rolling average. According to AECC, this limitation translates to a maximum annual capacity factor of about 63%.[49] If EPA chooses to include facilities with permit limits that prevent a facility from reaching 70% capacity utilization in the BSER determination, it should utilize a capacity factor that does not exceed currently permitted levels.

In addition, AECC has provided a detailed description of gas delivery interruptions and constraints that affected Oswald and the Fulton combustion turbine facility (hereinafter "Fulton") during the "polar vortex" events of the winter of 2013-14.[50] Both Oswald and Fulton are served by the same gas pipeline. Despite having a firm natural gas transportation contract in place, because of deliverability issues that occurred for 66 days during that winter, AECC would have faced contractual, financial penalties from its natural gas transportation provider for starting up either Oswald or Fulton. Additionally, if AECC had started up either Oswald or Fulton in order to serve load demand, it would have been unable to vary the hour-to-hour gas consumption during the day for either facility because of the deliverability constraints.

The dispatch of EGUs within Arkansas is controlled by two regional transmission organizations: Midcontinent Independent System Operator, Inc. (hereinafter "MISO") and Southwest Power Pool (hereinafter "SPP"). These entities plan transmission systems to ensure reliability, based on federal reliability standards. This planning requires complex modeling studies, regional cost allocation proceedings, state approval proceedings, and ultimately, construction. This process can take four to seven years in order to plan, approve, and construct significant transmission facilities.[51] EPA should allow that, upon a demonstration that significant transmission upgrades are reasonably necessary for a state to operate its NGCC fleet at the average annual capacity utilization rate within the

[47] Source: Title V Permit # 1842-AOP-R5; Specific Conditions, Nitrogen Oxides, Conditions #18-22.

[48] Source: Title V Permit # 1165-AOP-R5; Specific Conditions, Conditions #7 & 8.

[49] Source: *Id.*

[50] See: http://www.adeq.state.ar.us/air/branch_planning/carbon_pollution_materials.htm "Comments of AECC on the Clean Power Plan (Arkansas Electric Cooperative Corporation)"

[51] See: http://www.adeq.state.ar.us/air/branch_planning/carbon_pollution_materials.htm "Introduction to SPP (Southwest Power Pool, Inc.)" and "Reliability Impact Assessment – Comments to EPA (Southwest Power Pool)"

Final Rule, and that no reasonably sufficient alternative is available to gain the same carbon reductions, its goal or interim goal should be adjusted to account for the time needed for such upgrades.

E. Unit-Level Data

In EPA's "Data File: 2012 Unit-Level Data using the eGRID Methodology*"* dataset, EPA used aggregate data rather than generator-specific data for NGCC units, which may deviate from the methodology described in the "Description of 2012 Unit-Level Data using eGRID Methodology" Technical Support Document (hereinafter "TSD").

In analyzing EPA's "Data File: 2012 Unit-Level Data using the eGRID Methodology*"* dataset, the Agencies note that certain data elements appear to be derived without following the methodology (including the methodology for data priority) described in EPA's "Description of 2012 Unit-Level Data Using eGRID Methodology" TSD.

EPA aggregated Combined Cycle Steam Part (hereinafter "CA") and Combined Cycle Combustion Turbine Part (hereinafter "CT") data before performing calculations instead of using available generator-specific data or performing prime-mover-specific calculations. This resulted in loss of generator-specific accuracy and misapplication of data priority as described in the TSD at the following facilities:

- Dell Power Station generator units CTG1, CTG2, and STG
- Harry L. Oswald generator units 1-9
- Hot Spring Generating Facility CT1, CT2, and Steam Turbine (hereinafter "ST")1
- Magnet Cove Gas Combustion Turbine (hereinafter "GCT")1, GT2, and ST1
- Pine Bluff Energy Center generator units CT01 and CT02
- Thomas Fitzhugh generator units 1 and 2
- Union Power Partners LP generator units CTG1 - CTG7 and STG1 - STG4[52]

While this treatment of NGCC data may seem negligible at a facility level, the cumulative effect would have a 26 lb/MWh difference in Arkansas's final goal.[53] Additional discrepancies between EPA's "2012 Unit-Level Data using eGRID Methodology" dataset and the values that ADEQ compiled when replicating the

[52] "ADEQ & PSC Supplemental Data File, Docket Item: EPA–HQ–OAR–2013–0602," *Generation Concerns* and *CO_2 Emissions Concerns* tabs (see attached).
[53] Source: *Id.* at *NGCC Treatment* and *2012 Prime-Mover Specific 2012 ADEQ* tabs (see attached).

methodology described in the "Description of 2012 Unit-Level Data using eGRID Methodology" technical support document can be found in the attached spreadsheet.[54]

The Agencies thus seek clarification on the rationale behind EPA's departures in the methodology used to derive generation and emissions data for these units from the methodology as described in the "Data File: 2012 Unit-Level Data using the eGRID Methodology" TSD. Any necessary corrections to the dataset should be made before this data is used in the final goal computation for Arkansas.

F. Establish ramp rate for redispatch to NGCC from other baseload generation

In the October 28, 2014 Notice of Data Availability, EPA sought comment on a more gradual phase-in of Block 2 which considers the amount of utilization shift to NGCC feasible by 2020 then grows NGCC utilization to the full target based on the timing needed to build out new infrastructure to support the target utilization. As noted in the general comments above, the magnitude of redispatch from NGCC to coal that is indicated in the goal-setting formula for Arkansas is more consistent with long-term resource planning decisions than with what are commonly considered dispatch decisions. This is because the amount of generation shifted within the formula (equal to approximately 64% of the generation from the five coal-fired power plants that operated in Arkansas during some or all of 2012) reasonably would be expected to cause retirement of a significant portion of these units. Such compliance also would likely impair the remaining useful life of one or more coal-fired EGUs such as Turk, Plum Point, and (potentially, upon retrofit) Flint Creek, and might require natural gas or transmission infrastructure upgrades.

The Agencies support the consideration of current infrastructure feasibility and the use of a growth rate grounded in realistic timeframes for additional infrastructure deployment for Block 2. The Agencies suggest that EPA should establish a threshold above which re-dispatch cannot reasonably be assumed to occur during the time between state plan approval and 2020. The threshold should take into account at least (a) the overall magnitude of redispatch and (b) the degree to which it affects the "book life" of those coal-fired EGUs that became operational since 2010. The threshold also could take into account the effect on EGU remaining useful life of environmental controls retrofits underway at the time of the publication of the Proposed Rule. Above this threshold, Block 2 should then be phased in, in a manner similar to Blocks 3 and 4.

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[54] Source: *Id.* at *Generation Concerns* and *CO_2 Emissions Concerns* tabs (see attached).

G. New-build NGCC

Under the Proposed Rule, the emissions from new-build NGCC may be excluded from a state's compliance plan on the basis that the new-build NGCC involves compliance with Clean Air Act § 111(b), rather than § 111(d). In some cases, it appears that, through this exclusion of new-build emissions from § 111(d), a state could achieve compliance at a lower cost by approving the construction of new NGCC capacity instead of realizing the full extent of reductions prescribed in the 111(d) framework of existing affected units, renewable energy, and energy efficiency.[55] According to the "GHG Regulation Impact Analysis—Initial Study Results" prepared by MISO, this lack of accounting for new NGCC capacity could result in lower utilization of existing NGCC units and lower deployment of renewable energy and energy efficiency than what is forecasted through the application of the building blocks. Shifting emissions from 111(d) affected units outside the framework of 111(d) to new fossil capacity when existing NGCC is available and appropriately situated to serve the load in question would likely be wasteful. The Agencies are thus concerned that this exclusion may create an unintended incentive of favoring new-build NGCC over similar, existing NGCC resources. The Agencies urge EPA to avoid any such incentive in the Final Rule.

IV. Building Block 3 "Renewable Energy"

EPA has proposed a 7% RE assumption for 2030 within the Arkansas goal. The reasonable attainment of this portion of the goal using currently demonstrated technology, however, depends largely on access to renewable generation from other states that Arkansas cannot, under the Proposed Rule, guarantee through its own action.

The goal-setting formula assigns a 20% RE goal for an EPA-designated "South Central" region. Arkansas and the following five other states comprise the South Central region: Kansas, Louisiana, Nebraska, Oklahoma, and Texas.

Renewable generation for each state in the region is assumed to grow towards this goal, from its current share of non-hydro renewable generation, at an EPA-assigned 8% annual growth rate.[56] The application of this growth rate to current levels of renewable generation (rather than the 20% regional goal itself) yields the operative Arkansas goal of 7% renewable generation by 2030 and 5% for the interim goal period.[57]

[55] See, for instance, MISO GHG Regulation Impact Analysis—Initial Study Results, Sept 17, 2014 (http://www.eenews.net/assets/2014/09/18/document_ew_01.pdf) at slide 10.
[56] EPA designates six regions around the country, each with its own RE goal and growth rate, for the purpose of assigning an overall carbon intensity reduction goal.
[57] Source: EPA's "GHG Abatement Measures Technical Support Document."

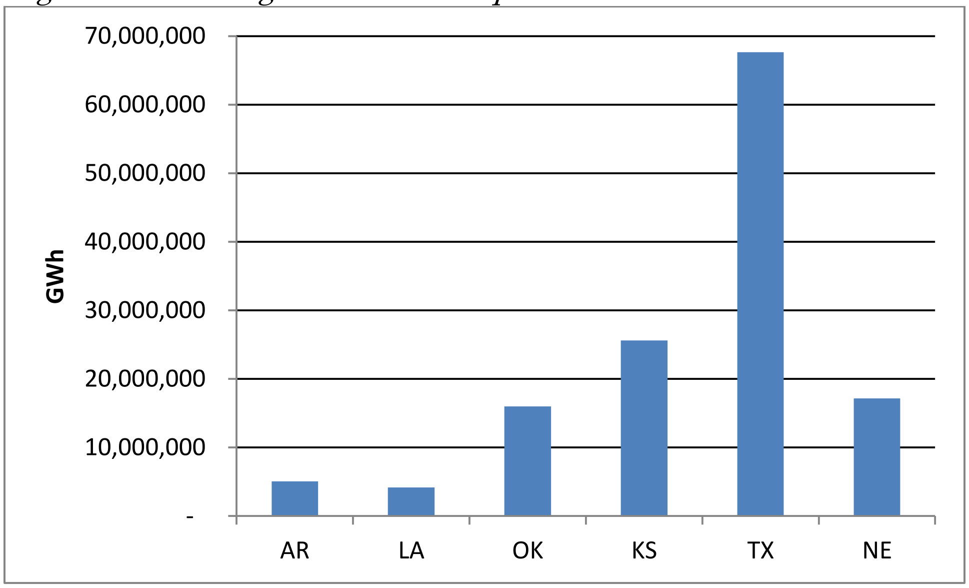
The Agencies note, however, regarding the proposed 20% regional goal, that EPA's "South Central" region contains two distinct categories of states for the purpose of RE. The first includes Kansas, Nebraska, Oklahoma, and Texas. It is common knowledge within the utility industry that these states have among the best wind energy resources in the United States.[58] It is also common knowledge that generally, wind energy makes up by far the largest share of demonstrated, non-hydro, renewable generation. Consequently, the availability of wind resources is a significant determinant of the demonstrated non-hydro renewable resources available to any state.[59]

The second category of states within the EPA-designated South Central region includes Arkansas and Louisiana. These two states simply do not have the same level of on-shore wind resource. This bright-line distinction means that in Arkansas it currently is significantly less costly for a utility to negotiate a Purchased Power Agreement to generate and deliver wind energy from one of the windier states than to construct utility-scale wind generation in Arkansas. The strongest evidence of the contrast between the wind resource in Arkansas and the neighboring windy states that EPA grouped it with is that while every electric investor-owned utility (hereinafter "IOU") or generation-owning cooperative within Arkansas either includes, or is considering wind PPAs within their generation portfolios, there is not a single utility-scale wind farm in Arkansas. Arkansas utilities currently buy wind energy primarily from Oklahoma and Kansas on the basis of cost, and without the requirement of a state Renewable Energy Standard.

The Agencies note that, as suggested by Figure 3 below, the renewable energy technical potential analysis relied upon by EPA to develop an alternative method for assigning carbon reduction targets tends to support the divergence between windy and non-windy states described above:

[58] For instance, in 2007, Kansas established a goal of producing 10% of its electricity from wind power by 2010 and 20% by 2020. By 2013, wind power accounted for 19.4% of the electricity generated in Kansas, according to the American Wind Energy Association.
[59] The Agencies note that recent reductions in solar photovoltaic pricing have begun to make utility-scale solar viable in some markets (with the assistance of certain federal tax credits that are set to expire in 2016).

Figure 3: Building Block 3—Comparison of RE Technical Potential[60]



In this graphical representation of its results, Arkansas and Louisiana have far less demonstrated renewable energy potential than the other South Central states, primarily because of the difference in estimated wind resources.

Because imported wind energy is important to the cost-effective attainment of the RE goals proposed within BSER, the Agencies make the following recommendations:

A. EPA should provide a clear RE credit compliance pathway.

1. More specifically, EPA should clearly credit renewable generation based upon out-of-state PPAs in a manner that does not depend on Arkansas negotiating agreements with neighboring states; and

2. EPA also should credit increased, customer-sited distributed renewable generation within a state, which is implemented after the date of the publication of the Proposed Rule, similarly to its proposed treatment of end-use EE.

B. Particularly, in the case of net-metering for zero-carbon RE, EPA should provide an acceptable standard method of converting installed capacity to generation, and/or method(s) for measuring generation for net-metering customers.

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[60] Source: National Renewable Energy Laboratory's "U.S. Renewable Energy Technical Potentials: A GIS-Based Analysis," and EPA's "Data File: Renewable Energy (RE) Alternative Approach."

In addition, the Agencies recommend that EPA provide the states with a template (or checklist) containing all the required components for plans that rely on interstate trading to comply with the rates, in order to reduce the burden on states that either develop a state-only plan or pursue an interstate trading plan for compliance, while providing a platform to streamline EPA's review of § 111(d) plans.

If the Final Rule continues merely to *allow* for interstate cooperation in the counting of RECs and out-of-state PPAs, but does not make these tools available to states as a unilateral right, then the Agencies recommend that RE goals for each state be based upon the technical and economic potential for demonstrated RE generation within each state, rather than upon a regional average that assumes interstate cooperation.

On page 7 of the "Alternate RE Approach TSD," EPA suggests such a potential alternative method for goal-setting that would calculate technical and economic potential. If the Final Rule does not make available clear, unilateral pathways for individual states to access out-of-state renewable generation for compliance, then the Agencies recommend that EPA further develop the state-specific technical and economic potential pathway and make it available for comment before it is finalized so that stakeholders can better compare this method to the other two RE approaches (regional and benchmarking) described by EPA.

Additionally, EPA proposed as part of Block 3 that states with nuclear generation be eligible to receive credit for the carbon savings associated with keeping 6% of "each state's historical nuclear capacity" in operation. EPA's 6% assumption is based upon a percentage of total U.S. nuclear power generation that EPA deems to be at risk of retirement. Arkansas does not anticipate any nuclear plant retirement during the time period contemplated for compliance, thus its nuclear generation is not "at risk." EPA should reevaluate the BSER calculations regarding states with nuclear generation that is not "at risk," as the national percentage is not a uniform national trend and EPA's standing assumption creates a compliance risk for those states.

Finally, for states such as Arkansas with rich renewable forest resources, biomass energy would provide a significant portion of projected renewable energy. Arkansas's starting level of performance value in EPA's proposed goal-setting formula is based solely on biomass and wood-derived fuels generation reported to the Energy Information Administration (hereinafter "EIA"). Combusting biomass for energy does not produce a one-for-one increase in net CO_2 emissions because biomass is part of the natural carbon cycle. For this reason, and because EPA applies the renewable energy annual growth in the goal-setting formula to existing biomass generation, biomass fuels should be treated in the same way as other renewable products, such as wind and solar, for compliance purposes.

V. Building Block 4 "Energy Efficiency"

The Proposed Rule defines BSER to include demand-side EE programs as a proven, well-established practice and common policy goal among states.[61] EPA proposes in Block 4 of the proposed goal-setting formula that each state eventually can sustain an annual, incremental EE savings rate of 1.5% of electricity demand, in part on the basis that twelve leading states have either achieved—or have established requirements that will lead them to achieve—such savings.[62] The goal-setting formula acknowledges that states without EE programs currently performing at this savings level would require time to ramp-up programs.[63] To establish a ramp-rate for such state, EPA takes reported EE savings from EIA form 861 for the year 2012 in each state as an initial baseline, and starting in 2017, increases the attributed EE savings rate by 0.20% per year, until the state reaches 1.5% incremental annual savings.[64]

EPA finds that incremental EE savings in 2012 comprised 0.11% of retail electricity sales in Arkansas.[65] Taking into account additional EE at 0.20% savings per year, and an annual erosion in cumulative savings due to earlier EE measures reaching the end of their useful life, EPA estimates that Arkansas could achieve incremental annual statewide EE savings of 0.71% in 2020, rising to 1.50% annually for the years 2024-2030.[66] The cumulative impact of these incremental annual EE program savings would be to reduce demand during 2029 by 9.7% (as compared to a Business-As-Usual growth scenario based upon the SERC-Delta 2012-2040 AEO2013 growth rate).[67]

For states that are net importers of electricity, EPA proposes to reduce the credit given for EE savings by an amount equal to the share of net generation that is imported. EPA invites comment on whether, conversely, estimated reductions in generation caused by EE programs within a net-exporting state should be scaled up to reflect estimated generation reductions outside the state.[68] EPA proposes that EE savings accrued subsequent to the publication of the Proposed Rule should count towards state compliance with the Final Rule.

EPA notes that states have options to promote EE in addition to the types of utility-funded EE programs contemplated within the goal-setting formula. These include building energy codes, state appliance standards, tax credits, and

[61] Preamble at 285-286.
[62] *Id.* at 224-226.
[63] *Id.* at 226.
[64] *Id.*
[65] EPA's "GHG Abatement Measures TSD, Appendix 5."
[66] *Id.*
[67] Preamble at 229.
[68] *Id.* at 357.

benchmarking requirements for building energy use.[69] EPA notes that EE programs typically require the implementation of recognized evaluation, measurement, and validation (hereinafter "EM&V") protocols in order to estimate program impacts.[70] EPA acknowledges that such protocols are less consistently required or applied in the cases of non-utility EE programs such as building energy codes.[71]

The Agencies agree that many states have implemented and relied upon EE programs as a cost-effective public utility resource. Arkansas regulators and public utilities have embraced EE programs (and energy conservation more broadly) as a cost-effective resource for the provision of reliable, affordable electricity and natural gas service. Indeed, an Arkansas statute provides that:

> [i]t shall be considered a proper and essential function of public utilities regulated by the Arkansas Public Service Commission to engage in energy conservation programs, projects, and practices which conserve, as well as distribute, electrical energy and supplies of natural gas, oils, and other fuels.[72]

Under rules and orders issued pursuant to this statute, IOUs were and are required by the Commission to implement programs designed to save a nominal 0.75% of annual retail electricity sales in 2013 and 2014, and 0.90% of retail sales in 2015.[73] The Commission established a 0.25% per year ramp rate for utilities to reach these state-established goals, but held EE growth at the 0.75% level during the fourth year of implementation. The Commission established a robust system of EM&V, based upon best practices nationally, in order to prove achievement.

Municipal utilities in Arkansas (hereinafter "munis") are outside the jurisdiction of the Commission and generally lack EE programs. Also, while rural electric cooperatives (hereinafter "co-ops") fall within Commission jurisdiction, on the basis that co-ops already operated EE programs at the time that state EE goals were established, co-ops obtained a waiver from the obligation to meet the goals. Further, by both rule and statute, the largest electricity customers in the state (which represent a significant share of overall retail sales) have the option to be excluded from participating in and paying for utility-funded EE programs if they undertake comparable EE efforts independently. Thus, because of non-

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[69] *Id.* at 223.
[70] *Id.*at 225.
[71] *Id.*
[72] Arkansas Code Annotated § 23-3-404 (Repl. 2002).
[73] Electric and natural gas IOUs and other stakeholders currently are pursuing an EE potential study to provide evidence for the consideration of future state goals.

participating munis, co-ops, and large customers, the percentage of EE savings on a statewide basis currently is lower than the goals the Commission established for IOUs.

The Agencies also note that, so far during 2014, Arkansas has the 4th lowest electricity prices in the nation (over 30% below the national average).[74] The record of achievement in Arkansas, the significant variations in EE program implementation by utility territory and customer class, and the unique conditions with respect to price do not prove or disprove the statewide 1.5% goal assumptions proposed by EPA. Those assumptions are derived largely from the experience of states with a longer history of EE implementation, with larger and more urban populations, and with lower per-capita levels of electricity consumption. The reasonableness of assuming that Arkansas, and other states which have not historically implemented EE programs to the degree recommended as reasonable by EPA, can actually meet those goals may depend on EPA's policies with respect to crediting EE savings and facilitating EE program implementation. As such, the Agencies recommend that EPA:

A. Confirm that robust EM&V based upon national best practices, such as those currently employed in Arkansas, meet EPA's requirements for § 111(d) compliance.

B. Clearly delineate pathways to credit additional, verifiable EE savings from non-utility-funded EE programs such as:

    i. large industrial customers who have opted-out of utility programs, such CO_2 crediting mechanisms might include crediting for energy and/or CO_2 savings attributed to new-build CHP;

    ii. state building code and appliance standards; and

    iii. municipal or rural electric cooperative programs that may be outside of the current programs or statutory authority of state utility regulators.

C. Retain in the Final Rule the proposal that EE savings accrued subsequent to the publication of the Proposed Rule should count towards state compliance with the Final Rule.

D. Propose a clear method by which customer-sited distributed generation such as net-metered renewable generation will count towards compliance, from the date of publication of the Proposed Rule.

[74] Source: Electric Power Monthly, Energy Information Agency, "Table 5.6.B," August 2014

E. Use a growth rate for the purpose of projecting BAU generation reflecting a weighted-average of the appropriate regional growth rates, for states that are split between regions. The Agencies note that a significant portion of Arkansas lies within the SPP footprint and may not be appropriately represented by the EIA 2013 SERC-Delta growth rate for the purpose of projecting BAU generation.

VI. Rate-Based to Mass-Based Conversion

As a member of the Midcontinent States Environmental and Energy Regulators, ADEQ has submitted a request for guidance regarding a rate-based to mass-based conversion, and EPA has responded. The Agencies ask for more time to evaluate the proposed rate- to mass-based conversion and comment on the conversion, and notwithstanding that request, make the following comments:

If EPA is to accept mass-based conversions from the final rate established by EPA, EPA must provide modeling, data sources, default input assumptions, and guidance to the states on what would be acceptable methods and data sources to convert the state's rate to an equivalent mass of CO_2. In addition, EPA must describe to states under what circumstances EPA would approve a change in a mass-based plan.

States should have the flexibility to allocate as they choose the amount of emissions to each year during the 2020–2029 compliance period from the 10-year interim mass total.

Requesting a presumptive translation of the rate-based goal to a mass-based goal should not be seen as a commitment to a mass-based plan or to EPA's presumptive mass caps. Instead, the provision of presumptive translated goals by EPA would help inform a state's decision-making process in developing its plan. Should a state choose to adopt EPA's presumptive values, these values should be acceptable to EPA when a state submits its plan. The Agencies request that the final EPA rule should provide a presumptive translation of its final and interim rate-based goals to mass-based goals.

EPA should also provide guidance on acceptable analytical methods and tools for translating rate-based goals to mass-based goals and provide guidance on appropriate default input assumptions and key parameters. States that submit a mass-based plan should be allowed to revise annual mass caps, if needed based on changes in load demand, so long as the overall emission rate for affected facilities meets the emissions targets proposed by EPA.

VII. Development and Submittal of State Plans and Compliance

EPA should create a mechanism or exception for compliance in the event of major interruptions in low- and no- CO_2 emitting energy generation. Generation produced by nuclear plants, wind farms, photovoltaics, hydropower plants and other low- or zero-emitting sources may be reduced during an exceptional event such as flooding, drought, tornado, earthquake, or wildfire. Such events should be treated similarly to exceptional events that lead to National Ambient Air Quality Standards violations.

EPA indicates that it expects to issue a Final Rule by June of 2015. EPA proposes to require that each affected state submit its plan by June 30, 2016. Even with the additional time EPA proposes to grant to states (a one year-extension for submittal of individual plans, or a two-year extension for multistate plans) ADEQ foresees that the preparation of the Arkansas Plan (hereinafter "the Plan") will be lengthier than the proposed deadlines to submit the Plan. The usual timeline to develop a State Implementation Plan (hereinafter "SIP") averages 18 months including:

1. research and development of regulation language;
2. internal review of draft language;
3. rulemaking initiation with the Arkansas Pollution Control and Ecology Commission (hereinafter "APC&EC");
4. public notice and public comment period;
5. response to comment (time can vary according to comments received);
6. submission of rulemaking packet to Legislative Committees for approval;
7. adoption of rulemaking with APC&EC;
8. development of draft § 111(d) Clean Carbon Plan;
9. public notice and public comment period;
10. response to comment (time can vary according to comments received); and
11. submittal of the Plan to EPA.

Plans including controversial issues or multistate efforts can reasonably be expected to take longer. Considering all these steps necessary to develop the Plan, and the time for affected sources to meet their obligations under the Plan, the Agencies recommend that the Final Rule should provide more time for development of state Plans.

Arkansas will require significant resources, which are not available at the state level, to develop and implement a successful Plan. Therefore, Arkansas echoes other states and organizations on the need for EPA to provide additional financial resources to facilitate states' abilities to conduct their § 111(d) planning and implementation.

Finally, the Agencies recommend that EPA clarify the proposed provisions requiring states to obtain approval from EPA prior to submitting revisions of their own plans, found at § 60.5785 (79 F.R. 34954). States are not required to request approval to submit a revised SIP and should not be required to request approval to submit revisions to a § 111(d) plan. EPA proposes in multiple places that the § 111(d) state plans be treated similarly to SIPs. SIPs may be revised at any time by a state, without having to require prior approval from EPA, and are subsequently submitted to EPA for review. Since EPA proposes similar treatment to SIPs and to preserve the spirit of cooperative federalism found in the CAA, states should not have to receive approval from EPA to revise their § 111(d) plans.

VIII. Regional Coordination

While the Agencies have not yet made any decision on whether or how Arkansas might coordinate with other states for plan implementation, we nevertheless provide the following comments designed to provide flexibility in developing plans that include multistate coordination.

A. Flexibility on the Form of Submission

EPA should recognize that multistate collaboration can take numerous forms and allow states to file separate state plans that include or contemplate a connection to other states. For example, two states could implement separate programs that are connected only by the mutual acceptance of each other's emissions reductions. In such a case, the two state plans would stand alone as a legal and regulatory matter, without a joint multistate implementation plan as proposed in EPA's draft proposal.

B. Regional Versus State-Specific Goals

EPA's proposal suggests that states that coordinate implementation of their compliance plans would need to combine all of their state goals in a multistate group and implement the same multistate goal. The combining of state goals to create a multistate goal represents only one possible approach to multistate coordination and EPA should enable multistate approaches under which individual states keep their state goals and nevertheless allow for cooperative activities between states.

C. Variable Timing of Collaboration Across States

Each state will need to follow its own established political, legal and regulatory process for making compliance decisions. EPA's timeline for multistate coordination does not currently allow for differing decision-making processes across states. Due to the complex nature of multistate coordination, EPA must provide more time than the one year allotted under the Proposed Rule for states to reach agreement to pursue a multistate approach. In addition, EPA and states will need to allow for the entrance and exit of potential collaborating states from multistate coordination, depending on the outcomes of subsequent individual state decisions.

D. Extension of Time for Submittal of Plans Contemplating Multistate Coordination

EPA must acknowledge that states will receive a total of three years from issuance of the final guideline by EPA for submitting a final plan or plans so long as they demonstrate that they are actively engaged in a process with other jurisdictions to consider multistate coordination and that they are developing multistate or individual state plans that contemplate such coordination. EPA should clarify that a state does not lose its extension if multistate coordination is ultimately not successful in whole or in part, and grant states more time to implement contingencies to respond to a state or states dropping out of or joining a multistate compliance plan.

E. Enforcement in a Multistate Context

EPA should recognize that states can connect individual state programs while remaining separate for implementation and enforcement purposes. For example, two states with self-correcting plans in place on affected units can connect those plans through mutual acceptance of emissions reductions or credits without connecting enforcement mechanisms. If an affected unit is out of compliance in one state, then enforcement is against that unit and not against any other unit in either state. In addition, if a state that is coordinating with other states fails to carry out its federally approved plan, EPA's enforcement must be limited to the state failing to carry out its plan, not with any connected state. Lastly, EPA should work with states to address any issues that may arise in the event that one state in a multistate effort fails to implement its approved plan.

F. Support for State Planning and Implementation

EPA must provide financial assistance to help states within the development of state or multistate plans. To facilitate development of the architecture for effective implementation of state plans and multistate approaches, EPA should also provide states with optional:

- system (or systems) for tracking emissions, allowances, reduction credits, and/or generation attributes that states may choose to use in their plans;

- examples of protocols that provide a minimum acceptable level of EM&V, issued concurrent with the Final Rule, that can be used in connection with crediting of emission reduction measures, such as energy efficiency and/or renewable energy; and

- detailed examples of elements of compliance pathways, such as trading programs, corrective measures, crediting mechanisms and other similar items.

At the same time, EPA should provide guidelines for the recognition of existing state or regional tracking and accounting systems to facilitate state compliance.

IX. Conclusion

These comments have focused on the assumptions underlying the goal-setting formula, technical discrepancies in the calculation of the Arkansas goal, and on conceptual improvements to goal setting that are reasonable and necessary as a matter of policy and practicality. Within that focus, correcting the overstatement of Block 2 capacity and its too-rapid onset in 2020 is most important for Arkansas. In regards to Block 1, our newer plants will likely not see any significant improvements or only trivial improvements in heat rate, and our older plants probably cannot achieve greater improvement beyond the design heat rate. Finally, the comments have recommended clearer and more certain compliance pathways for the implementation of policies associated with Blocks 3 and 4.

Base Year Summary Generation, Emissions, Rates

	Generation (MWh)		
	2012	2013	% change
COAL	28,378,831	31,859,866	12%
NGCC	15,651,185	11,094,671	-29%
OGST	860,470	704,937	-18%
Total	44,890,486	43,659,474	-3%

	Emissions (tons)		
	2012	2013	
COAL	32,297,482	34,826,363	8%
NGCC	7,015,577	5,136,760	-27%
OGST	622,276	511,276	-18%
Total	39,935,335	40,474,398	1%

	Net Energy Output (MWh)	
	2012	2013
COAL	28,378,831	31,859,866
NGCC	16,962,102	12,426,812
OGST	860,470	704,937

	Emissions Rate (CO2lb/MWh)	
	2012	2013
COAL	2,276	2,186
NGCC	827	827
OGST	1,446	1,451

	Step 1 (Data for Fossil Sources)										Step 2 (HRI)	Step 3a & 3b (Redispatch)			
Base Year	Coal Rate (lb/MWh)	NGCC Rate (lb/MWh)	O/G rate (lb/MWh)	Other Emissions (lbs)	Hist Coal Gen (MWh)	Hist NGCC Gen. (MWh)	Historic OG steam Gen. (MWh)	Other Gen. (MWh)	NGCC Capacity (MW)	Under Construction NGCC Capacity (MW)	Adj. Coal Rate (lbs/MWh)	Redispatched Coal Gen. (MWh)	Redispatch O/G steam Gen. (MWh)	Redispatched NGCC Gen. (MWh)	Other Emissions (lbs)
2012	2,276	827	1,446	789,080,955	28,378,831	15,651,185	860,470	1,310,917	5,588	0	2,140	10,218,693	309,839	34,361,954	789,080,955
2013	2,186	827	1,451	801,046,664	31,859,866	11,094,671	704,937	1,332,141	5,588	0	2,055	9,188,108	203,298	34,268,069	801,046,664

	Historical Emission Rate	Historical Adjusted Rate	Building Block 1	Building Block 2	Building Blocks 1 and 2	Building Blocks 1-3	Building Blocks 1-4			
2012	1,722	1,634	1,638	1,145	1,115	996	910			
2013	1,793	1,698	1,700	1,101	1,074	956	871		72%	78%

	Hours per year
2012	8784
2013	8760

	Historical RE[1]
2012	1,660,370
2013	1,653,935

*Assumption: Changing the base year for historical fossil generation does not effect building blocks 3 and 4

1. Net Generation by State by Type of Producer by Energy Source (EIA-906, EIA-920, and EIA-923)

			Step 4a Nuclear*	Step 4b Renewable (MWh)*									
Other Gen. (MWh)	2012 NGCC Capacity Factor	Post Redispatch Assumed NGCC Capacity Factor for Existing Fleet	Nuclear Generation Under Construction and "At Risk" (MWh)	2020 Existing and Incremental RE	2021 Existing and Incremental RE	2022 Existing and Incremental RE	2023 Existing and Incremental RE	2024 Existing and Incremental RE	2025 Existing and Incremental RE	2026 Existing and Incremental RE	2027 Existing and Incremental RE	2028 Existing and Incremental RE	2029 Existing and Incremental RE
1,310,917	32%	70%	842,037	2,288,229	2,479,266	2,686,252	2,910,519	3,153,509	3,416,786	3,702,042	4,011,114	4,345,990	4,708,823
1,332,141	23%	70%	842,037	2,288,229	2,479,266	2,686,252	2,910,519	3,153,509	3,416,786	3,702,042	4,011,114	4,345,990	4,708,823

Step 5 (Demand Side EE - % of avoided MWh sales)*												Step 6&7 (State Goal Phase I & II (lbs/MWh))											
2020 EE Potential	2021 EE Potential	2022 EE Potential	2023 EE Potential	2024 EE Potential	2025 EE Potential	2026 EE Potential	2027 EE Potential	2028 EE Potential	2029 EE Potential (%)	State Generation as % of sales	2012 Total MWh (sales x 1.0751)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	**Interim Goal (2020 - 2029 average)**	**Final Goal (2030 and thereafter)**
1.52%	2.31%	3.24%	4.28%	5.42%	6.46%	7.41%	8.26%	9.03%	9.71%	113.99%	50,378,721	1,028	1,017	1,003	989	974	959	946	933	921	910	968	910
1.52%	2.31%	3.24%	4.28%	5.42%	6.46%	7.41%	8.26%	9.03%	9.71%	113.99%	50,378,725	988	976	963	949	934	920	907	894	883	871	929	871

YEAR	Plant Id	Plant Name	State	AER Fuel Type Code	Physical Unit Label	Total Facility Coal Fuel Consumption (MMBTU)	Total Facility Net Generation (MWh)	Total Facility Heat Rate (BTU/net KWh)	Rank
2012	2682	S A Carlson	NY	COL	short tons	134,015	35,682	3,756	1
2012	50243	Verso Paper	ME	COL	short tons	1,894	402	4,714	2
2012	56564	John W Turk Jr Power Plant	AR	COL	short tons	1,353,447	278,580	4,858	3
2012	50636	Wausau Paper Mills LLC	MN	COL	short tons	6,309	851	7,418	4
2012	56671	Longview Power LLC	WV	COL	short tons	37,218,602	4,139,218	8,992	5
2012	8042	Belews Creek	NC	COL	short tons	128,312,004	13,974,355	9,182	6
2012	3396	Bull Run	TN	COL	short tons	17,815,870	1,922,967	9,265	7
2012	7210	Cope	SC	COL	short tons	18,681,188	1,983,733	9,417	8
2012	6065	Iatan	MO	COL	short tons	111,440,793	11,809,982	9,436	9
2012	1915	Allen S King	MN	COL	short tons	32,084,966	3,357,881	9,555	10
2012	55856	Prairie State Generatng Station	IL	COL	short tons	31,275,088	3,263,897	9,582	11
2012	2727	Marshall	NC	COL	short tons	92,087,781	9,597,316	9,595	12
2012	3136	Keystone	PA	COL	short tons	91,439,536	9,495,758	9,630	13
2012	2836	Avon Lake	OH	COL	short tons	25,516,400	2,634,704	9,685	14
2012	3298	Williams	SC	COL	short tons	36,074,560	3,713,378	9,715	15
2012	3118	Conemaugh	PA	COL	short tons	103,351,389	10,614,160	9,737	16
2012	6096	Nebraska City	NE	COL	short tons	93,220,653	9,563,495	9,748	17
2012	130	Cross	SC	COL	short tons	127,229,496	13,047,863	9,751	18
2012	4078	Weston	WI	COL	short tons	48,103,782	4,929,124	9,759	19
2012	7097	J K Spruce	TX	COL	short tons	91,031,196	9,318,607	9,769	20
2012	6166	Rockport	IN	COL	short tons	183,340,624	18,762,347	9,772	21
2012	3935	John E Amos	WV	COL	short tons	126,615,281	12,915,452	9,803	22
2012	477	Valmont	CO	COL	short tons	9,915,566	1,005,559	9,861	23
2012	1573	Morgantown Generating Plant	MD	COL	short tons	51,398,666	5,209,271	9,867	24
2012	6178	Coleto Creek	TX	COL	short tons	52,958,866	5,363,457	9,874	25
2012	6094	FirstEnergy Bruce Mansfield	PA	COL	short tons	175,986,770	17,805,582	9,884	26
2012	6761	Rawhide	CO	COL	short tons	20,920,533	2,116,057	9,887	27
2012	2167	New Madrid	MO	COL	short tons	76,797,589	7,758,887	9,898	28
2012	8102	General James M Gavin	OH	COL	short tons	170,311,603	17,199,092	9,902	29
2012	6052	Wansley	GA	COL	short tons	48,419,278	4,887,088	9,908	30

YEAR	Plant Id	Plant Name	State	AER Fuel Type Code	Physical Unit Label	Total Facility Coal Fuel Consumption (MMBTU)	Total Facility Net Generation (MWh)	Total Facility Heat Rate (BTU/net KWh)	Rank
2012	2850	J M Stuart	OH	COL	short tons	113,559,911	11,459,360	9,910	31
2012	56456	Plum Point Energy Station	AR	COL	short tons	43,139,252	4,353,101	9,910	32
2012	6481	Intermountain Power Project	UT	COL	short tons	96,769,385	9,755,484	9,919	33
2012	10795	Camden South Carolina	SC	COL	short tons	111,637	11,235	9,937	34
2012	703	Bowen	GA	COL	short tons	95,111,892	9,559,240	9,950	35
2012	1082	Walter Scott Jr Energy Center	IA	COL	short tons	114,199,149	11,473,923	9,953	36
2012	6264	Mountaineer	WV	COL	short tons	82,513,647	8,274,431	9,972	37
2012	3287	McMeekin	SC	COL	short tons	5,599,698	560,550	9,990	38
2012	2828	Cardinal	OH	COL	short tons	73,174,268	7,323,225	9,992	39
2012	6194	Tolk	TX	COL	short tons	75,595,121	7,563,283	9,995	40
2012	3943	FirstEnergy Fort Martin Power Station	WV	COL	short tons	55,407,949	5,540,653	10,000	41
2012	6155	Rush Island	MO	COL	short tons	81,147,798	8,112,549	10,003	42
2012	3149	PPL Montour	PA	COL	short tons	79,901,375	7,978,102	10,015	43
2012	26	E C Gaston	AL	COL	short tons	81,199,344	8,104,159	10,019	44
2012	3948	Mitchell	WV	COL	short tons	75,394,733	7,517,585	10,029	45
2012	7213	Clover	VA	COL	short tons	44,061,244	4,392,862	10,030	46
2012	6019	W H Zimmer	OH	COL	short tons	47,696,884	4,752,755	10,036	47
2012	10	Greene County	AL	COL	short tons	20,093,937	2,002,067	10,037	48
2012	4941	Navajo	AZ	COL	short tons	159,428,463	15,876,071	10,042	49
2012	3944	FirstEnergy Harrison Power Station	WV	COL	short tons	100,248,932	9,980,526	10,044	50
2012	56068	Elm Road Generating Station	WI	COL	short tons	19,557,600	1,945,057	10,055	51
2012	8069	Huntington	UT	COL	short tons	67,826,883	6,740,384	10,063	52
2012	6106	Boardman	OR	COL	short tons	26,515,047	2,634,335	10,065	53
2012	3399	Cumberland	TN	COL	short tons	145,108,200	14,388,671	10,085	54
2012	2876	Kyger Creek	OH	COL	short tons	47,249,980	4,681,878	10,092	55
2012	2721	Cliffside	NC	COL	short tons	11,926,342	1,180,134	10,106	56
2012	136	Seminole	FL	COL	short tons	76,589,707	7,571,945	10,115	57
2012	3797	Chesterfield	VA	COL	short tons	36,407,134	3,599,197	10,115	58
2012	6071	Trimble County	KY	COL	short tons	72,638,946	7,180,713	10,116	59
2012	6021	Craig	CO	COL	short tons	92,716,898	9,164,975	10,116	60
2012	4041	South Oak Creek	WI	COL	short tons	40,244,355	3,977,396	10,118	61

YEAR	Plant Id	Plant Name	State	AER Fuel Type Code	Physical Unit Label	Total Facility Coal Fuel Consumption (MMBTU)	Total Facility Net Generation (MWh)	Total Facility Heat Rate (BTU/net KWh)	Rank
2012	3954	Mt Storm	WV	COL	short tons	86,283,558	8,514,206	10,134	62
2012	1710	J H Campbell	MI	COL	short tons	78,403,457	7,736,360	10,134	63
2012	2168	Thomas Hill	MO	COL	short tons	71,956,358	7,093,272	10,144	64
2012	6195	John Twitty Energy Center	MO	COL	short tons	19,422,814	1,913,543	10,150	65
2012	6165	Hunter	UT	COL	short tons	92,453,914	9,106,724	10,152	66
2012	6204	Laramie River Station	WY	COL	short tons	111,480,592	10,977,111	10,156	67
2012	3140	PPL Brunner Island	PA	COL	short tons	60,297,916	5,936,249	10,158	68
2012	8223	Springerville	AZ	COL	short tons	102,990,494	10,134,649	10,162	69
2012	6016	Duck Creek	IL	COL	short tons	28,601,823	2,810,693	10,176	70
2012	470	Comanche	CO	COL	short tons	91,496,062	8,988,890	10,179	71
2012	1720	J C Weadock	MI	COL	short tons	15,864,458	1,556,278	10,194	72
2012	1695	B C Cobb	MI	COL	short tons	15,753,152	1,545,129	10,195	73
2012	1353	Big Sandy	KY	COL	short tons	27,003,660	2,647,587	10,199	74
2012	54035	Roanoke Valley Energy Facililty I	NC	COL	short tons	11,586,567	1,135,172	10,207	75
2012	2963	Northeastern	OK	COL	short tons	60,454,166	5,921,238	10,210	76
2012	2832	Miami Fort	OH	COL	short tons	84,744,145	8,286,382	10,227	77
2012	6077	Gerald Gentleman	NE	COL	short tons	90,342,027	8,831,282	10,230	78
2012	2103	Labadie	MO	COL	short tons	156,911,188	15,337,230	10,231	79
2012	3403	Gallatin	TN	COL	short tons	66,521,693	6,501,543	10,232	80
2012	1619	Brayton Point	MA	COL	short tons	18,600,396	1,817,889	10,232	81
2012	1733	Monroe	MI	COL	short tons	158,803,590	15,502,627	10,244	82
2012	6181	J T Deely	TX	COL	short tons	38,498,138	3,757,916	10,245	83
2012	3295	Urquhart	SC	COL	short tons	2,082,442	203,240	10,246	84
2012	1378	Paradise	KY	COL	short tons	150,150,593	14,650,519	10,249	85
2012	889	Baldwin Energy Complex	IL	COL	short tons	125,743,812	12,268,806	10,249	86
2012	6082	Somerset Operating Co LLC	NY	COL	short tons	20,920,552	2,038,607	10,262	87
2012	3	Barry	AL	COL	short tons	53,178,323	5,181,894	10,262	88
2012	56224	TS Power Plant	NV	COL	short tons	11,443,879	1,115,054	10,263	89
2012	2442	Four Corners	NM	COL	short tons	140,508,995	13,686,642	10,266	90
2012	298	Limestone	TX	COL	short tons	118,143,388	11,488,837	10,283	91
2012	3280	Canadys Steam	SC	COL	short tons	16,830,884	1,634,862	10,295	92

YEAR	Plant Id	Plant Name	State	AER Fuel Type Code	Physical Unit Label	Total Facility Coal Fuel Consumption (MMBTU)	Total Facility Net Generation (MWh)	Total Facility Heat Rate (BTU/net KWh)	Rank
2012	6113	Gibson	IN	COL	short tons	191,682,554	18,613,161	10,298	93
2012	10673	AES Hawaii	HI	COL	short tons	15,432,040	1,497,519	10,305	94
2012	6004	FirstEnergy Pleasants Power Station	WV	COL	short tons	82,047,196	7,961,188	10,306	95
2012	8066	Jim Bridger	WY	COL	short tons	140,358,801	13,617,042	10,308	96
2012	6034	Belle River	MI	COL	short tons	75,189,998	7,288,781	10,316	97
2012	2107	Sioux	MO	COL	short tons	50,597,382	4,903,482	10,319	98
2012	7790	Bonanza	UT	COL	short tons	31,882,099	3,087,468	10,326	99
2012	3809	Yorktown	VA	COL	short tons	6,556,336	634,883	10,327	100
2012	6041	H L Spurlock	KY	COL	short tons	83,590,904	8,092,985	10,329	101
2012	3179	Hatfields Ferry Power Station	PA	COL	short tons	99,821,856	9,662,746	10,331	102
2012	6213	Merom	IN	COL	short tons	57,630,618	5,578,018	10,332	103
2012	1832	Erickson Station	MI	COL	short tons	7,081,886	685,376	10,333	104
2012	997	Michigan City	IN	COL	short tons	24,054,063	2,327,717	10,334	105
2012	6641	Independence	AR	COL	short tons	107,648,760	10,416,551	10,334	106
2012	207	St Johns River Power Park	FL	COL	short tons	63,798,577	6,171,196	10,338	107
2012	2837	FirstEnergy Eastlake	OH	COL	short tons	46,201,152	4,464,733	10,348	108
2012	3297	Wateree	SC	COL	short tons	38,174,486	3,688,159	10,351	109
2012	60	Whelan Energy Center	NE	COL	short tons	14,057,954	1,357,208	10,358	110
2012	2079	Hawthorn	MO	COL	short tons	38,915,139	3,754,832	10,364	111
2012	6257	Scherer	GA	COL	short tons	207,115,345	19,982,113	10,365	112
2012	990	Harding Street	IN	COL	short tons	38,322,250	3,695,065	10,371	113
2012	1077	Sutherland	IA	COL	short tons	1,422,618	137,091	10,377	114
2012	6002	James H Miller Jr	AL	COL	short tons	180,523,803	17,355,918	10,401	115
2012	2049	Jack Watson	MS	COL	short tons	17,020,287	1,636,130	10,403	116
2012	4054	Nelson Dewey Coal Refining Facility	WI	COL	short tons	8,817,261	847,210	10,407	117
2012	3122	Homer City Station	PA	COL	short tons	101,908,754	9,783,025	10,417	118
2012	7343	George Neal South	IA	COL	short tons	45,099,659	4,326,993	10,423	119
2012	1001	Cayuga	IN	COL	short tons	49,407,273	4,736,586	10,431	120
2012	108	Holcomb	KS	COL	short tons	20,415,708	1,956,611	10,434	121
2012	2094	Sibley	MO	COL	short tons	22,828,347	2,187,710	10,435	122
2012	2712	Roxboro	NC	COL	short tons	145,500,310	13,943,232	10,435	123

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2012	8226	Cheswick Power Plant	PA	COL	short tons	25,309,683	2,421,119	10,454	124
2012	4050	Edgewater	WI	COL	short tons	37,354,764	3,572,052	10,458	125
2012	6664	Louisa	IA	COL	short tons	53,969,526	5,156,266	10,467	126
2012	1740	River Rouge	MI	COL	short tons	22,527,912	2,151,544	10,471	127
2012	898	Wood River	IL	COL	short tons	28,720,245	2,742,925	10,471	128
2012	6138	Flint Creek	AR	COL	short tons	39,696,028	3,788,954	10,477	129
2012	645	Big Bend	FL	COL	short tons	99,731,003	9,515,905	10,480	130
2012	6248	Pawnee	CO	COL	short tons	34,129,935	3,256,482	10,481	131
2012	127	Oklaunion	TX	COL	short tons	32,607,943	3,111,032	10,481	132
2012	6768	Sikeston Power Station	MO	COL	short tons	16,039,721	1,530,097	10,483	133
2012	1745	Trenton Channel	MI	COL	short tons	36,180,001	3,450,961	10,484	134
2012	6031	Killen Station	OH	COL	short tons	37,690,025	3,593,761	10,488	135
2012	8	Gorgas	AL	COL	short tons	31,945,816	3,044,654	10,492	136
2012	6009	White Bluff	AR	COL	short tons	99,740,520	9,495,062	10,504	137
2012	1893	Clay Boswell	MN	COL	short tons	76,122,863	7,245,466	10,506	138
2012	6193	Harrington	TX	COL	short tons	64,677,294	6,152,158	10,513	139
2012	6030	Coal Creek	ND	COL	short tons	97,016,350	9,224,324	10,517	140
2012	6180	Oak Grove	TX	COL	short tons	116,488,596	11,069,071	10,524	141
2012	709	Harllee Branch	GA	COL	short tons	21,956,588	2,086,314	10,524	142
2012	1241	La Cygne	KS	COL	short tons	89,798,144	8,522,888	10,536	143
2012	6823	D B Wilson	KY	COL	short tons	26,019,180	2,464,369	10,558	144
2012	887	Joppa Steam	IL	COL	short tons	68,567,542	6,489,039	10,567	145
2012	56609	Dry Fork Station	WY	COL	short tons	32,677,224	3,088,683	10,580	146
2012	6136	Gibbons Creek	TX	COL	short tons	15,949,888	1,506,376	10,588	147
2012	8219	Ray D Nixon	CO	COL	short tons	15,729,244	1,485,507	10,588	148
2012	3470	W A Parish	TX	COL	short tons	141,523,664	13,365,702	10,589	149
2012	113	Cholla	AZ	COL	short tons	74,057,718	6,981,618	10,608	150
2012	6017	Newton	IL	COL	short tons	58,584,175	5,515,251	10,622	151
2012	628	Crystal River	FL	COL	short tons	106,599,923	10,033,836	10,624	152
2012	1364	Mill Creek	KY	COL	short tons	88,521,242	8,326,185	10,632	153
2012	3393	Allen Steam Plant	TN	COL	short tons	43,352,531	4,075,034	10,639	154

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2012	1091	George Neal North	IA	COL	short tons	43,919,960	4,127,533	10,641	155
2012	8023	Columbia	WI	COL	short tons	77,926,360	7,314,701	10,653	156
2012	2830	Walter C Beckjord	OH	COL	short tons	34,448,940	3,231,086	10,662	157
2012	2824	Stanton	ND	COL	short tons	13,244,331	1,242,041	10,663	158
2012	856	E D Edwards	IL	COL	short tons	46,964,630	4,397,475	10,680	159
2012	6055	Big Cajun 2	LA	COL	short tons	109,639,082	10,258,152	10,688	160
2012	6179	Fayette Power Project	TX	COL	short tons	88,930,245	8,319,871	10,689	161
2012	6090	Sherburne County	MN	COL	short tons	87,969,297	8,229,083	10,690	162
2012	6073	Victor J Daniel Jr	MS	COL	short tons	18,728,942	1,751,828	10,691	163
2012	1384	Cooper	KY	COL	short tons	15,625,472	1,460,742	10,697	164
2012	1043	Frank E Ratts	IN	COL	short tons	5,175,658	483,766	10,699	165
2012	2709	HF Lee Plant	NC	COL	short tons	8,806,968	822,293	10,710	166
2012	3803	Chesapeake	VA	COL	short tons	14,630,843	1,364,971	10,719	167
2012	988	Tanners Creek	IN	COL	short tons	30,142,271	2,810,719	10,724	168
2012	981	State Line Energy	IN	COL	short tons	5,668,646	528,341	10,729	169
2012	1250	Lawrence Energy Center	KS	COL	short tons	32,472,615	3,023,292	10,741	170
2012	2451	San Juan	NM	COL	short tons	109,474,350	10,188,773	10,745	171
2012	1904	Black Dog	MN	COL	short tons	13,047,184	1,213,665	10,750	172
2012	469	Cherokee	CO	COL	short tons	31,848,771	2,962,285	10,751	173
2012	892	Hennepin Power Station	IL	COL	short tons	23,018,904	2,140,559	10,754	174
2012	7902	Pirkey	TX	COL	short tons	46,430,026	4,316,104	10,757	175
2012	564	Stanton Energy Center	FL	COL	short tons	30,937,659	2,875,920	10,757	176
2012	1702	Dan E Karn	MI	COL	short tons	22,648,328	2,105,343	10,758	177
2012	994	AES Petersburg	IN	COL	short tons	103,661,083	9,624,891	10,770	178
2012	1554	Herbert A Wagner	MD	COL	short tons	12,249,794	1,135,983	10,783	179
2012	54304	Birchwood Power	VA	COL	short tons	4,298,267	398,304	10,791	180
2012	1379	Shawnee	KY	COL	short tons	75,106,739	6,959,753	10,792	181
2012	6139	Welsh	TX	COL	short tons	110,823,092	10,267,017	10,794	182
2012	6076	Colstrip	MT	COL	short tons	132,166,066	12,239,405	10,798	183
2012	983	Clifty Creek	IN	COL	short tons	64,162,148	5,940,653	10,801	184
2012	6177	Coronado	AZ	COL	short tons	60,364,189	5,581,045	10,816	185

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2012	2872	Muskingum River	OH	COL	short tons	19,252,051	1,779,447	10,819	186
2012	710	Jack McDonough	GA	COL	short tons	445,450	41,155	10,824	187
2012	7242	Polk	FL	COL	short tons	12,576,433	1,161,898	10,824	188
2012	886	Fisk Street	IL	COL	short tons	9,599,836	886,492	10,829	189
2012	1356	Ghent	KY	COL	short tons	131,763,680	12,163,105	10,833	190
2012	3181	FirstEnergy Mitchell Power Station	PA	COL	short tons	12,565,852	1,158,845	10,843	191
2012	4271	John P Madgett	WI	COL	short tons	20,938,200	1,929,683	10,851	192
2012	2840	Conesville	OH	COL	short tons	62,752,713	5,782,773	10,852	193
2012	10678	AES Warrior Run Cogeneration Facility	MD	COL	short tons	13,572,119	1,250,691	10,852	194
2012	384	Joliet 29	IL	COL	short tons	55,530,544	5,115,866	10,855	195
2012	3251	H B Robinson	SC	COL	short tons	2,336,776	215,003	10,869	196
2012	1382	HMP&L Station Two Henderson	KY	COL	short tons	20,238,631	1,861,641	10,871	197
2012	4162	Naughton	WY	COL	short tons	54,991,689	5,055,739	10,877	198
2012	3938	Philip Sporn	WV	COL	short tons	10,696,074	983,255	10,878	199
2012	3845	Transalta Centralia Generation	WA	COL	short tons	40,559,028	3,728,436	10,878	200
2012	2718	G G Allen	NC	COL	short tons	21,046,959	1,933,483	10,886	201
2012	6254	Ottumwa	IA	COL	short tons	31,623,980	2,902,966	10,894	202
2012	6095	Sooner	OK	COL	short tons	62,767,348	5,760,073	10,897	203
2012	883	Waukegan	IL	COL	short tons	36,023,336	3,305,242	10,899	204
2012	2364	Merrimack	NH	COL	short tons	12,926,243	1,185,688	10,902	205
2012	525	Hayden	CO	COL	short tons	26,970,597	2,473,641	10,903	206
2012	676	C D McIntosh Jr	FL	COL	short tons	13,667,766	1,253,342	10,905	207
2012	876	Kincaid Generation LLC	IL	COL	short tons	56,064,984	5,139,572	10,908	208
2012	56808	Virginia City Hybrid Energy Center	VA	COL	short tons	12,275,615	1,124,476	10,917	209
2012	6098	Big Stone	SD	COL	short tons	30,866,229	2,827,185	10,918	210
2012	6772	Hugo	OK	COL	short tons	27,750,357	2,540,338	10,924	211
2012	884	Will County	IL	COL	short tons	35,263,182	3,227,895	10,925	212
2012	1363	Cane Run	KY	COL	short tons	29,026,730	2,653,597	10,939	213
2012	2187	J E Corette Plant	MT	COL	short tons	7,856,490	717,844	10,945	214
2012	56	Charles R Lowman	AL	COL	short tons	20,394,404	1,862,930	10,947	215
2012	47	Colbert	AL	COL	short tons	36,664,294	3,344,509	10,963	216

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2012	728	Yates	GA	COL	short tons	23,664,824	2,158,681	10,963	217
2012	2952	Muskogee	OK	COL	short tons	86,608,653	7,889,961	10,977	218
2012	1381	Kenneth C Coleman	KY	COL	short tons	34,169,406	3,110,164	10,986	219
2012	1374	Elmer Smith	KY	COL	short tons	26,240,709	2,387,290	10,992	220
2012	643	Lansing Smith	FL	COL	short tons	9,157,804	832,838	10,996	221
2012	50	Widows Creek	AL	COL	short tons	48,791,100	4,433,739	11,005	222
2012	2480	Danskammer Generating Station	NY	COL	short tons	3,187,238	289,589	11,006	223
2012	1723	J R Whiting	MI	COL	short tons	14,735,137	1,338,344	11,010	224
2012	1012	F B Culley	IN	COL	short tons	18,317,549	1,662,621	11,017	225
2012	160	Apache Station	AZ	COL	short tons	14,021,636	1,272,660	11,018	226
2012	2076	Asbury	MO	COL	short tons	12,871,599	1,167,057	11,029	227
2012	2720	Buck	NC	COL	short tons	2,389,498	216,642	11,030	228
2012	6249	Winyah	SC	COL	short tons	27,480,811	2,491,172	11,031	229
2012	2080	Montrose	MO	COL	short tons	19,773,168	1,791,609	11,037	230
2012	52071	Sandow No 5	TX	COL	short tons	48,178,835	4,363,888	11,040	231
2012	6705	Warrick	IN	COL	short tons	57,568,379	5,212,770	11,044	232
2012	4143	Genoa	WI	COL	short tons	10,098,774	913,312	11,057	233
2012	3407	Kingston	TN	COL	short tons	43,525,457	3,935,359	11,060	234
2012	6639	R D Green	KY	COL	short tons	23,285,147	2,104,887	11,062	235
2012	861	Coffeen	IL	COL	short tons	55,995,919	5,054,698	11,078	236
2012	3131	Shawville	PA	COL	short tons	15,217,453	1,372,995	11,083	237
2012	1010	Wabash River	IN	COL	short tons	17,765,742	1,600,595	11,099	238
2012	602	Brandon Shores	MD	COL	short tons	53,907,192	4,851,726	11,111	239
2012	6018	East Bend	KY	COL	short tons	35,268,515	3,172,613	11,117	240
2012	87	Escalante	NM	COL	short tons	12,440,904	1,118,633	11,122	241
2012	2291	North Omaha	NE	COL	short tons	33,662,955	3,022,942	11,136	242
2012	6190	Brame Energy Center	LA	COL	short tons	39,879,718	3,580,226	11,139	243
2012	1572	Dickerson	MD	COL	short tons	12,144,893	1,089,445	11,148	244
2012	1252	Tecumseh Energy Center	KS	COL	short tons	13,163,266	1,180,635	11,149	245
2012	1571	Chalk Point LLC	MD	COL	short tons	18,143,783	1,626,188	11,157	246
2012	8222	Coyote	ND	COL	short tons	25,578,280	2,291,783	11,161	247

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2012	3319	Jefferies	SC	COL	short tons	3,440,752	308,190	11,164	248
2012	6250	Mayo	NC	COL	short tons	39,325,614	3,519,842	11,173	249
2012	8224	North Valmy	NV	COL	short tons	18,074,578	1,614,642	11,194	250
2012	6068	Jeffrey Energy Center	KS	COL	short tons	127,653,180	11,396,504	11,201	251
2012	6469	Antelope Valley	ND	COL	short tons	71,332,023	6,368,187	11,201	252
2012	708	Hammond	GA	COL	short tons	15,773,979	1,407,788	11,205	253
2012	3936	Kanawha River	WV	COL	short tons	11,188,057	998,282	11,207	254
2012	3796	Bremo Bluff	VA	COL	short tons	3,893,994	347,449	11,207	255
2012	2554	Dunkirk Generating Plant	NY	COL	short tons	6,928,459	618,127	11,209	256
2012	6648	Sandow No 4	TX	COL	short tons	48,775,976	4,350,733	11,211	257
2012	51	Dolet Hills	LA	COL	short tons	51,655,941	4,607,015	11,212	258
2012	995	Bailly	IN	COL	short tons	19,915,800	1,775,557	11,217	259
2012	6170	Pleasant Prairie	WI	COL	short tons	59,758,206	5,327,330	11,217	260
2012	1104	Burlington	IA	COL	short tons	13,073,384	1,162,305	11,248	261
2012	6137	A B Brown	IN	COL	short tons	25,941,041	2,304,262	11,258	262
2012	4158	Dave Johnston	WY	COL	short tons	55,126,134	4,896,447	11,258	263
2012	879	Powerton	IL	COL	short tons	91,901,836	8,159,219	11,264	264
2012	1355	E W Brown	KY	COL	short tons	26,608,484	2,362,257	11,264	265
2012	3644	Carbon	UT	COL	short tons	14,509,779	1,286,258	11,281	266
2012	165	GRDA	OK	COL	short tons	56,852,906	5,030,521	11,302	267
2012	641	Crist	FL	COL	short tons	27,205,523	2,407,085	11,302	268
2012	6146	Martin Lake	TX	COL	short tons	166,719,165	14,738,838	11,312	269
2012	2823	Milton R Young	ND	COL	short tons	58,294,074	5,149,966	11,319	270
2012	1743	St Clair	MI	COL	short tons	60,991,974	5,376,472	11,344	271
2012	56596	Wygen III	WY	COL	short tons	9,688,378	853,966	11,345	272
2012	59	Platte	NE	COL	short tons	5,014,072	441,660	11,353	273
2012	667	Northside Generating Station	FL	COL	short tons	1,239,161	109,043	11,364	274
2012	492	Martin Drake	CO	COL	short tons	15,899,293	1,397,600	11,376	275
2012	2866	FirstEnergy W H Sammis	OH	COL	short tons	101,166,857	8,889,394	11,381	276
2012	2549	C R Huntley Generating Station	NY	COL	short tons	8,010,493	703,837	11,381	277
2012	3497	Big Brown	TX	COL	short tons	82,689,322	7,263,613	11,384	278

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2012	6064	Nearman Creek	KS	COL	short tons	10,915,984	957,946	11,395	279
2012	3178	FirstEnergy Armstrong Power Station	PA	COL	short tons	3,765,606	329,653	11,423	280
2012	2535	Cayuga Operating Company	NY	COL	short tons	5,300,556	463,813	11,428	281
2012	1048	Milton L Kapp	IA	COL	short tons	6,045,622	528,487	11,439	282
2012	2706	Asheville	NC	COL	short tons	20,684,880	1,806,502	11,450	283
2012	3138	New Castle Plant	PA	COL	short tons	4,301,128	375,003	11,470	284
2012	6085	R M Schahfer	IN	COL	short tons	67,741,924	5,902,676	11,476	285
2012	3405	John Sevier	TN	COL	short tons	6,441,318	560,577	11,491	286
2012	2817	Leland Olds	ND	COL	short tons	39,163,218	3,402,621	11,510	287
2012	2708	Cape Fear	NC	COL	short tons	5,434,142	471,911	11,515	288
2012	55076	Red Hills Generating Facility	MS	COL	short tons	31,747,519	2,756,925	11,516	289
2012	867	Crawford	IL	COL	short tons	14,403,452	1,249,784	11,525	290
2012	891	Havana	IL	COL	short tons	31,022,386	2,690,763	11,529	291
2012	2104	Meramec	MO	COL	short tons	46,610,433	4,035,036	11,551	292
2012	1943	Hoot Lake	MN	COL	short tons	7,574,524	655,695	11,552	293
2012	6061	R D Morrow	MS	COL	short tons	12,351,734	1,067,090	11,575	294
2012	2403	PSEG Hudson Generating Station	NJ	COL	short tons	2,601,257	223,527	11,637	295
2012	2169	Chamois	MO	COL	short tons	3,348,311	287,537	11,645	296
2012	2277	Sheldon	NE	COL	short tons	11,987,981	1,027,782	11,664	297
2012	1552	C P Crane	MD	COL	short tons	8,324,923	712,376	11,686	298
2012	663	Deerhaven Generating Station	FL	COL	short tons	7,811,127	668,383	11,687	299
2012	10075	Taconite Harbor Energy Center	MN	COL	short tons	10,179,495	871,013	11,687	300
2012	6147	Monticello	TX	COL	short tons	86,115,407	7,363,708	11,695	301
2012	2408	PSEG Mercer Generating Station	NJ	COL	short tons	3,108,777	265,473	11,710	302
2012	1295	Quindaro	KS	COL	short tons	9,952,508	848,264	11,733	303
2012	55479	Wygen 1	WY	COL	short tons	8,027,587	683,671	11,742	304
2012	963	Dallman	IL	COL	short tons	22,898,959	1,945,331	11,771	305
2012	3775	Clinch River	VA	COL	short tons	9,456,236	802,300	11,786	306
2012	52007	Mecklenburg Power Station	VA	COL	short tons	1,985,044	168,396	11,788	307
2012	2713	L V Sutton Steam	NC	COL	short tons	14,996,479	1,271,198	11,797	308
2012	3776	Glen Lyn	VA	COL	short tons	910,660	77,079	11,815	309

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2012	126	H Wilson Sundt Generating Station	AZ	COL	short tons	998,165	84,444	11,820	310
2012	2161	James River Power Station	MO	COL	short tons	6,285,231	530,777	11,842	311
2012	10671	AES Shady Point LLC	OK	COL	short tons	21,119,635	1,783,020	11,845	312
2012	1393	R S Nelson	LA	COL	short tons	35,352,264	2,976,036	11,879	313
2012	1606	Mount Tom	MA	COL	short tons	1,233,365	103,778	11,885	314
2012	3264	W S Lee	SC	COL	short tons	1,506,021	126,662	11,890	315
2012	10768	Rio Bravo Jasmin	CA	COL	short tons	1,949,430	163,895	11,894	316
2012	6183	San Miguel	TX	COL	short tons	34,524,367	2,899,091	11,909	317
2012	6101	Wyodak	WY	COL	short tons	30,099,627	2,521,266	11,938	318
2012	4072	Pulliam	WI	COL	short tons	6,778,911	567,459	11,946	319
2012	7030	Twin Oaks Power One	TX	COL	short tons	18,031,897	1,508,867	11,951	320
2012	54755	Roanoke Valley Energy Facility II	NC	COL	short tons	4,049,324	338,353	11,968	321
2012	1769	Presque Isle	MI	COL	short tons	22,680,056	1,893,808	11,976	322
2012	3947	Kammer	WV	COL	short tons	21,344,806	1,780,575	11,988	323
2012	594	Indian River Generating Station	DE	COL	short tons	16,706,147	1,392,477	11,997	324
2012	1047	Lansing	IA	COL	short tons	13,616,046	1,132,514	12,023	325
2012	50976	Indiantown Cogeneration LP	FL	COL	short tons	9,357,152	777,536	12,034	326
2012	55749	Hardin Generator Project	MT	COL	short tons	5,627,658	467,196	12,046	327
2012	56319	Wygen 2	WY	COL	short tons	7,056,376	585,609	12,050	328
2012	976	Marion	IL	COL	short tons	20,938,897	1,729,152	12,109	329
2012	3406	Johnsonville	TN	COL	short tons	34,804,270	2,864,941	12,148	330
2012	10771	Hopewell Power Station	VA	COL	short tons	301,558	24,818	12,151	331
2012	2324	Reid Gardner	NV	COL	short tons	16,409,823	1,349,736	12,158	332
2012	7504	Neil Simpson II	WY	COL	short tons	6,922,255	568,102	12,185	333
2012	2240	Lon Wright	NE	COL	short tons	5,384,729	441,259	12,203	334
2012	2378	B L England	NJ	COL	short tons	1,984,511	162,180	12,236	335
2012	3113	Portland	PA	COL	short tons	1,753,765	142,744	12,286	336
2012	56163	Kennecott Power Plant	UT	COL	short tons	4,979,531	405,286	12,286	337
2012	3115	Titus	PA	COL	short tons	1,153,362	93,632	12,318	338
2012	1357	Green River	KY	COL	short tons	11,192,353	904,472	12,374	339
2012	1008	R Gallagher	IN	COL	short tons	2,967,045	239,201	12,404	340

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2012	465	Arapahoe	CO	COL	short tons	9,265,938	745,549	12,428	341
2012	1122	Ames Electric Services Power Plant	IA	COL	short tons	3,682,985	295,280	12,473	342
2012	991	Eagle Valley	IN	COL	short tons	3,874,134	310,539	12,475	343
2012	1831	Eckert Station	MI	COL	short tons	11,287,180	904,435	12,480	344
2012	733	Kraft	GA	COL	short tons	1,127,255	90,322	12,480	345
2012	2838	FirstEnergy Lake Shore	OH	COL	short tons	2,294,585	183,786	12,485	346
2012	10043	Logan Generating Company LP	NJ	COL	short tons	7,875,943	627,682	12,548	347
2012	1385	Dale	KY	COL	short tons	2,974,154	236,632	12,569	348
2012	527	Nucla	CO	COL	short tons	6,928,573	550,915	12,576	349
2012	1239	Riverton	KS	COL	short tons	1,214,218	96,392	12,597	350
2012	6089	Lewis & Clark	MT	COL	short tons	3,219,533	253,208	12,715	351
2012	2732	Riverbend	NC	COL	short tons	1,948,623	152,997	12,736	352
2012	2878	FirstEnergy Bay Shore	OH	COL	short tons	4,612,569	362,031	12,741	353
2012	1843	Shiras	MI	COL	short tons	3,691,862	289,676	12,745	354
2012	2835	FirstEnergy Ashtabula	OH	COL	short tons	3,166,356	247,721	12,782	355
2012	1825	J B Sims	MI	COL	short tons	3,003,873	233,903	12,842	356
2012	1073	Prairie Creek	IA	COL	short tons	6,704,802	521,919	12,846	357
2012	10769	Rio Bravo Poso	CA	COL	short tons	1,352,763	105,212	12,857	358
2012	874	Joliet 9	IL	COL	short tons	11,627,716	904,163	12,860	359
2012	3788	Potomac River	VA	COL	short tons	3,922,499	301,341	13,017	360
2012	462	W N Clark	CO	COL	short tons	2,922,969	223,647	13,070	361
2012	3942	FirstEnergy Albright	WV	COL	short tons	2,206,124	168,188	13,117	362
2012	1218	Fair Station	IA	COL	short tons	1,440,988	109,385	13,174	363
2012	10849	Silver Bay Power	MN	COL	short tons	6,379,774	483,557	13,193	364
2012	3152	Sunbury Generation LP	PA	COL	short tons	2,129,226	161,378	13,194	365
2012	1081	Riverside	IA	COL	short tons	7,933,209	598,874	13,247	366
2012	50974	Scrubgrass Generating Company LP	PA	COL	short tons	9,037,458	681,928	13,253	367
2012	1891	Syl Laskin	MN	COL	short tons	4,864,393	364,983	13,328	368
2012	2123	Columbia	MO	COL	short tons	520,725	39,017	13,346	369
2012	2790	R M Heskett	ND	COL	short tons	6,369,302	475,868	13,385	370
2012	10002	ACE Cogeneration Facility	CA	COL	short tons	7,450,432	554,016	13,448	371

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2012	1830	James De Young	MI	COL	short tons	776,374	57,715	13,452	372
2012	1626	Salem Harbor	MA	COL	short tons	2,537,935	188,329	13,476	373
2012	2843	Picway	OH	COL	short tons	52,744	3,888	13,567	374
2012	10379	CPI USA NC Roxboro	NC	COL	short tons	663,039	48,657	13,627	375
2012	6225	Jasper 2	IN	COL	short tons	3,300	242	13,636	376
2012	50835	TES Filer City Station	MI	COL	short tons	4,527,936	331,633	13,653	377
2012	50202	WPS Power Niagara	NY	COL	short tons	100,060	7,278	13,749	378
2012	1040	Whitewater Valley	IN	COL	short tons	330,048	23,908	13,805	379
2012	7	Gadsden	AL	COL	short tons	666,067	48,070	13,856	380
2012	6238	Pearl Station	IL	COL	short tons	54,625	3,913	13,959	381
2012	4140	Alma	WI	COL	short tons	971,103	69,549	13,963	382
2012	2861	Niles	OH	COL	short tons	624,229	44,500	14,028	383
2012	10640	Stockton Cogen	CA	COL	short tons	905,996	64,574	14,030	384
2012	1731	Harbor Beach	MI	COL	short tons	1,016,233	72,113	14,092	385
2012	4150	Neil Simpson	WY	COL	short tons	2,177,226	153,352	14,198	386
2012	10676	AES Beaver Valley Partners Beaver Valley	PA	COL	short tons	14,061,381	986,661	14,251	387
2012	2848	O H Hutchings	OH	COL	short tons	693,032	48,197	14,379	388
2012	3325	Ben French	SD	COL	short tons	1,317,047	91,571	14,383	389
2012	4259	Endicott Station	MI	COL	short tons	3,256,000	226,227	14,393	390
2012	568	Bridgeport Station	CT	COL	short tons	1,385,303	95,875	14,449	391
2012	10743	Morgantown Energy Facility	WV	COL	short tons	2,814,520	194,544	14,467	392
2012	1570	FirstEnergy R Paul Smith Power Station	MD	COL	short tons	987,218	67,791	14,563	393
2012	2144	Marshall	MO	COL	short tons	2,006	137	14,652	394
2012	1383	Robert A Reid	KY	COL	short tons	354,900	23,558	15,065	395
2012	1037	Peru	IN	COL	short tons	8,258	540	15,281	396
2012	2935	Orrville	OH	COL	short tons	2,989,940	195,598	15,286	397
2012	4125	Manitowoc	WI	COL	short tons	120,334	7,822	15,383	398
2012	2367	Schiller	NH	COL	short tons	1,264,317	82,029	15,413	399
2012	1032	Logansport	IN	COL	short tons	2,152,537	139,392	15,442	400
2012	2914	Dover	OH	COL	short tons	933,958	59,315	15,746	401
2012	2917	Hamilton	OH	COL	short tons	1,569,345	99,654	15,748	402

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2012	3098	Elrama Power Plant	PA	COL	short tons	1,115,515	70,671	15,785	403
2012	1167	Muscatine Plant #1	IA	COL	short tons	10,738,397	671,262	15,997	404
2012	10566	Chambers Cogeneration LP	NJ	COL	short tons	10,018,966	618,613	16,196	405
2012	1771	Escanaba	MI	COL	short tons	275,414	16,564	16,627	406
2012	10071	Portsmouth Genco LLC	VA	COL	short tons	537,391	32,124	16,729	407
2012	79	Aurora Energy LLC Chena	AK	COL	short tons	3,384,303	201,405	16,803	408
2012	10672	Cedar Bay Generating Company LP	FL	COL	short tons	11,453,576	673,293	17,011	409
2012	2132	Blue Valley	MO	COL	short tons	1,905,918	111,240	17,133	410
2012	1131	Streeter Station	IA	COL	short tons	188,177	10,789	17,442	411
2012	1175	Pella	IA	COL	short tons	373,798	21,062	17,748	412
2012	2936	Painesville	OH	COL	short tons	410,403	22,895	17,926	413
2012	3982	Bay Front	WI	COL	short tons	59,106	3,276	18,043	414
2012	10328	T B Simon Power Plant	MI	COL	short tons	2,152,193	118,082	18,226	415
2012	10361	Savannah River Mill	GA	COL	short tons	1,429,197	78,148	18,288	416
2012	10378	CPI USA NC Southport	NC	COL	short tons	1,854,423	99,611	18,617	417
2012	54101	Georgia-Pacific Cedar Springs	GA	COL	short tons	3,523,714	187,878	18,755	418
2012	2171	Missouri City	MO	COL	short tons	284,780	15,095	18,866	419
2012	10360	Green Bay West Mill	WI	COL	short tons	6,074,689	321,953	18,868	420
2012	4042	Valley	WI	COL	short tons	9,218,455	483,622	19,061	421
2012	1961	Austin Northeast	MN	COL	short tons	2,376	124	19,093	422
2012	50407	Mobile Energy Services LLC	AL	COL	short tons	609,121	31,791	19,160	423
2012	10148	White Pine Electric Power	MI	COL	short tons	225,008	11,605	19,390	424
2012	50254	KapStone Kraft Paper Corp	NC	COL	short tons	2,208,230	109,210	20,220	425
2012	50491	PPG Natrium Plant	WV	COL	short tons	7,757,947	382,046	20,306	426
2012	2098	Lake Road	MO	COL	short tons	5,785,076	281,703	20,536	427
2012	10234	Biron Mill	WI	COL	short tons	4,879,536	234,513	20,807	428
2012	1866	Wyandotte	MI	COL	short tons	827,853	39,282	21,074	429
2012	3946	FirstEnergy Willow Island	WV	COL	short tons	274,326	13,003	21,098	430
2012	50711	University of Alaska Fairbanks	AK	COL	short tons	985,278	46,074	21,385	431
2012	10774	Southampton Power Station	VA	COL	short tons	789,532	36,843	21,430	432
2012	1217	Earl F Wisdom	IA	COL	short tons	64,569	3,005	21,487	433

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2012	1979	Hibbing	MN	COL	short tons	1,514,945	67,851	22,327	434
2012	10030	NRG Energy Center Dover	DE	COL	short tons	677,912	30,226	22,428	435
2012	753	Crisp Plant	GA	COL	short tons	750	33	22,639	436
2012	7737	Kapstone	SC	COL	short tons	5,342,273	235,678	22,668	437
2012	2022	Willmar	MN	COL	short tons	600,579	26,426	22,727	438
2012	10362	Muskogee Mill	OK	COL	short tons	8,666,491	376,607	23,012	439
2012	10860	Archer Daniels Midland Clinton	IA	COL	short tons	16,721,963	724,329	23,086	440
2012	2018	Virginia	MN	COL	short tons	749,215	32,344	23,164	441
2012	54201	Iowa State University	IA	COL	short tons	3,109,315	130,571	23,813	442
2012	50805	Catalyst Paper Snowflake Mill	AZ	COL	short tons	4,504,466	185,179	24,325	443
2012	10202	Fernandina Beach Mill	FL	COL	short tons	5,435,936	218,815	24,843	444
2012	54780	University of Illinois Abbott Power Plt	IL	COL	short tons	773,959	31,073	24,907	445
2012	10612	Georgia-Pacific Port Hudson	LA	COL	short tons	11,000	440	24,999	446
2012	10864	Archer Daniels Midland Cedar Rapids	IA	COL	short tons	25,132,636	978,128	25,695	447
2012	54004	Dublin Mill	GA	COL	short tons	712,839	27,542	25,882	448
2012	10495	Rumford Cogeneration	ME	COL	short tons	810,183	30,392	26,658	449
2012	50969	MU Combined Heat and Power Plant	MO	COL	short tons	1,841,400	68,443	26,904	450
2012	10867	Tate & Lyle Decatur Plant Cogen	IL	COL	short tons	6,546,726	241,207	27,142	451
2012	52140	International Paper Prattville Mill	AL	COL	short tons	1,545,149	56,000	27,592	452
2012	10025	RED-Rochester, LLC	NY	COL	short tons	8,723,833	315,331	27,666	453
2012	54752	Weyerhaeuser Pine Hill Operations	AL	COL	short tons	42,888	1,528	28,076	454
2012	10604	Hawaiian Comm & Sugar Puunene Mill	HI	COL	short tons	1,139,602	39,821	28,618	455
2012	54556	Ingredion Illinois	IL	COL	short tons	8,352,790	290,360	28,767	456
2012	10384	Edgecombe Genco LLC	NC	COL	short tons	3,583,497	123,466	29,024	457
2012	50240	Purdue University	IN	COL	short tons	3,452,012	117,686	29,332	458
2012	10686	Rapids Energy Center	MN	COL	short tons	1,179,828	39,986	29,506	459
2012	54690	Amalgamated Sugar LLC Nampa	ID	COL	short tons	1,235,406	41,424	29,824	460
2012	50397	P H Glatfelter	PA	COL	short tons	6,111,690	198,502	30,789	461
2012	10208	Escanaba Paper Company	MI	COL	short tons	1,094,769	35,414	30,914	462
2012	50251	Verso Paper Quinnesec Mich Mill	MI	COL	short tons	16,584	534	31,069	463
2012	10244	P H Glatfelter Co -Chillicothe Facility	OH	COL	short tons	5,981,529	190,057	31,472	464

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2012	10862	Archer Daniels Midland Lincoln	NE	COL	short tons	1,465,450	46,088	31,797	465
2012	50398	International Paper Savanna Mill	GA	COL	short tons	4,417,868	138,572	31,881	466
2012	50275	Park 500 Philip Morris USA	VA	COL	short tons	1,467,935	45,739	32,094	467
2012	50813	Hopewell Mill	VA	COL	short tons	1,692,545	51,596	32,804	468
2012	54104	Ashdown	AR	COL	short tons	3,242,976	98,682	32,863	469
2012	50366	University of Notre Dame	IN	COL	short tons	508,150	15,427	32,939	470
2012	54211	American Crystal Sugar Moorhead	MN	COL	short tons	1,549,353	46,948	33,001	471
2012	50308	Utility Plants Section	AK	COL	short tons	4,944,990	149,725	33,027	472
2012	10017	West Point Mill	VA	COL	short tons	3,546,400	107,096	33,114	473
2012	10223	AG Processing Inc	IA	COL	short tons	1,622,648	48,999	33,116	474
2012	50447	S D Warren Westbrook	ME	COL	short tons	489,034	14,464	33,810	475
2012	50806	Florence Mill	SC	COL	short tons	1,540,544	45,319	33,993	476
2012	50245	International Paper Courtland Mill	AL	COL	short tons	1,611,596	47,178	34,160	477
2012	10003	Colorado Energy Nations Company	CO	COL	short tons	4,844,674	141,588	34,217	478
2012	54638	Johnsonburg Mill	PA	COL	short tons	3,119,998	90,816	34,355	479
2012	50395	Georgia-Pacific Corp - Nekoosa Mill	WI	COL	short tons	2,939,615	85,317	34,455	480
2012	7652	US DOE Savannah River Site (D Area)	SC	COL	short tons	904,413	26,198	34,522	481
2012	57046	Archer Daniels Midland Columbus	NE	COL	short tons	9,996,896	287,500	34,772	482
2012	10865	Archer Daniels Midland Decatur	IL	COL	short tons	40,111,183	1,151,052	34,847	483
2012	50250	International Paper Pensacola	FL	COL	short tons	156,887	4,420	35,497	484
2012	57953	Roquette America	IA	COL	short tons	4,162,432	117,000	35,576	485
2012	50481	Tennessee Eastman Operations	TN	COL	short tons	40,112,866	1,118,718	35,856	486
2012	52151	International Paper Eastover Facility	SC	COL	short tons	2,125,240	58,972	36,038	487
2012	50392	Eielson AFB Central Heat & Power Plant	AK	COL	short tons	2,616,672	72,445	36,119	488
2012	50284	American Eagle Paper Mills	PA	COL	short tons	1,642,203	44,918	36,560	489
2012	50903	Sagamore Plant Cogeneration	IN	COL	short tons	1,379,356	37,685	36,602	490
2012	10684	Argus Cogen Plant	CA	COL	short tons	14,759,541	370,555	39,831	491
2012	10430	Anheuser-Busch St Louis	MO	COL	short tons	1,817,847	45,510	39,944	492
2012	54867	Neenah Paper Munising Mill	MI	COL	short tons	1,296,000	32,227	40,215	493
2012	54358	International Paper Augusta Mill	GA	COL	short tons	443,041	10,955	40,443	494
2012	54087	International Paper Georgetown Mill	SC	COL	short tons	136,100	3,312	41,092	495

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2012	10477	Wisconsin Rapids Pulp Mill	WI	COL	short tons	2,141,805	51,712	41,418	496
2012	57919	Sonoco Products Co	SC	COL	short tons	1,793,423	42,621	42,079	497
2012	50614	Mosinee Paper	WI	COL	short tons	1,453,699	34,175	42,537	498
2012	50900	Covington Facility	VA	COL	short tons	11,934,871	268,815	44,398	499
2012	50956	Bowater Newsprint Calhoun Operation	TN	COL	short tons	542,786	12,149	44,679	500
2012	54098	Kaukauna Paper Mill	WI	COL	short tons	2,246,056	49,226	45,627	501
2012	54081	Spruance Genco LLC	VA	COL	short tons	9,263,257	202,676	45,705	502
2012	58222	E.B. Eddy Paper Inc	MI	COL	short tons	1,295,625	28,112	46,088	503
2012	50296	Packaging Corp of America	TN	COL	short tons	42,238	914	46,208	504
2012	10426	Inland Paperboard Packaging Rome	GA	COL	short tons	2,956,261	62,954	46,959	505
2012	50456	Procter & Gamble Cincinnati Plant	OH	COL	short tons	2,082,138	43,547	47,814	506
2012	10149	Decorative Panels Intl	MI	COL	short tons	629,720	13,033	48,318	507
2012	54618	Ingredion Winston Salem	NC	COL	short tons	106,126	2,124	49,967	508
2012	54210	American Crystal Sugar Hillsboro	ND	COL	short tons	2,972,365	59,401	50,039	509
2012	50282	Luke Mill	MD	COL	short tons	8,662,592	169,477	51,114	510
2012	10855	Cargill Corn Milling Division	IA	COL	short tons	5,440,946	103,686	52,475	511
2012	57944	Goddard Steam Plant	MD	COL	short tons	519,237	9,850	52,717	512
2012	50651	Syracuse Energy	NY	COL	short tons	4,160,963	78,776	52,820	513
2012	54212	American Crystal Sugar Crookston	MN	COL	short tons	1,716,324	31,659	54,213	514
2012	642	Scholz	FL	COL	short tons	86,161	1,580	54,530	515
2012	50187	Weyerhaeuser Longview WA	WA	COL	short tons	1,893,102	34,521	54,839	516
2012	57915	FMC Westvaco	WY	COL	short tons	11,827,005	214,450	55,150	517
2012	50041	Norton Powerhouse	MA	COL	short tons	192,757	3,417	56,412	518
2012	50305	LaFarge Alpena	MI	COL	short tons	4,683,166	82,245	56,942	519
2012	10504	Amalgamated Sugar Twin Falls	ID	COL	short tons	2,046,861	35,313	57,963	520
2012	50620	Flambeau River Papers	WI	COL	short tons	153,842	2,613	58,886	521
2012	10417	Indian Orchard Plant 1	MA	COL	short tons	1,394,115	23,509	59,301	522
2012	50933	Rhinelander Mill	WI	COL	short tons	1,795,849	30,222	59,422	523
2012	10699	Georgia-Pacific Consr Prods LP-Naheola	AL	COL	short tons	2,571,492	43,205	59,518	524
2012	50476	Packaging of America Tomahawk Mill	WI	COL	short tons	2,281,716	37,887	60,225	525
2012	50146	Imperial Savannah LP	GA	COL	short tons	701,464	11,624	60,348	526

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2012	54318	General Chemical	WY	COL	short tons	11,703,783	193,862	60,372	527
2012	54276	Univ of NC Chapel Hill Cogen Facility	NC	COL	short tons	1,741,533	28,831	60,405	528
2012	7549	Milwaukee County	WI	COL	short tons	1,281,294	21,064	60,829	529
2012	57928	SIUC	IL	COL	short tons	1,033,472	16,562	62,401	530
2012	50088	University of Northern Iowa	IA	COL	short tons	423,900	6,717	63,112	531
2012	50244	Canton North Carolina	NC	COL	short tons	10,023,286	158,763	63,134	532
2012	52048	Vanderbilt University Power Plant	TN	COL	short tons	1,286,120	20,234	63,563	533
2012	52089	Celanese Acetate LLC	VA	COL	short tons	7,999,166	125,528	63,724	534
2012	10861	Archer Daniels Midland Des Moines	IA	COL	short tons	1,320,001	20,698	63,774	535
2012	50316	Bunge North America East LLC	IN	COL	short tons	721,716	10,945	65,940	536
2012	52017	Menominee Acquisition	MI	COL	short tons	177,449	2,672	66,402	537
2012	50807	Stone Container Panama City Mill	FL	COL	short tons	637,200	9,356	68,104	538
2012	57918	Jacksonville Developmental Center	IL	COL	short tons	299,600	4,322	69,320	539
2012	54775	University of Iowa Main Power Plant	IA	COL	short tons	1,526,995	21,948	69,575	540
2012	10863	Archer Daniels Midland Mankato	MN	COL	short tons	593,253	8,427	70,399	541
2012	54335	Morton Salt Rittman	OH	COL	short tons	475,668	6,464	73,589	542
2012	56785	Virginia Tech Power Plant	VA	COL	short tons	694,860	9,096	76,394	543
2012	54214	American Crystal Sugar East Grand Forks	MN	COL	short tons	2,582,416	33,263	77,636	544
2012	50410	Chester Operations	PA	COL	short tons	9,098	116	78,312	545
2012	54965	Cargill Salt	MI	COL	short tons	610,091	7,746	78,763	546
2012	54763	Rock-Tenn Mill	AL	COL	short tons	1,949,589	24,346	80,077	547
2012	57917	Bayer CropScience Institute Plant	WV	COL	short tons	2,524,072	31,189	80,929	548
2012	57914	Sidney MT Plant	MT	COL	short tons	704,085	8,652	81,375	549
2012	10039	John Deere Harvester Works	IL	COL	short tons	541,426	6,466	83,734	550
2012	57967	Western Sugar Coop - Torrington	WY	COL	short tons	237,816	2,640	90,082	551
2012	52072	Radford Army Ammunition Plant	VA	COL	short tons	2,653,643	29,395	90,276	552
2012	55245	Tuscola Station	IL	COL	short tons	4,276,550	44,741	95,584	553
2012	54216	U S Alliance Coosa Pines	AL	COL	short tons	2,411,195	24,933	96,708	554
2012	10729	Cargill Corn Wet Milling Plant	TN	COL	short tons	1,787,357	18,204	98,183	555
2012	57926	Heat Plant 770	OH	COL	short tons	260,015	2,395	108,569	556
2012	50479	Georgia-Pacific Big Island	VA	COL	short tons	28,574	257	111,208	557

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2012	10377	James River Genco LLC	VA	COL	short tons	4,069,442	35,556	114,452	558
2012	58194	West Campus Steam Plant	PA	COL	short tons	1,126,271	9,503	118,515	559
2012	54407	Waupun Correctional Central Heating Plt	WI	COL	short tons	189,837	1,567	121,147	560
2012	58081	Western Sugar Coop- Ft Morgan	CO	COL	short tons	1,149,073	8,326	138,018	561
2012	10302	Juniata Locomotive Shop	PA	COL	short tons	387,138	1,836	210,835	562
2012	57950	MSC Croswell	MI	COL	short tons	491,455	2,189	224,481	563
2012	2008	Silver Lake	MN	COL	short tons	543,969	2,323	234,138	564
2012	54533	Southern Minnesota Beet Sugar	MN	COL	short tons	2,760,710	11,229	245,848	565
2012	54408	UW Madison Charter Street Plant	WI	COL	short tons	148,446	594	249,737	566
2012	55638	Walhalla	ND	COL	short tons	66,610	175	380,629	567
2012	10866	Archer Daniels Midland Peoria	IL	COL	short tons	114,454	257	445,914	568
2012	992	CC Perry K	IN	COL	short tons	3,486,866	5,880	592,955	569
2012	57932	Wentzville Assembly & Contiguous	MO	COL	short tons	1,247,322	266	4,689,180	570
2012	54972	Norit Americas Marshall Plant	TX	COL	short tons	4,174,545	53	79,057,363	571

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2013	56564	John W Turk Jr Power Plant	Southwestern Electric Power Co	AR	COL	short tons	33,884,456	3,825,010	8,859	1
2013	56671	Longview Power LLC	GenPower	WV	COL	short tons	40,274,101	4,426,372	9,099	2
2013	56611	Sandy Creek Energy Station	Sandy Creek Energy Associates L P	TX	COL	short tons	30,806,657	3,366,434	9,151	3
2013	8042	Belews Creek	Duke Energy Carolinas, LLC	NC	COL	short tons	114,746,103	12,516,704	9,167	4
2013	2721	James E. Rogers Energy Complex	Duke Energy Carolinas, LLC	NC	COL	short tons	56,661,171	6,175,921	9,175	5
2013	7210	Cope	South Carolina Electric&Gas Co	SC	COL	short tons	22,457,610	2,443,040	9,192	6
2013	2727	Marshall	Duke Energy Carolinas, LLC	NC	COL	short tons	78,837,965	8,337,224	9,456	7
2013	3136	Keystone	GenOn Northeast Management Company	PA	COL	short tons	117,635,705	12,430,248	9,464	8
2013	6065	Iatan	Kansas City Power & Light Co	MO	COL	short tons	101,263,170	10,581,673	9,570	9
2013	56068	Elm Road Generating Station	Wisconsin Electric Power Co	WI	COL	short tons	31,797,916	3,322,195	9,571	10
2013	6481	Intermountain Power Project	Los Angeles Department of Water & Power	UT	COL	short tons	119,331,707	12,380,465	9,639	11
2013	3118	Conemaugh	GenOn Northeast Management Company	PA	COL	short tons	113,444,893	11,745,664	9,658	12
2013	6019	W H Zimmer	Duke Energy Ohio Inc	OH	COL	short tons	90,665,728	9,325,636	9,722	13
2013	477	Valmont	Public Service Co of Colorado	CO	COL	short tons	9,632,393	990,624	9,724	14
2013	3298	Williams	South Carolina Genertg Co, Inc	SC	COL	short tons	32,454,631	3,337,405	9,725	15
2013	7097	J K Spruce	City of San Antonio - (TX)	TX	COL	short tons	73,179,283	7,517,480	9,735	16
2013	2836	Avon Lake	NRG Power Midwest LP	OH	COL	short tons	28,088,501	2,878,780	9,757	17
2013	2167	New Madrid	Associated Electric Coop, Inc	MO	COL	short tons	80,098,533	8,191,042	9,779	18
2013	6052	Wansley	Georgia Power Co	GA	COL	short tons	19,845,996	2,026,409	9,794	19
2013	1915	Allen S King	Northern States Power Co - Minnesota	MN	COL	short tons	24,841,222	2,534,037	9,803	20
2013	703	Bowen	Georgia Power Co	GA	COL	short tons	117,917,801	12,014,878	9,814	21
2013	55856	Prairie State Generatng Station	Prairie State Generating Co LLC	IL	COL	short tons	81,996,236	8,350,518	9,819	22
2013	6106	Boardman	Portland General Electric Co	OR	COL	short tons	36,917,314	3,758,996	9,821	23
2013	130	Cross	South Carolina Public Service Authority	SC	COL	short tons	124,175,226	12,643,298	9,821	24
2013	6178	Coleto Creek	Coleto Creek Power LP	TX	COL	short tons	46,078,633	4,690,932	9,823	25
2013	2168	Thomas Hill	Associated Electric Coop, Inc	MO	COL	short tons	81,989,492	8,334,279	9,838	26
2013	6096	Nebraska City	Omaha Public Power District	NE	COL	short tons	94,891,259	9,639,755	9,844	27
2013	6195	John Twitty Energy Center	City Utilities of Springfield - (MO)	MO	COL	short tons	22,599,524	2,292,579	9,858	28
2013	3396	Bull Run	Tennessee Valley Authority	TN	COL	short tons	9,070,470	919,664	9,863	29
2013	6166	Rockport	Indiana Michigan Power Co	IN	COL	short tons	155,769,331	15,786,771	9,867	30
2013	56224	TS Power Plant	Newmont Nevada Energy Investment, LLC	NV	COL	short tons	13,734,451	1,391,279	9,872	31
2013	3287	McMeekin	South Carolina Electric&Gas Co	SC	COL	short tons	7,082,537	716,014	9,892	32
2013	6264	Mountaineer	Appalachian Power Co	WV	COL	short tons	53,955,320	5,450,654	9,899	33
2013	1353	Big Sandy	Kentucky Power Co	KY	COL	short tons	27,080,906	2,735,500	9,900	34
2013	3944	FirstEnergy Harrison Power Station	Allegheny Energy Supply Co LLC	WV	COL	short tons	125,636,435	12,690,771	9,900	35
2013	2850	J M Stuart	Dayton Power & Light Co	OH	COL	short tons	131,830,599	13,279,742	9,927	36
2013	6761	Rawhide	Platte River Power Authority	CO	COL	short tons	23,439,844	2,351,526	9,968	37
2013	6071	Trimble County	Louisville Gas & Electric Co	KY	COL	short tons	76,257,517	7,633,784	9,989	38
2013	3954	Mt Storm	Virginia Electric & Power Co	WV	COL	short tons	90,897,159	9,092,666	9,997	39

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2013	7213	Clover	Virginia Electric & Power Co	VA	COL	short tons	59,164,318	5,915,351	10,002	40
2013	4078	Weston	Wisconsin Public Service Corp	WI	COL	short tons	60,649,406	6,051,623	10,022	41
2013	3935	John E Amos	Appalachian Power Co	WV	COL	short tons	142,913,047	14,253,808	10,026	42
2013	3948	Mitchell	Kentucky Power Co	WV	COL	short tons	59,506,439	5,930,209	10,034	43
2013	3943	FirstEnergy Fort Martin Power Station	Monongahela Power Co	WV	COL	short tons	79,349,769	7,902,599	10,041	44
2013	2876	Kyger Creek	Ohio Valley Electric Corp	OH	COL	short tons	51,455,621	5,124,168	10,042	45
2013	6194	Tolk	Southwestern Public Service Co	TX	COL	short tons	83,120,870	8,274,206	10,046	46
2013	1733	Monroe	The DTE Electric Company	MI	COL	short tons	160,541,767	15,961,902	10,058	47
2013	6181	J T Deely	City of San Antonio - (TX)	TX	COL	short tons	46,732,756	4,644,290	10,062	48
2013	2828	Cardinal	AEP Generation Resources Inc	OH	COL	short tons	110,433,879	10,968,125	10,069	49
2013	136	Seminole	Seminole Electric Cooperative Inc	FL	COL	short tons	77,947,124	7,735,364	10,077	50
2013	6021	Craig	Tri-State G & T Assn, Inc	CO	COL	short tons	82,438,839	8,180,975	10,077	51
2013	10	Greene County	Alabama Power Co	AL	COL	short tons	24,687,650	2,448,622	10,082	52
2013	3797	Chesterfield	Virginia Electric & Power Co	VA	COL	short tons	60,024,683	5,952,048	10,085	53
2013	6094	FirstEnergy Bruce Mansfield	FirstEnergy Generation Corp	PA	COL	short tons	176,061,314	17,445,482	10,092	54
2013	3140	PPL Brunner Island	PPL Brunner Island LLC	PA	COL	short tons	67,479,549	6,680,941	10,100	55
2013	3149	PPL Montour	PPL Montour LLC	PA	COL	short tons	70,661,797	6,991,191	10,107	56
2013	26	E C Gaston	Alabama Power Co	AL	COL	short tons	70,648,721	6,983,789	10,116	57
2013	56456	Plum Point Energy Station	Plum Point Energy Associates LLC	AR	COL	short tons	40,281,067	3,981,133	10,118	58
2013	6155	Rush Island	Union Electric Co - (MO)	MO	COL	short tons	85,772,322	8,468,791	10,128	59
2013	8102	General James M Gavin	AEP Generation Resources Inc	OH	COL	short tons	158,613,440	15,656,947	10,131	60
2013	4941	Navajo	Salt River Project	AZ	COL	short tons	173,516,963	17,119,675	10,136	61
2013	1740	River Rouge	The DTE Electric Company	MI	COL	short tons	22,887,787	2,254,911	10,150	62
2013	6180	Oak Grove	Oak Grove Management Co LLC	TX	COL	short tons	119,702,755	11,791,331	10,152	63
2013	1619	Brayton Point	Brayton Point Energy LLC	MA	COL	short tons	35,903,147	3,532,284	10,164	64
2013	6077	Gerald Gentleman	Nebraska Public Power District	NE	COL	short tons	97,970,289	9,633,467	10,170	65
2013	6641	Independence	Entergy Arkansas Inc	AR	COL	short tons	105,641,258	10,381,764	10,176	66
2013	2103	Labadie	Union Electric Co - (MO)	MO	COL	short tons	176,159,957	17,282,582	10,193	67
2013	6165	Hunter	PacifiCorp	UT	COL	short tons	97,329,486	9,536,083	10,206	68
2013	3403	Gallatin	Tennessee Valley Authority	TN	COL	short tons	67,250,385	6,588,508	10,207	69
2013	6031	Killen Station	Dayton Power & Light Co	OH	COL	short tons	35,033,308	3,431,094	10,211	70
2013	8	Gorgas	Alabama Power Co	AL	COL	short tons	35,224,839	3,448,785	10,214	71
2013	1710	J H Campbell	Consumers Energy Co	MI	COL	short tons	87,797,719	8,591,976	10,219	72
2013	3399	Cumberland	Tennessee Valley Authority	TN	COL	short tons	137,958,296	13,497,860	10,221	73
2013	6016	Duck Creek	Illinois Power Resources Generating LLC	IL	COL	short tons	25,714,178	2,515,794	10,221	74
2013	6017	Newton	Illinois Power Generating Co	IL	COL	short tons	70,746,707	6,910,801	10,237	75
2013	1720	J C Weadock	Consumers Energy Co	MI	COL	short tons	16,663,161	1,627,591	10,238	76
2013	2832	Miami Fort	Duke Energy Ohio Inc	OH	COL	short tons	90,444,093	8,829,546	10,243	77
2013	1082	Walter Scott Jr Energy Center	MidAmerican Energy Co	IA	COL	short tons	111,756,096	10,905,358	10,248	78
2013	3122	Homer City Generating Station	NRG Homer City Services LLC	PA	COL	short tons	107,840,169	10,521,568	10,249	79
2013	56808	Virginia City Hybrid Energy Center	Virginia Electric & Power Co	VA	COL	short tons	36,386,566	3,549,751	10,250	80

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2013	8069	Huntington	PacifiCorp	UT	COL	short tons	69,331,687	6,763,454	10,251	81
2013	2049	Jack Watson	Mississippi Power Co	MS	COL	short tons	31,114,492	3,033,058	10,258	82
2013	889	Baldwin Energy Complex	Dynegy Midwest Generation Inc	IL	COL	short tons	128,402,562	12,511,132	10,263	83
2013	6204	Laramie River Station	Basin Electric Power Coop	WY	COL	short tons	120,697,465	11,754,247	10,268	84
2013	8223	Springerville	Tucson Electric Power Co	AZ	COL	short tons	117,451,166	11,434,526	10,272	85
2013	6768	Sikeston Power Station	City of Sikeston - (MO)	MO	COL	short tons	17,144,451	1,668,733	10,274	86
2013	10673	AES Hawaii	AES Hawaii Inc	HI	COL	short tons	13,947,993	1,357,312	10,276	87
2013	667	Northside Generating Station	JEA	FL	COL	short tons	2,558,364	248,862	10,280	88
2013	298	Limestone	NRG Texas Power LLC	TX	COL	short tons	132,167,084	12,851,744	10,284	89
2013	1573	Morgantown Generating Plant	GenOn Mid-Atlantic LLC	MD	COL	short tons	39,977,911	3,885,235	10,290	90
2013	6082	Somerset Operating Co LLC	Somerset Operating Co LLC	NY	COL	short tons	21,242,240	2,064,225	10,291	91
2013	8066	Jim Bridger	PacifiCorp	WY	COL	short tons	152,488,427	14,806,673	10,299	92
2013	2442	Four Corners	Arizona Public Service Co	NM	COL	short tons	125,416,201	12,175,920	10,300	93
2013	7790	Bonanza	Deseret Generation & Tran Coop	UT	COL	short tons	36,118,924	3,505,745	10,303	94
2013	6034	Belle River	The DTE Electric Company	MI	COL	short tons	78,189,786	7,589,031	10,303	95
2013	127	Oklaunion	Public Service Co of Oklahoma	TX	COL	short tons	40,817,969	3,961,282	10,304	96
2013	6213	Merom	Hoosier Energy R E C, Inc	IN	COL	short tons	61,350,260	5,949,133	10,312	97
2013	1378	Paradise	Tennessee Valley Authority	KY	COL	short tons	122,714,858	11,897,787	10,314	98
2013	3280	Canadys Steam	South Carolina Electric&Gas Co	SC	COL	short tons	8,008,222	776,263	10,316	99
2013	3	Barry	Alabama Power Co	AL	COL	short tons	51,202,482	4,962,412	10,318	100
2013	2963	Northeastern	Public Service Co of Oklahoma	OK	COL	short tons	66,747,719	6,466,786	10,322	101
2013	6002	James H Miller Jr	Alabama Power Co	AL	COL	short tons	209,006,055	20,241,812	10,325	102
2013	4041	South Oak Creek	Wisconsin Electric Power Co	WI	COL	short tons	49,075,375	4,746,825	10,339	103
2013	6090	Sherburne County	Northern States Power Co - Minnesota	MN	COL	short tons	90,883,013	8,788,112	10,342	104
2013	4050	Edgewater	Wisconsin Power & Light Co	WI	COL	short tons	44,135,953	4,266,675	10,344	105
2013	990	Harding Street	Indianapolis Power & Light Co	IN	COL	short tons	42,091,719	4,068,242	10,346	106
2013	60	Whelan Energy Center	City of Hastings - (NE)	NE	COL	short tons	18,421,970	1,778,539	10,358	107
2013	6113	Gibson	Duke Energy Indiana Inc	IN	COL	short tons	179,297,912	17,309,120	10,359	108
2013	6257	Scherer	Georgia Power Co	GA	COL	short tons	209,813,417	20,247,019	10,363	109
2013	887	Joppa Steam	Electric Energy Inc	IL	COL	short tons	71,797,911	6,917,935	10,379	110
2013	6009	White Bluff	Entergy Arkansas Inc	AR	COL	short tons	109,543,730	10,553,429	10,380	111
2013	6190	Brame Energy Center	Cleco Power LLC	LA	COL	short tons	40,858,785	3,935,532	10,382	112
2013	1001	Cayuga	Duke Energy Indiana Inc	IN	COL	short tons	57,163,678	5,504,044	10,386	113
2013	709	Harllee Branch	Georgia Power Co	GA	COL	short tons	27,878,097	2,681,924	10,395	114
2013	884	Will County	Midwest Generations EME LLC	IL	COL	short tons	40,115,904	3,859,053	10,395	115
2013	1554	Herbert A Wagner	Raven Power Holdings LLC	MD	COL	short tons	14,637,849	1,407,347	10,401	116
2013	6004	FirstEnergy Pleasants Power Station	Allegheny Energy Supply Co LLC	WV	COL	short tons	84,202,202	8,094,252	10,403	117
2013	207	St Johns River Power Park	JEA	FL	COL	short tons	68,832,580	6,611,207	10,411	118
2013	6136	Gibbons Creek	Texas Municipal Power Agency	TX	COL	short tons	27,072,375	2,599,477	10,415	119
2013	2079	Hawthorn	Kansas City Power & Light Co	MO	COL	short tons	40,274,303	3,864,429	10,422	120
2013	6248	Pawnee	Public Service Co of Colorado	CO	COL	short tons	32,150,218	3,084,098	10,425	121

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2013	6041	H L Spurlock	East Kentucky Power Coop, Inc	KY	COL	short tons	85,996,146	8,248,491	10,426	122
2013	6664	Louisa	MidAmerican Energy Co	IA	COL	short tons	48,948,488	4,693,443	10,429	123
2013	3809	Yorktown	Virginia Electric & Power Co	VA	COL	short tons	8,568,454	819,876	10,451	124
2013	56609	Dry Fork Station	Basin Electric Power Coop	WY	COL	short tons	32,090,842	3,066,049	10,467	125
2013	2840	Conesville	AEP Generation Resources Inc	OH	COL	short tons	66,583,292	6,358,915	10,471	126
2013	645	Big Bend	Tampa Electric Co	FL	COL	short tons	99,632,867	9,507,248	10,480	127
2013	469	Cherokee	Public Service Co of Colorado	CO	COL	short tons	29,818,599	2,844,852	10,482	128
2013	4054	Nelson Dewey Coal Refining Facility	Wisconsin Power & Light Co	WI	COL	short tons	11,247,021	1,069,706	10,514	129
2013	898	Wood River	Dynegy Midwest Generation Inc	IL	COL	short tons	35,745,949	3,398,582	10,518	130
2013	8023	Columbia	Wisconsin Power & Light Co	WI	COL	short tons	76,072,768	7,231,269	10,520	131
2013	628	Crystal River	Duke Energy Florida, Inc	FL	COL	short tons	111,597,320	10,605,228	10,523	132
2013	108	Holcomb	Sunflower Electric Power Corp	KS	COL	short tons	22,703,550	2,157,302	10,524	133
2013	2718	G G Allen	Duke Energy Carolinas, LLC	NC	COL	short tons	20,965,024	1,991,808	10,526	134
2013	7343	George Neal South	MidAmerican Energy Co	IA	COL	short tons	32,540,583	3,085,036	10,548	135
2013	6055	Big Cajun 2	Louisiana Generating LLC	LA	COL	short tons	116,036,938	11,000,945	10,548	136
2013	3179	Hatfields Ferry Power Station	Allegheny Energy Supply Co LLC	PA	COL	short tons	81,809,279	7,754,441	10,550	137
2013	6193	Harrington	Southwestern Public Service Co	TX	COL	short tons	58,105,438	5,506,587	10,552	138
2013	1745	Trenton Channel	The DTE Electric Company	MI	COL	short tons	35,949,708	3,406,770	10,552	139
2013	3470	W A Parish	NRG Texas Power LLC	TX	COL	short tons	160,708,957	15,222,216	10,558	140
2013	470	Comanche	Public Service Co of Colorado	CO	COL	short tons	93,191,466	8,826,039	10,559	141
2013	6030	Coal Creek	Great River Energy	ND	COL	short tons	93,310,424	8,832,042	10,565	142
2013	892	Hennepin Power Station	Dynegy Midwest Generation Inc	IL	COL	short tons	17,208,400	1,627,891	10,571	143
2013	2866	FirstEnergy W H Sammis	FirstEnergy Generation Corp	OH	COL	short tons	130,976,543	12,388,345	10,573	144
2013	997	Michigan City	Northern Indiana Pub Serv Co	IN	COL	short tons	21,121,651	1,997,197	10,576	145
2013	6823	D B Wilson	Big Rivers Electric Corp	KY	COL	short tons	29,307,000	2,769,838	10,581	146
2013	856	E D Edwards	Illinois Power Resources Generating LLC	IL	COL	short tons	45,744,491	4,318,905	10,592	147
2013	1702	Dan E Karn	Consumers Energy Co	MI	COL	short tons	26,962,757	2,544,690	10,596	148
2013	8219	Ray D Nixon	City of Colorado Springs - (CO)	CO	COL	short tons	16,797,295	1,585,265	10,596	149
2013	1893	Clay Boswell	Minnesota Power Inc	MN	COL	short tons	81,688,784	7,708,708	10,597	150
2013	564	Stanton Energy Center	Orlando Utilities Comm	FL	COL	short tons	34,516,530	3,257,085	10,597	151
2013	6179	Fayette Power Project	Lower Colorado River Authority	TX	COL	short tons	111,165,194	10,484,084	10,603	152
2013	1241	La Cygne	Kansas City Power & Light Co	KS	COL	short tons	79,471,426	7,491,000	10,609	153
2013	2872	Muskingum River	AEP Generation Resources Inc	OH	COL	short tons	23,474,734	2,211,470	10,615	154
2013	6177	Coronado	Salt River Project	AZ	COL	short tons	61,326,691	5,772,152	10,625	155
2013	2107	Sioux	Union Electric Co - (MO)	MO	COL	short tons	53,956,547	5,078,437	10,625	156
2013	384	Joliet 29	Midwest Generations EME LLC	IL	COL	short tons	59,885,412	5,626,634	10,643	157
2013	988	Tanners Creek	Indiana Michigan Power Co	IN	COL	short tons	22,662,380	2,128,773	10,646	158
2013	3297	Wateree	South Carolina Electric&Gas Co	SC	COL	short tons	29,658,473	2,783,902	10,654	159
2013	8226	Cheswick Power Plant	NRG Power Midwest LP	PA	COL	short tons	29,929,835	2,808,194	10,658	160
2013	6076	Colstrip	PPL Montana LLC	MT	COL	short tons	135,648,782	12,727,096	10,658	161
2013	113	Cholla	Arizona Public Service Co	AZ	COL	short tons	70,370,266	6,602,141	10,659	162

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2013	4271	John P Madgett	Dairyland Power Coop	WI	COL	short tons	26,152,845	2,450,460	10,673	163
2013	1364	Mill Creek	Louisville Gas & Electric Co	KY	COL	short tons	87,978,401	8,242,434	10,674	164
2013	6138	Flint Creek	Southwestern Electric Power Co	AR	COL	short tons	32,683,434	3,061,411	10,676	165
2013	1379	Shawnee	Tennessee Valley Authority	KY	COL	short tons	74,271,500	6,956,239	10,677	166
2013	4143	Genoa	Dairyland Power Coop	WI	COL	short tons	15,360,675	1,437,961	10,682	167
2013	4162	Naughton	PacifiCorp	WY	COL	short tons	59,072,940	5,527,207	10,688	168
2013	2712	Roxboro	Progress Energy Carolinas Inc	NC	COL	short tons	111,509,401	10,420,492	10,701	169
2013	994	AES Petersburg	Indianapolis Power & Light Co	IN	COL	short tons	112,269,238	10,484,342	10,708	170
2013	3138	New Castle Plant	NRG Power Midwest LP	PA	COL	short tons	4,185,875	390,890	10,709	171
2013	3393	Allen Steam Plant	Tennessee Valley Authority	TN	COL	short tons	45,870,219	4,282,291	10,712	172
2013	3803	Chesapeake	Virginia Electric & Power Co	VA	COL	short tons	16,351,725	1,525,863	10,716	173
2013	52071	Sandow No 5	Sandow Power Co LLC	TX	COL	short tons	48,647,994	4,524,912	10,751	174
2013	7902	Pirkey	Southwestern Electric Power Co	TX	COL	short tons	52,989,893	4,926,822	10,755	175
2013	1382	HMP&L Station Two Henderson	Big Rivers Electric Corp	KY	COL	short tons	22,137,531	2,058,160	10,756	176
2013	6254	Ottumwa	Interstate Power and Light Co	IA	COL	short tons	36,096,730	3,352,272	10,768	177
2013	6648	Sandow No 4	Luminant Generation Company LLC	TX	COL	short tons	43,124,740	4,000,043	10,781	178
2013	6073	Victor J Daniel Jr	Mississippi Power Co	MS	COL	short tons	18,940,286	1,756,150	10,785	179
2013	2451	San Juan	Public Service Co of NM	NM	COL	short tons	112,823,640	10,457,914	10,788	180
2013	1250	Lawrence Energy Center	Westar Energy Inc	KS	COL	short tons	38,894,153	3,604,787	10,790	181
2013	2732	Riverbend	Duke Energy Carolinas, LLC	NC	COL	short tons	1,319,506	122,263	10,792	182
2013	160	Apache Station	Arizona Electric Pwr Coop Inc	AZ	COL	short tons	24,237,399	2,245,606	10,793	183
2013	3131	Shawville	NRG REMA LLC	PA	COL	short tons	16,985,523	1,573,563	10,794	184
2013	54304	Birchwood Power	Birchwood Power Partners LP	VA	COL	short tons	6,250,354	578,801	10,799	185
2013	2952	Muskogee	Oklahoma Gas & Electric Co	OK	COL	short tons	73,426,155	6,794,433	10,807	186
2013	6095	Sooner	Oklahoma Gas & Electric Co	OK	COL	short tons	64,483,923	5,964,903	10,811	187
2013	983	Clifty Creek	Indiana-Kentucky Electric Corp	IN	COL	short tons	60,590,437	5,603,509	10,813	188
2013	1374	Elmer Smith	City of Owensboro - (KY)	KY	COL	short tons	28,897,916	2,671,694	10,816	189
2013	876	Kincaid Generation LLC	Equipower Resources Corp	IL	COL	short tons	58,702,496	5,424,348	10,822	190
2013	6098	Big Stone	Otter Tail Power Co	SD	COL	short tons	30,836,239	2,849,383	10,822	191
2013	2094	Sibley	KCP&L Greater Missouri Operations Co	MO	COL	short tons	27,123,729	2,504,106	10,832	192
2013	995	Bailly	Northern Indiana Pub Serv Co	IN	COL	short tons	24,313,543	2,243,400	10,838	193
2013	8224	North Valmy	Sierra Pacific Power Co	NV	COL	short tons	27,263,322	2,515,090	10,840	194
2013	3181	FirstEnergy Mitchell Power Station	Allegheny Energy Supply Co LLC	PA	COL	short tons	10,289,223	948,312	10,850	195
2013	1091	George Neal North	MidAmerican Energy Co	IA	COL	short tons	39,512,670	3,640,023	10,855	196
2013	883	Waukegan	Midwest Generations EME LLC	IL	COL	short tons	37,998,928	3,500,339	10,856	197
2013	1043	Frank E Ratts	Hoosier Energy R E C, Inc	IN	COL	short tons	6,828,355	628,524	10,864	198
2013	525	Hayden	Public Service Co of Colorado	CO	COL	short tons	34,501,196	3,172,277	10,876	199
2013	2830	Walter C Beckjord	Duke Energy Ohio Inc	OH	COL	short tons	27,635,486	2,540,949	10,876	200
2013	6249	Winyah	South Carolina Public Service Authority	SC	COL	short tons	13,847,367	1,272,991	10,878	201
2013	3845	Transalta Centralia Generation	TransAlta Centralia Gen LLC	WA	COL	short tons	72,944,102	6,703,715	10,881	202
2013	1695	B C Cobb	Consumers Energy Co	MI	COL	short tons	19,414,208	1,783,115	10,888	203
2013	1356	Ghent	Kentucky Utilities Co	KY	COL	short tons	143,193,250	13,142,149	10,896	204

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2013	2549	C R Huntley Generating Station	NRG Huntley Operations Inc	NY	COL	short tons	11,657,854	1,069,543	10,900	205
2013	47	Colbert	Tennessee Valley Authority	AL	COL	short tons	34,919,886	3,202,563	10,904	206
2013	2720	Buck	Duke Energy Carolinas, LLC	NC	COL	short tons	997,146	91,294	10,922	207
2013	3938	Philip Sporn	Appalachian Power Co	WV	COL	short tons	11,934,311	1,092,459	10,924	208
2013	1384	Cooper	East Kentucky Power Coop, Inc	KY	COL	short tons	10,877,874	995,131	10,931	209
2013	10678	AES Warrior Run Cogeneration Facility	AES WR Ltd Partnership	MD	COL	short tons	13,803,317	1,261,691	10,940	210
2013	728	Yates	Georgia Power Co	GA	COL	short tons	16,768,484	1,532,435	10,942	211
2013	1904	Black Dog	Northern States Power Co - Minnesota	MN	COL	short tons	12,863,328	1,174,691	10,950	212
2013	6705	Warrick	AGC Division of APG Inc	IN	COL	short tons	58,133,818	5,303,974	10,960	213
2013	1381	Kenneth C Coleman	Big Rivers Electric Corp	KY	COL	short tons	34,287,834	3,122,714	10,980	214
2013	1012	F B Culley	Southern Indiana Gas & Elec Co	IN	COL	short tons	19,721,096	1,794,187	10,992	215
2013	6146	Martin Lake	Luminant Generation Company LLC	TX	COL	short tons	167,482,718	15,235,243	10,993	216
2013	641	Crist	Gulf Power Co	FL	COL	short tons	30,173,101	2,744,029	10,996	217
2013	6139	Welsh	Southwestern Electric Power Co	TX	COL	short tons	96,093,176	8,736,582	10,999	218
2013	1252	Tecumseh Energy Center	Westar Energy Inc	KS	COL	short tons	12,082,493	1,097,016	11,014	219
2013	1048	Milton L Kapp	Interstate Power and Light Co	IA	COL	short tons	8,247,481	748,263	11,022	220
2013	676	C D McIntosh Jr	City of Lakeland - (FL)	FL	COL	short tons	14,232,452	1,291,206	11,023	221
2013	6170	Pleasant Prairie	Wisconsin Electric Power Co	WI	COL	short tons	85,578,884	7,762,976	11,024	222
2013	879	Powerton	Midwest Generations EME LLC	IL	COL	short tons	92,091,896	8,352,679	11,025	223
2013	2076	Asbury	Empire District Electric Co	MO	COL	short tons	14,260,371	1,292,880	11,030	224
2013	1723	J R Whiting	Consumers Energy Co	MI	COL	short tons	18,239,120	1,653,060	11,034	225
2013	6639	R D Green	Big Rivers Electric Corp	KY	COL	short tons	28,891,185	2,616,180	11,043	226
2013	1363	Cane Run	Louisville Gas & Electric Co	KY	COL	short tons	28,132,942	2,545,431	11,052	227
2013	2364	Merrimack	Public Service Co of NH	NH	COL	short tons	14,594,234	1,318,817	11,066	228
2013	6772	Hugo	Western Farmers Elec Coop, Inc	OK	COL	short tons	33,059,461	2,986,521	11,070	229
2013	6068	Jeffrey Energy Center	Westar Energy Inc	KS	COL	short tons	147,914,299	13,358,159	11,073	230
2013	2291	North Omaha	Omaha Public Power District	NE	COL	short tons	36,298,754	3,277,236	11,076	231
2013	643	Lansing Smith	Gulf Power Co	FL	COL	short tons	9,878,051	891,663	11,078	232
2013	3796	Bremo Bluff	Virginia Electric & Power Co	VA	COL	short tons	5,310,020	478,958	11,087	233
2013	2080	Montrose	Kansas City Power & Light Co	MO	COL	short tons	30,862,947	2,778,059	11,110	234
2013	1571	Chalk Point LLC	NRG Chalk Point LLC	MD	COL	short tons	24,434,245	2,198,154	11,116	235
2013	3497	Big Brown	Big Brown Power Company LLC	TX	COL	short tons	92,747,821	8,341,607	11,119	236
2013	8222	Coyote	Otter Tail Power Co	ND	COL	short tons	29,423,713	2,646,320	11,119	237
2013	861	Coffeen	Illinois Power Generating Co	IL	COL	short tons	51,858,595	4,658,178	11,133	238
2013	1743	St Clair	The DTE Electric Company	MI	COL	short tons	68,810,854	6,178,063	11,138	239
2013	6064	Nearman Creek	City of Kansas City - (KS)	KS	COL	short tons	14,095,971	1,265,163	11,142	240
2013	602	Brandon Shores	Raven Power Holdings LLC	MD	COL	short tons	54,531,312	4,892,942	11,145	241
2013	6018	East Bend	Duke Energy Kentucky Inc	KY	COL	short tons	41,269,560	3,697,699	11,161	242
2013	3936	Kanawha River	Appalachian Power Co	WV	COL	short tons	10,318,675	923,769	11,170	243
2013	87	Escalante	Tri-State G & T Assn, Inc	NM	COL	short tons	16,897,245	1,511,437	11,180	244
2013	6137	A B Brown	Southern Indiana Gas & Elec Co	IN	COL	short tons	27,019,149	2,415,653	11,185	245

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2013	1104	Burlington	Interstate Power and Light Co	IA	COL	short tons	12,580,881	1,123,235	11,201	246
2013	1167	Muscatine Plant #1	Board of Water Electric & Communications	IA	COL	short tons	11,919,985	1,064,220	11,201	247
2013	963	Dallman	City of Springfield - (IL)	IL	COL	short tons	26,581,873	2,370,303	11,215	248
2013	1010	Wabash River	Duke Energy Indiana Inc	IN	COL	short tons	22,451,020	2,001,076	11,219	249
2013	50	Widows Creek	Tennessee Valley Authority	AL	COL	short tons	42,464,847	3,783,364	11,224	250
2013	1355	E W Brown	Kentucky Utilities Co	KY	COL	short tons	31,992,574	2,849,434	11,228	251
2013	7242	Polk	Tampa Electric Co	FL	COL	short tons	13,836,355	1,230,514	11,244	252
2013	3407	Kingston	Tennessee Valley Authority	TN	COL	short tons	44,278,918	3,933,079	11,258	253
2013	56	Charles R Lowman	PowerSouth Energy Cooperative	AL	COL	short tons	19,208,234	1,705,667	11,261	254
2013	6469	Antelope Valley	Basin Electric Power Coop	ND	COL	short tons	68,698,254	6,095,262	11,271	255
2013	568	Bridgeport Station	PSEG Power Connecticut LLC	CT	COL	short tons	7,679,497	680,653	11,283	256
2013	4158	Dave Johnston	PacifiCorp	WY	COL	short tons	59,672,555	5,288,384	11,284	257
2013	1552	C P Crane	Raven Power Holdings LLC	MD	COL	short tons	7,335,929	649,860	11,288	258
2013	6147	Monticello	Luminant Generation Company LLC	TX	COL	short tons	90,242,665	7,991,234	11,293	259
2013	2838	FirstEnergy Lake Shore	FirstEnergy Generation Corp	OH	COL	short tons	2,633,643	232,788	11,313	260
2013	492	Martin Drake	City of Colorado Springs - (CO)	CO	COL	short tons	16,738,365	1,478,881	11,318	261
2013	2535	Cayuga Operating Company	Cayuga Operating Company, LLC	NY	COL	short tons	9,070,115	799,343	11,347	262
2013	55076	Red Hills Generating Facility	Choctaw Generating LP	MS	COL	short tons	33,226,230	2,924,534	11,361	263
2013	10075	Taconite Harbor Energy Center	Minnesota Power Inc	MN	COL	short tons	12,077,031	1,062,688	11,365	264
2013	3115	Titus	NRG REMA LLC	PA	COL	short tons	2,803,004	245,859	11,401	265
2013	6085	R M Schahfer	Northern Indiana Pub Serv Co	IN	COL	short tons	83,550,377	7,322,884	11,409	266
2013	2823	Milton R Young	Minnkota Power Coop, Inc	ND	COL	short tons	47,909,585	4,197,518	11,414	267
2013	891	Havana	Dynegy Midwest Generation Inc	IL	COL	short tons	32,619,228	2,851,028	11,441	268
2013	126	H Wilson Sundt Generating Station	Tucson Electric Power Co	AZ	COL	short tons	3,644,270	318,512	11,442	269
2013	51	Dolet Hills	Cleco Power LLC	LA	COL	short tons	34,894,015	3,043,574	11,465	270
2013	4072	Pulliam	Wisconsin Public Service Corp	WI	COL	short tons	10,462,439	911,882	11,473	271
2013	6183	San Miguel	San Miguel Electric Coop, Inc	TX	COL	short tons	30,724,990	2,676,441	11,480	272
2013	1626	Salem Harbor	NAES Salem Harbor	MA	COL	short tons	3,521,349	306,137	11,503	273
2013	663	Deerhaven Generating Station	Gainesville Regional Utilities	FL	COL	short tons	7,097,474	616,038	11,521	274
2013	1008	R Gallagher	Duke Energy Indiana Inc	IN	COL	short tons	7,226,093	626,804	11,528	275
2013	7030	Twin Oaks Power One	Optim Energy LLC	TX	COL	short tons	23,791,146	2,061,297	11,542	276
2013	165	GRDA	Grand River Dam Authority	OK	COL	short tons	63,940,502	5,533,607	11,555	277
2013	2817	Leland Olds	Basin Electric Power Coop	ND	COL	short tons	47,292,517	4,091,037	11,560	278
2013	976	Marion	Southern Illinois Power Coop	IL	COL	short tons	19,886,126	1,713,488	11,606	279
2013	2161	James River Power Station	City Utilities of Springfield - (MO)	MO	COL	short tons	7,256,979	623,881	11,632	280
2013	3775	Clinch River	Appalachian Power Co	VA	COL	short tons	10,421,829	895,603	11,637	281
2013	2554	Dunkirk Generating Plant	Dunkirk Power LLC	NY	COL	short tons	5,122,408	439,200	11,663	282
2013	2277	Sheldon	Nebraska Public Power District	NE	COL	short tons	12,998,418	1,113,627	11,672	283
2013	2378	B L England	RC Cape May Holdings LLC	NJ	COL	short tons	1,942,855	165,381	11,748	284
2013	3947	Kammer	AEP Generation Resources Inc	WV	COL	short tons	11,040,810	939,085	11,757	285
2013	733	Kraft	Georgia Power Co	GA	COL	short tons	4,363,906	370,757	11,770	286
2013	1572	Dickerson	GenOn Mid-Atlantic LLC	MD	COL	short tons	11,931,953	1,012,963	11,779	287

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2013	2408	PSEG Mercer Generating Station	PSEG Fossil LLC	NJ	COL	short tons	1,235,795	104,877	11,783	288
2013	1295	Quindaro	City of Kansas City - (KS)	KS	COL	short tons	9,394,149	796,828	11,789	289
2013	10671	AES Shady Point LLC	AES Shady Point LLC	OK	COL	short tons	22,079,826	1,872,653	11,791	290
2013	594	Indian River Generating Station	Indian River Operations Inc	DE	COL	short tons	18,254,332	1,544,721	11,817	291
2013	2706	Asheville	Progress Energy Carolinas Inc	NC	COL	short tons	15,203,322	1,285,028	11,831	292
2013	6061	R D Morrow	South Mississippi El Pwr Assn	MS	COL	short tons	11,684,606	987,553	11,832	293
2013	2104	Meramec	Union Electric Co - (MO)	MO	COL	short tons	29,206,992	2,462,630	11,860	294
2013	1393	R S Nelson	Entergy Gulf States - LA LLC	LA	COL	short tons	33,964,046	2,863,662	11,860	295
2013	1769	Presque Isle	Wisconsin Electric Power Co	MI	COL	short tons	22,346,861	1,882,904	11,868	296
2013	2837	FirstEnergy Eastlake	FirstEnergy Generation Corp	OH	COL	short tons	6,405,648	539,504	11,873	297
2013	708	Hammond	Georgia Power Co	GA	COL	short tons	9,752,749	820,328	11,889	298
2013	874	Joliet 9	Midwest Generations EME LLC	IL	COL	short tons	15,426,852	1,295,445	11,909	299
2013	991	Eagle Valley	Indianapolis Power & Light Co	IN	COL	short tons	5,672,502	475,390	11,932	300
2013	2713	L V Sutton Steam	Progress Energy Carolinas Inc	NC	COL	short tons	16,871,349	1,413,679	11,934	301
2013	6101	Wyodak	PacifiCorp	WY	COL	short tons	30,081,562	2,513,197	11,969	302
2013	1047	Lansing	Interstate Power and Light Co	IA	COL	short tons	11,583,602	967,636	11,971	303
2013	3776	Glen Lyn	Appalachian Power Co	VA	COL	short tons	2,037,471	169,948	11,989	304
2013	10043	Logan Generating Company LP	US Operating Services Company	NJ	COL	short tons	8,532,099	710,702	12,005	305
2013	56319	Wygen 2	Black Hills Power Inc	WY	COL	short tons	8,274,062	687,216	12,040	306
2013	2324	Reid Gardner	Nevada Power Co	NV	COL	short tons	16,257,250	1,348,184	12,059	307
2013	2403	PSEG Hudson Generating Station	PSEG Fossil LLC	NJ	COL	short tons	2,002,004	164,231	12,190	308
2013	1385	Dale	East Kentucky Power Coop, Inc	KY	COL	short tons	1,523,155	123,986	12,285	309
2013	52007	Mecklenburg Power Station	Virginia Electric & Power Co	VA	COL	short tons	4,527,780	368,243	12,296	310
2013	56163	Kennecott Power Plant	Kennecott Utah Copper	UT	COL	short tons	6,115,472	494,728	12,361	311
2013	527	Nucla	Tri-State G & T Assn, Inc	CO	COL	short tons	4,545,599	366,738	12,395	312
2013	2240	Lon Wright	City of Fremont - (NE)	NE	COL	short tons	5,851,018	471,173	12,418	313
2013	50976	Indiantown Cogeneration LP	US Operating Services Company	FL	COL	short tons	7,737,659	617,496	12,531	314
2013	3113	Portland	NRG REMA LLC	PA	COL	short tons	2,322,698	185,107	12,548	315
2013	1831	Eckert Station	Lansing Board of Water and Light	MI	COL	short tons	6,389,928	508,998	12,554	316
2013	6250	Mayo	Progress Energy Carolinas Inc	NC	COL	short tons	33,296,175	2,621,156	12,703	317
2013	10769	Rio Bravo Poso	Rio Bravo Poso	CA	COL	short tons	1,230,871	96,280	12,784	318
2013	465	Arapahoe	Public Service Co of Colorado	CO	COL	short tons	8,997,873	702,882	12,801	319
2013	1073	Prairie Creek	Interstate Power and Light Co	IA	COL	short tons	5,695,403	441,136	12,911	320
2013	1217	Earl F Wisdom	Corn Belt Power Coop	IA	COL	short tons	830,882	64,008	12,981	321
2013	6124	McIntosh	Georgia Power Co	GA	COL	short tons	918,764	68,749	13,364	322
2013	10002	ACE Cogeneration Facility	ACE Cogeneration Co	CA	COL	short tons	4,264,687	318,453	13,392	323
2013	10774	Southampton Power Station	Virginia Electric & Power Co	VA	COL	short tons	394,421	29,284	13,469	324
2013	2144	Marshall	City of Marshall - (MO)	MO	COL	short tons	77,835	5,775	13,479	325
2013	2835	FirstEnergy Ashtabula	FirstEnergy Generation Corp	OH	COL	short tons	3,296,314	242,264	13,606	326
2013	3264	W S Lee	Duke Energy Carolinas, LLC	SC	COL	short tons	351,533	25,776	13,638	327
2013	10566	Chambers Cogeneration LP	US Operating Services Company	NJ	COL	short tons	12,197,688	876,427	13,918	328
2013	4125	Manitowoc	Manitowoc Public Utilities	WI	COL	short tons	158,800	11,316	14,033	329

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2013	3406	Johnsonville	Tennessee Valley Authority	TN	COL	short tons	29,152,443	2,058,253	14,164	330
2013	50835	TES Filer City Station	TES Filer City Station LP	MI	COL	short tons	4,407,104	310,484	14,194	331
2013	1004	Edwardsport	Duke Energy Indiana Inc	IN	COL	short tons	10,782,079	753,991	14,300	332
2013	10771	Hopewell Power Station	Virginia Electric & Power Co	VA	COL	short tons	458,489	31,935	14,357	333
2013	2367	Schiller	Public Service Co of NH	NH	COL	short tons	2,183,315	146,201	14,934	334
2013	10672	Cedar Bay Generating Company LP	Cedar Bay Operating Services LLC	FL	COL	short tons	11,946,926	782,893	15,260	335
2013	3152	Sunbury Generation LP	Sunbury Generation LP	PA	COL	short tons	503,393	32,042	15,710	336
2013	3982	Bay Front	Northern States Power Co - Minnesota	WI	COL	short tons	233,768	14,206	16,456	337
2013	10328	T B Simon Power Plant	Michigan State University	MI	COL	short tons	1,705,206	93,569	18,224	338
2013	54101	Georgia-Pacific Cedar Springs	Georgia-PacificCedar Springs LLC	GA	COL	short tons	3,340,887	176,498	18,929	339
2013	10360	Green Bay West Mill	Georgia-Pacific Consr Prods LP-Green Bay	WI	COL	short tons	5,713,728	297,639	19,197	340
2013	2098	Lake Road	KCP&L Greater Missouri Operations Co	MO	COL	short tons	6,762,700	346,575	19,513	341
2013	50491	PPG Natrium Plant	PPG Industries Inc Natrium	WV	COL	short tons	8,253,358	422,430	19,538	342
2013	4042	Valley	Wisconsin Electric Power Co	WI	COL	short tons	9,185,428	450,879	20,372	343
2013	10361	Savannah River Mill	Georgia-Pacific Consr Prods LP-Savannah	GA	COL	short tons	1,251,159	60,301	20,748	344
2013	10234	Biron Mill	NewPage Corporation	WI	COL	short tons	4,355,957	206,642	21,080	345
2013	50969	MU Combined Heat and Power Plant	Curators of the University of Missouri	MO	COL	short tons	2,120,872	95,297	22,255	346
2013	50240	Purdue University	Purdue University	IN	COL	short tons	2,436,795	108,950	22,366	347
2013	727	Mitchell	Georgia Power Co	GA	COL	short tons	125,672	5,383	23,347	348
2013	7737	Kapstone	South Carolina Electric&Gas Co	SC	COL	short tons	6,017,826	252,861	23,799	349
2013	54004	Dublin Mill	SP Fiber Technologies LLC	GA	COL	short tons	270,882	11,009	24,605	350
2013	50447	S D Warren Westbrook	S D Warren Co.- Westbrook	ME	COL	short tons	690,239	27,569	25,037	351
2013	52140	International Paper Prattville Mill	International Paper Co	AL	COL	short tons	1,649,864	65,398	25,228	352
2013	10864	Archer Daniels Midland Cedar Rapids	Archer Daniels Midland Co	IA	COL	short tons	24,264,858	947,399	25,612	353
2013	10495	Rumford Cogeneration	NewPage Corporation	ME	COL	short tons	966,911	35,183	27,483	354
2013	10025	RED-Rochester, LLC	RED-Rochester, LLC	NY	COL	short tons	8,511,396	307,138	27,712	355
2013	10686	Rapids Energy Center	Minnesota Power Inc	MN	COL	short tons	1,145,052	41,034	27,905	356
2013	1866	Wyandotte	Wyandotte Municipal Serv Comm	MI	COL	short tons	365,989	12,255	29,864	357
2013	54780	University of Illinois Abbott Power Plt	University of Illinois	IL	COL	short tons	1,045,490	34,864	29,988	358
2013	54358	International Paper Augusta Mill	International Paper Co-Augusta	GA	COL	short tons	397,408	12,734	31,209	359
2013	10208	Escanaba Paper Company	NewPage Corp-Escanaba	MI	COL	short tons	2,507,456	79,807	31,419	360
2013	10244	P H Glatfelter Co -Chillicothe Facility	P H Glatfelter Company	OH	COL	short tons	5,511,398	167,005	33,001	361
2013	10017	West Point Mill	RockTenn-West Point Mill	VA	COL	short tons	1,626,775	49,260	33,024	362
2013	50398	International Paper Savanna Mill	International Paper Co	GA	COL	short tons	4,735,130	140,383	33,730	363
2013	54104	Ashdown	Domtar Industries Inc	AR	COL	short tons	2,945,016	86,487	34,051	364
2013	54087	International Paper Georgetown Mill	International Paper Co-GT Mill	SC	COL	short tons	331,400	9,626	34,427	365
2013	50806	Florence Mill	RockTenn-Florence	SC	COL	short tons	1,798,229	51,499	34,918	366

YEAR	Plant Id	Plant Name	Operator Name	State	AER Fuel Type Code	Physical Unit Label	Total Facility Coal Fuel Consumption (MMBTU)	Total Facility Net Generation (MWh)	Total Facility Heat Rate (BTU/net KWh)	Rank
2013	50250	International Paper Pensacola	International Paper Co-Pensacola	FL	COL	short tons	66,701	1,882	35,436	367
2013	50392	Eielson AFB Central Heat & Power Plant	U S Air Force-Eielson AFB	AK	COL	short tons	2,551,366	71,410	35,728	368
2013	50481	Tennessee Eastman Operations	Eastman Chemical Co-TN Ops	TN	COL	short tons	41,609,908	1,153,663	36,068	369
2013	50245	International Paper Courtland Mill	International Paper Co-Courtld	AL	COL	short tons	1,959,390	54,099	36,219	370
2013	10865	Archer Daniels Midland Decatur	Archer Daniels Midland Co	IL	COL	short tons	38,943,946	1,068,613	36,443	371
2013	52151	International Paper Eastover Facility	International Paper Co-Eastovr	SC	COL	short tons	2,617,524	69,981	37,403	372
2013	10684	Argus Cogen Plant	Searles Valley Minerals Operations Inc.	CA	COL	short tons	15,163,224	354,287	42,799	373
2013	54098	Kaukauna Paper Mill	Thilmany LLC	WI	COL	short tons	2,890,446	66,765	43,293	374
2013	54081	Spruance Genco LLC	Spruance Operating Services LLC	VA	COL	short tons	9,703,739	216,625	44,795	375
2013	10477	Wisconsin Rapids Pulp Mill	NewPage Corporation	WI	COL	short tons	2,086,833	46,582	44,799	376
2013	50296	Packaging Corp of America	Packaging Corp of America	TN	COL	short tons	309,249	6,545	47,251	377
2013	50900	Covington Facility	MeadWestvaco Corp	VA	COL	short tons	11,547,314	240,893	47,935	378
2013	50187	Weyerhaeuser Longview WA	Weyerhaeuser Co	WA	COL	short tons	1,805,076	36,710	49,171	379
2013	54638	Johnsonburg Mill	Domtar LLC	PA	COL	short tons	2,370,145	47,388	50,016	380
2013	50282	Luke Mill	NewPage Corp-Luke	MD	COL	short tons	7,417,028	140,280	52,873	381
2013	50088	University of Northern Iowa	University of Northern Iowa	IA	COL	short tons	484,846	8,401	57,710	382
2013	1897	M L Hibbard	Minnesota Power Inc	MN	COL	short tons	312,745	5,031	62,161	383
2013	54276	Univ of NC Chapel Hill Cogen Facility	University of North Carolina	NC	COL	short tons	1,853,659	29,584	62,658	384
2013	57919	Sonoco Products Co	Sonoco Products Co	SC	COL	short tons	1,027,392	16,349	62,840	385
2013	10699	Georgia-Pacific Consr Prods LP-Naheola	Georgia-Pacific Consr Prods LP-Naheola	AL	COL	short tons	2,832,305	41,571	68,132	386
2013	50308	Utility Plants Section	Doyon Utilities - Ft. Wainwright	AK	COL	short tons	4,561,475	36,420	125,245	387

Category	Plant Name	ORIS code	Generator ID[1]	Fuel type[1]	Prime mover type[1]	Nameplate Capacity (MW)[1]	Electric Generation (MWh)[2]	EIA Ratio (EAF) eMMBtu/totMMBtu[2]	Useful Thermal Output (UTO) (MMBtu)	Net Energy Output (MWh)	Carbon Dioxide Emissions (Unadjusted) (tons)[2]	Source Category[1]	Cogen Flag Y/N[1]	Unit Status [1]
COALST	Flint Creek	6138	1	SUB	ST	558.0	3,066,049			3,066,049	3,329,489	Electric Utility	N	OP
COALST	Independence	6641	1	SUB	ST	900.0	4,643,168			4,643,168	4,795,695	Electric Utility	N	OP
COALST	Independence	6641	2	SUB	ST	900.0	5,746,997			5,746,997	6,160,584	Electric Utility	N	OP
COALST	John W Turk Jr Power Plant	56564	1	SUB	ST	609.0	3,846,140			3,846,140	3,687,004	Electric Utility	N	OP
COALST	Plum Point Energy Station	56456	STG1	SUB	ST	720.0	3,995,847			3,995,847	4,326,892	Electric Utility/IPP Non-CHP	N	OP
COALST	White Bluff	6009	1	SUB	ST	900.0	5,358,558			5,358,558	6,308,388	Electric Utility	N	OP
COALST	White Bluff	6009	2	SUB	ST	900.0	5,203,107			5,203,107	6,218,310	Electric Utility	N	OP
NGCC	Dell Power Station	55340	CTG1	NG	CT	199.3	56,407			56,407	26,949	Electric Utility	N	OP
NGCC	Dell Power Station	55340	CTG2	NG	CT	199.3	56,407			56,407	26,949	Electric Utility	N	OP
NGCC	Dell Power Station	55340	STG	NG	CA	280.5	79,389			79,389	37,928	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G1	NG	CT	51.0	27,030			27,030	13,687	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G2	NG	CT	51.0	27,030			27,030	13,687	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G3	NG	CT	51.0	27,030			27,030	13,687	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G4	NG	CT	51.0	27,030			27,030	13,687	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G5	NG	CT	51.0	27,030			27,030	13,687	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G6	NG	CT	51.0	27,030			27,030	13,687	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G7	NG	CT	83.5	44,255			44,255	22,408	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G8	NG	CA	105.0	55,650			55,650	28,178	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G9	NG	CA	105.0	55,650			55,650	28,178	Electric Utility	N	OP
NGCC	Hot Spring Generating Facility	55418	CT1	NG	CT	198.9	479,450			479,450	208,767	Electric Utility	N	OP
NGCC	Hot Spring Generating Facility	55418	CT2	NG	CT	198.9	479,450			479,450	208,767	Electric Utility	N	OP
NGCC	Hot Spring Generating Facility	55418	ST1	NG	CA	317.0	764,131			764,131	332,726	Electric Utility	N	OP
NGCC	Magnet Cove	55714	GT1	NG	CT	242.0	356,211			356,211	152,486	Electric Utility	N	OP
NGCC	Magnet Cove	55714	GT2	NG	CT	242.0	356,211			356,211	152,486	Electric Utility	N	OP
NGCC	Magnet Cove	55714	ST1	NG	CA	262.0	385,650			385,650	165,089	Electric Utility	N	OP
NGCC	Pine Bluff Energy Center	55075	CT01	NG	CT	180.0	1,137,842	0.53	4,622,305	2,153,882	647,589	IPP CHP	Y	OP
NGCC	Pine Bluff Energy Center	55075	ST01	NG	CA	56.0	353,995	0.53	1,438,050	670,097	201,472	IPP CHP	Y	OP
NGCC	Thomas Fitzhugh	201	1	NG	CA	59.0	1,524			1,524	969	Electric Utility	N	OP
NGCC	Thomas Fitzhugh	201	2	NG	CT	126.0	3,254			3,254	2,069	Electric Utility	N	OP
NGCC	Union Power Partners LP	55380	CTG1	NG	CT	176.0	454,281			454,281	203,808	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG2	NG	CT	176.0	454,281			454,281	203,808	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG3	NG	CT	176.0	454,281			454,281	203,808	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG4	NG	CT	176.0	454,281			454,281	203,808	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG5	NG	CT	176.0	454,281			454,281	203,808	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG6	NG	CT	176.0	454,281			454,281	203,808	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG7	NG	CT	176.0	454,281			454,281	203,808	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG8	NG	CT	176.0	454,281			454,281	203,808	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	STG1	NG	CA	255.0	658,192			658,192	295,291	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	STG2	NG	CA	255.0	658,192			658,192	295,291	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	STG3	NG	CA	255.0	658,192			658,192	295,291	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	STG4	NG	CA	255.0	658,192			658,192	295,291	Electric Utility/IPP Non-CHP	N	OP
OGST	Carl Bailey	202	1	NG	ST	120.0	11,996			11,996	9,853	Electric Utility	N	OP
OGST	Cecil Lynch	167	2	NG	ST	69.0	0			0	0	Electric Utility	N	OS
OGST	Cecil Lynch	167	3	NG	ST	156.2	-109			-109	0	Electric Utility	N	SB
OGST	Hamilton Moses	168	1	NG	ST	69.0	No 2013 data			no data	No 2013 da	Electric Utility	N	OS
OGST	Hamilton Moses	168	2	NG	ST	69.0	No 2013 data			no data	No 2013 da	Electric Utility	N	OS
OGST	Harvey Couch	169	2	NG	ST	156.2	-466			-466	0	Electric Utility	N	SB
OGST	Lake Catherine	170	1	NG	ST	40.0	-36			-36	0	Electric Utility	N	SB
OGST	Lake Catherine	170	2	NG	ST	40.0	0			0	0	Electric Utility	N	SB
OGST	Lake Catherine	170	3	NG	ST	119.5	11,466			11,466	12,041	Electric Utility	N	SB
OGST	Lake Catherine	170	4	NG	ST	552.5	466,409			466,409	338,218	Electric Utility	N	OA
OGST	McClellan	203	1	NG	ST	136.0	215,758			215,758	151,164	Electric Utility	N	OP
OGST	Robert E Ritchie	173	1	NG	ST	359.0	-81			-81	0	Electric Utility	N	OS
OGST	Robert E Ritchie	173	2	NG	ST	544.6	0			0	0	Electric Utility	N	SB

Sources: 1. 2012 EIA 860 data assumed not to change for units in Arkansas based on lack of retirements and under construction capacity according to NEEDS 5.13v3

2. 2013 EIA 923 Monthly data used for generation and fuel consumption; Air Markets Program Division reported Carbon Dioxide emissions used where available using methodology consistent with EPA's 2012 Unit-Level Data using eGRID Methodology dataset

Category	State	Plant Name	ORIS code	Generator ID	Fuel type	Prime mover type	Nameplate Capacity (MW)	Electric Generation (MWh)	Capacity Utilization	EIA Ratio (EAF) eMMBtu/totMMBtu	Useful Thermal Output (UTO) (MMBtu)	Net Energy Output (MWh)	Carbon Dioxide Emissions (Unadjusted) (tons)	EPA Emission Rate	Actual Emission Rate	UNITKEEP (CA<25 part of CC with CT>25)	Source Category	Cogen Flag Y/N	Unit Status
COALST	AR	Flint Creek	6138	1	SUB	ST	558.0	3,791,093	77.3%			3,791,093	4,150,944	2,190	2,190		Electric Utility	N	OP
COALST	AR	Independence	6641	1	SUB	ST	900.0	5,293,747	67.0%			5,293,747	5,804,743	2,193	2,193		Electric Utility	N	OP
COALST	AR	Independence	6641	2	SUB	ST	900.0	5,126,271	64.8%			5,126,271	5,996,078	2,339	2,339		Electric Utility	N	OP
COALST	AR	John W Turk Jr Power Plant	56564	1	SUB	ST	609.0	294,975	5.5%			294,975	188,786	1,280	1,280		Electric Utility	N	OP
COALST	AR	Plum Point Energy Station	56456	STG1	SUB	ST	720.0	4,366,528	69.0%			4,366,528	4,944,118	2,265	2,265		Electric Utility/IPP Non-CHP	N	OP
COALST	AR	White Bluff	6009	1	SUB	ST	900.0	4,500,415	56.9%			4,500,415	5,314,862	2,362	2,362		Electric Utility	N	OP
COALST	AR	White Bluff	6009	2	SUB	ST	900.0	5,005,802	63.3%			5,005,802	5,897,951	2,356	2,356		Electric Utility	N	OP
NGCC	AR	Dell Power Station	55340	CTG1	NG	CT	199.3	201,856	11.5%			201,856	93,122	923	923		Electric Utility	N	OP
NGCC	AR	Dell Power Station	55340	CTG2	NG	CT	199.3	201,856	11.5%			201,856	93,122	923	923		Electric Utility	N	OP
NGCC	AR	Dell Power Station	55340	STG	NG	CA	280.5	284,097	11.5%			284,097	131,062	923	923		Electric Utility	N	OP
NGCC	AR	Harry L. Oswald	55221	G1	NG	CT	51.0	30,316	6.8%			30,316	15,348	1,013	1,013		Electric Utility	N	OP
NGCC	AR	Harry L. Oswald	55221	G2	NG	CT	51.0	30,316	6.8%			30,316	15,348	1,013	1,013		Electric Utility	N	OP
NGCC	AR	Harry L. Oswald	55221	G3	NG	CT	51.0	30,316	6.8%			30,316	15,348	1,013	1,013		Electric Utility	N	OP
NGCC	AR	Harry L. Oswald	55221	G4	NG	CT	51.0	30,316	6.8%			30,316	15,348	1,013	1,013		Electric Utility	N	OP
NGCC	AR	Harry L. Oswald	55221	G5	NG	CT	51.0	30,316	6.8%			30,316	15,348	1,013	1,013		Electric Utility	N	OP
NGCC	AR	Harry L. Oswald	55221	G6	NG	CT	51.0	30,316	6.8%			30,316	15,348	1,013	1,013		Electric Utility	N	OP
NGCC	AR	Harry L. Oswald	55221	G7	NG	CT	83.5	49,635	6.8%			49,635	25,129	1,013	1,013		Electric Utility	N	OP
NGCC	AR	Harry L. Oswald	55221	G8	NG	CA	105.0	62,416	6.8%			62,416	31,599	1,013	1,013		Electric Utility	N	OP
NGCC	AR	Harry L. Oswald	55221	G9	NG	CA	105.0	62,416	6.8%			62,416	31,599	1,013	1,013		Electric Utility	N	OP
NGCC	AR	Hot Spring Generating Facility	55418	CT1	NG	CT	198.9	142,924	8.2%			142,924	62,930	881	881		Electric Utility	N	OP
NGCC	AR	Hot Spring Generating Facility	55418	CT2	NG	CT	198.9	142,924	8.2%			142,924	62,930	881	881		Electric Utility	N	OP
NGCC	AR	Hot Spring Generating Facility	55418	ST1	NG	CA	317.0	227,787	8.2%			227,787	100,295	881	881		Electric Utility	N	OP
NGCC	AR	Magnet Cove	55714	GT1	NG	CT	242.0	836,464	39.3%			836,464	351,046	839	839		Electric Utility	N	OP
NGCC	AR	Magnet Cove	55714	GT2	NG	CT	242.0	836,464	39.3%			836,464	351,046	839	839		Electric Utility	N	OP
NGCC	AR	Magnet Cove	55714	ST1	NG	CA	262.0	905,593	39.3%			905,593	380,058	839	839		Electric Utility	N	OP
NGCC	AR	Pine Bluff Energy Center	55075	CT01	NG	CT	180.0	1,135,758	71.8%	0.53	4,548,660	2,135,610	642,744	602	1,132		IPP CHP	Y	OP
NGCC	AR	Pine Bluff Energy Center	55075	ST01	NG	CA	56.0	353,347	71.8%	0.53	1,415,139	664,412	199,965	602	1,132		IPP CHP	Y	OP
NGCC	AR	Thomas Fitzhugh	201	1	NG	CA	59.0	36,503	7.0%			36,503	20,672	1,133	1,133		Electric Utility	N	OP
NGCC	AR	Thomas Fitzhugh	201	2	NG	CT	126.0	77,956	7.0%			77,956	44,146	1,133	1,133		Electric Utility	N	OP
NGCC	AR	Union Power Partners LP	55380	CTG1	NG	CT	176.0	718,446	46.5%			718,446	311,844	868	868		Electric Utility/IPP Non-CHP	N	OP
NGCC	AR	Union Power Partners LP	55380	CTG2	NG	CT	176.0	718,446	46.5%			718,446	311,844	868	868		Electric Utility/IPP Non-CHP	N	OP
NGCC	AR	Union Power Partners LP	55380	CTG3	NG	CT	176.0	718,446	46.5%			718,446	311,844	868	868		Electric Utility/IPP Non-CHP	N	OP
NGCC	AR	Union Power Partners LP	55380	CTG4	NG	CT	176.0	718,446	46.5%			718,446	311,844	868	868		Electric Utility/IPP Non-CHP	N	OP
NGCC	AR	Union Power Partners LP	55380	CTG5	NG	CT	176.0	718,446	46.5%			718,446	311,844	868	868		Electric Utility/IPP Non-CHP	N	OP
NGCC	AR	Union Power Partners LP	55380	CTG6	NG	CT	176.0	718,446	46.5%			718,446	311,844	868	868		Electric Utility/IPP Non-CHP	N	OP
NGCC	AR	Union Power Partners LP	55380	CTG7	NG	CT	176.0	718,446	46.5%			718,446	311,844	868	868		Electric Utility/IPP Non-CHP	N	OP
NGCC	AR	Union Power Partners LP	55380	CTG8	NG	CT	176.0	718,446	46.5%			718,446	311,844	868	868		Electric Utility/IPP Non-CHP	N	OP
NGCC	AR	Union Power Partners LP	55380	STG1	NG	CA	255.0	1,040,931	46.5%			1,040,931	451,819	868	868		Electric Utility/IPP Non-CHP	N	OP
NGCC	AR	Union Power Partners LP	55380	STG2	NG	CA	255.0	1,040,931	46.5%			1,040,931	451,819	868	868		Electric Utility/IPP Non-CHP	N	OP
NGCC	AR	Union Power Partners LP	55380	STG3	NG	CA	255.0	1,040,931	46.5%			1,040,931	451,819	868	868		Electric Utility/IPP Non-CHP	N	OP
NGCC	AR	Union Power Partners LP	55380	STG4	NG	CA	255.0	1,040,931	46.5%			1,040,931	451,819	868	868		Electric Utility/IPP Non-CHP	N	OP
OGST	AR	Carl Bailey	202	1	NG	ST	120.0	46,502	4.4%			46,502	35,551	1,529	1,529		Electric Utility	N	OP
OGST	AR	Cecil Lynch	167	2	NG	ST	69.0	0	0.0%			0	0	0	0		Electric Utility	N	OS
OGST	AR	Cecil Lynch	167	3	NG	ST	156.2	2,581	0.2%			2,581	3,235	2,507	2,507		Electric Utility	N	SB

Category	State	Plant Name	ORIS code	Generator ID	Fuel type	Prime mover type	Nameplate Capacity (MW)	Electric Generation (MWh)	Capacity Utilization	EIA Ratio (EAF) eMMBtu/totMMBtu	Useful Thermal Output (UTO) (MMBtu)	Net Energy Output (MWh)	Carbon Dioxide Emissions (Unadjusted) (tons)	EPA Emission Rate	Actual Emission Rate	UNITKEEP (CA<25 part of CC with CT>25)	Source Category	Cogen Flag Y/N	Unit Status
OGST	AR	Hamilton Moses	168	1	NG	ST	69.0	0	0.0%			0	No data	0	0		Electric Utility	N	OS
OGST	AR	Hamilton Moses	168	2	NG	ST	69.0	0	0.0%			0	No data	0	0		Electric Utility	N	OS
OGST	AR	Harvey Couch	169	2	NG	ST	156.2	-626	0.0%			-626	0	0	0		Electric Utility	N	SB
OGST	AR	Lake Catherine	170	1	NG	ST	40.0	35	0.0%			35	62	3,556	3,556		Electric Utility	N	SB
OGST	AR	Lake Catherine	170	2	NG	ST	40.0	2	0.0%			2	170	170,054	170,054		Electric Utility	N	SB
OGST	AR	Lake Catherine	170	3	NG	ST	119.5	887	0.1%			887	2,253	5,080	5,080		Electric Utility	N	SB
OGST	AR	Lake Catherine	170	4	NG	ST	552.5	612,047	12.6%			612,047	436,567	1,427	1,427		Electric Utility	N	OA
OGST	AR	McClellan	203	1	NG	ST	136.0	199,295	16.7%			199,295	144,437	1,449	1,449		Electric Utility	N	OP
OGST	AR	Robert E Ritchie	173	1	NG	ST	359.0	-158	0.0%			-158	0	0	0		Electric Utility	N	OS
OGST	AR	Robert E Ritchie	173	2	NG	ST	544.6	-95	0.0%			-95	0	0	0		Electric Utility	N	SB
	Dataset compiled using methodology and sources described in EPA's Description of 2012 Unit-Level Data using eGRID Methodology Technical Support Document																		
	Sources: EIA 923, EIA 860, Air Markets Program Division																		

	Step 1 (Data for Fossil Sources)										Step 2 (HRI)	Step 3a & 3b (Redispatch)							p 4a Nucle	Step 4b Renewable (MW					
Dataset	Coal Rate (lb/MWh)	NGCC Rate (lb/MWh)	O/G rate (lb/MWh)	Other Emissions (lbs)	Hist Coal Gen (MWh)	Hist NGCC Gen. (MWh)	Historic OG steam Gen. (MWh)	Other Gen. (MWh)	NGCC Capacity (MW)	Under Construction NGCC Capacity (MW)	Adj. Coal Rate (lbs/MWh)	Redispatched Coal Gen. (MWh)	Redispatch O/G steam Gen. (MWh)	Redispatched NGCC Gen. (MWh)	Other Emissions (lbs)	Other Gen. (MWh)	2012 NGCC Capacity Factor	Post Redispatch Assumed NGCC Capacity Factor for Existing Fleet	Nuclear Generation Under Construction and "At Risk" (MWh)	2020 Existing and Incremental RE	2021 Existing and Incremental RE	2022 Existing and Incremental RE	2023 Existing and Incremental RE	2024 Existing and Incremental RE	2025 Existing and Incremental RE
2012 including UTO	2,276	827	1,446	789,080,955	28,378,831	15,651,185	860,470	1,310,917	5,588	0	2,140	10,218,693	309,839	34,361,954	789,080,955	1,310,917	32%	70%	842,037	2,288,229	2,479,266	2,686,252	2,910,519	3,153,509	3,416,786
2012 excluding UTO	2,276	896	1,446		28,378,831	15,651,185	860,470		5,588	0	2,140	10,218,693	309,839	34,361,954			32%	70%	842,037	2,288,229	2,479,266	2,686,252	2,910,519	3,153,509	3,416,786

	2012 UTO included	2012 UTO excluded	% change
NGCC Emissions rate (lb CO2/MWh)	827	896	8%
Other Generation (MWh)	1,310,917	0	-100%
Other Emissions (lb CO2)	789,080,955	0	-100%
Final Goal (lb CO2/MWh)	910	960	6%

h)*				Step 5 (Demand Side EE - % of avoided MWh sales)*												Step 6&7 (State Goal Phase I & II (lbs/MWh))											
2026 Existing and Incremental RE	2027 Existing and Incremental RE	2028 Existing and Incremental RE	2029 Existing and Incremental RE	2020 EE Potential	2021 EE Potential	2022 EE Potential	2023 EE Potential	2024 EE Potential	2025 EE Potential	2026 EE Potential	2027 EE Potential	2028 EE Potential	2029 EE Potential (%)	State Generation as % of sales	2012 Total MWh (sales x 1.0751)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	**Interim Goal (2020 - 2029 average)**	**Final Goal (2030 and thereafter)**
3,702,042	4,011,114	4,345,990	4,708,823	1.52%	2.31%	3.24%	4.28%	5.42%	6.46%	7.41%	8.26%	9.03%	9.71%	113.99%	50,378,721	1,028	1,017	1,003	989	974	959	946	933	921	910	968	910
3,702,042	4,011,114	4,345,990	4,708,823	1.52%	2.31%	3.24%	4.28%	5.42%	6.46%	7.41%	8.26%	9.03%	9.71%	113.99%	50,378,721	1,089	1,076	1,061	1,046	1,029	1,014	999	985	972	960	1,023	960

	Step 1 (2012 Data for Fossil Sources)										Step 2 (HRI)	Step 3a & 3b (Redispatch)							Step 4a Nuclear
	Coal Rate (lb/MWh)	NGCC Rate (lb/MWh)	O/G rate (lb/MWh)	Other Emissions (lbs)	Hist Coal Gen (MWh)	Hist NGCC Gen. (MWh)	Historic OG steam Gen. (MWh)	Other Gen. (MWh)	NGCC Capacity (MW)	Under Construction NGCC Capacity (MW)	Adj. Coal Rate (lbs/MWh)	Redispatched Coal Gen. (MWh)	Redispatch O/G steam Gen. (MWh)	Redispatched NGCC Gen. (MWh)	Other Emissions (lbs)	Other Gen. (MWh)	2012 NGCC Capacity Factor	Post Redispatch Assumed NGCC Capacity Factor for Existing Fleet	Nuclear Generation Under Construction and "At Risk" (MWh)
EPA values from Goal Comp spreadsheet	2,276	827	1,446	789,080,955	28,378,831	15,651,185	860,470	1,310,917	5,588	0	2,140	10,218,693	309,839	34,361,954	789,080,955	1,310,917	32%	70%	842,037
Ramp Up individually	2,276	Individual rates used	1,446	789,080,955	28,378,831	15,651,185	860,470	1,310,917	5,588	0	2,140	10,218,693	309,839	34,361,954	789,080,955	1,310,917	32%	70%	842,037

Step 4b Renewable (MWh)										Step 5 (Demand Side EE - % of avoided MWh sales)											
2020 Existing and Incremental RE	2021 Existing and Incremental RE	2022 Existing and Incremental RE	2023 Existing and Incremental RE	2024 Existing and Incremental RE	2025 Existing and Incremental RE	2026 Existing and Incremental RE	2027 Existing and Incremental RE	2028 Existing and Incremental RE	2029 Existing and Incremental RE	2020 EE Potential	2021 EE Potential	2022 EE Potential	2023 EE Potential	2024 EE Potential	2025 EE Potential	2026 EE Potential	2027 EE Potential	2028 EE Potential	2029 EE Potential (%)	State Generation as % of sales	2012 Total MWh (sales x 1.0751)
2,288,229	2,479,266	2,686,252	2,910,519	3,153,509	3,416,786	3,702,042	4,011,114	4,345,990	4,708,823	1.52%	2.31%	3.24%	4.28%	5.42%	6.46%	7.41%	8.26%	9.03%	9.71%	113.99%	50,378,720
2,288,229	2,479,266	2,686,252	2,910,519	3,153,509	3,416,786	3,702,042	4,011,114	4,345,990	4,708,823	1.52%	2.31%	3.24%	4.28%	5.42%	6.46%	7.41%	8.26%	9.03%	9.71%	113.99%	50,378,720

Step 6&7 (State Goal Phase I & II (lbs/MWh))											
2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	**Interim Goal (2020 - 2029 average)**	**Final Goal (2030 and thereafter)**
1,028	1,017	1,003	989	974	959	946	933	921	910	968	910
1,068	1,056	1,042	1,027	1,011	997	983	969	957	945	1,006	945

Category	State	Plant Name	ORIS code	Generator ID	Fuel type	Prime mover type	Nameplate Capacity (MW)	Capacity Input	Electric Generation (MWh)	EIA Ratio (EAF) eMMBtu/tot MMBtu	Useful Thermal Output (UTO) (MMBtu)	Net Energy Output (MWh)	Carbon Dioxide Emissions (Unadjusted) (tons)	Emission Rate (UTO included)	Re-Dispatched Capacity	Re-dispatched Emissions lbs
NGCC	AR	Thomas Fitzh	201	1	NG	CC	59.0	1,750	36,503.1			36,503.1	20,671.5	1,132.6	362779.2	410880091.2
NGCC	AR	Thomas Fitzh	201	2	NG	CC	126.0	1,750	77,955.9			77,955.9	44,146.0	1,132.6	774748.8	877472738.3
NGCC	AR	Pine Bluff En	55075	CT01	NG	CC	180.0	2,406	1,135,758.1	0.5	4,548,660.5	2,135,610.1	642,744.4	601.9	1106784	666206976.4
NGCC	AR	Pine Bluff En	55075	ST01	NG	CC	56.0	2,406	353,346.9	0.5	1,415,138.8	664,412.0	199,964.9	601.9	344332.8	207264392.6
NGCC	AR	Harry L. Osw	55221	G1	NG	CC	51.0	567	30,316.3			30,316.3	15,348.1	1,012.5	313588.8	317517750.1
NGCC	AR	Harry L. Osw	55221	G2	NG	CC	51.0	567	30,316.3			30,316.3	15,348.1	1,012.5	313588.8	317517750.1
NGCC	AR	Harry L. Osw	55221	G3	NG	CC	51.0	567	30,316.3			30,316.3	15,348.1	1,012.5	313588.8	317517750.1
NGCC	AR	Harry L. Osw	55221	G4	NG	CC	51.0	567	30,316.3			30,316.3	15,348.1	1,012.5	313588.8	317517750.1
NGCC	AR	Harry L. Osw	55221	G5	NG	CC	51.0	567	30,316.3			30,316.3	15,348.1	1,012.5	313588.8	317517750.1
NGCC	AR	Harry L. Osw	55221	G6	NG	CC	51.0	567	30,316.3			30,316.3	15,348.1	1,012.5	313588.8	317517750.1
NGCC	AR	Harry L. Osw	55221	G7	NG	CC	83.5	567	49,635.5			49,635.5	25,128.7	1,012.5	513424.8	519857491.2
NGCC	AR	Harry L. Osw	55221	G8	NG	CC	105.0	567	62,415.9			62,415.9	31,598.9	1,012.5	645624	653713014.2
NGCC	AR	Harry L. Osw	55221	G9	NG	CC	105.0	567	62,415.9			62,415.9	31,598.9	1,012.5	645624	653713014.2
NGCC	AR	Dell Power St	55340	CTG1	NG	CC	199.3	3,646	201,855.9			201,855.9	93,121.8	922.7	1225455.84	1130675072
NGCC	AR	Dell Power St	55340	CTG2	NG	CC	199.3	3,646	201,855.9			201,855.9	93,121.8	922.7	1225455.84	1130675072
NGCC	AR	Dell Power St	55340	STG	NG	CC	280.5	3,646	284,097.2			284,097.2	131,062.1	922.7	1724738.4	1591341482
NGCC	AR	Union Power	55380	CTG1	NG	CC	176.0	2,319	718,446.2			718,446.2	311,843.6	868.1	1082188.8	939454299.9
NGCC	AR	Union Power	55380	CTG2	NG	CC	176.0	2,319	718,446.2			718,446.2	311,843.6	868.1	1082188.8	939454299.9
NGCC	AR	Union Power	55380	CTG3	NG	CC	176.0	2,319	718,446.2			718,446.2	311,843.6	868.1	1082188.8	939454299.9
NGCC	AR	Union Power	55380	CTG4	NG	CC	176.0	2,319	718,446.2			718,446.2	311,843.6	868.1	1082188.8	939454299.9
NGCC	AR	Union Power	55380	CTG5	NG	CC	176.0	2,319	718,446.2			718,446.2	311,843.6	868.1	1082188.8	939454299.9
NGCC	AR	Union Power	55380	CTG6	NG	CC	176.0	2,319	718,446.2			718,446.2	311,843.6	868.1	1082188.8	939454299.9
NGCC	AR	Union Power	55380	CTG7	NG	CC	176.0	2,319	718,446.2			718,446.2	311,843.6	868.1	1082188.8	939454299.9
NGCC	AR	Union Power	55380	CTG8	NG	CC	176.0	2,319	718,446.2			718,446.2	311,843.6	868.1	1082188.8	939454299.9
NGCC	AR	Union Power	55380	STG1	NG	CC	255.0	2,319	1,040,930.6			1,040,930.6	451,818.9	868.1	1567944	1361141173
NGCC	AR	Union Power	55380	STG2	NG	CC	255.0	2,319	1,040,930.6			1,040,930.6	451,818.9	868.1	1567944	1361141173
NGCC	AR	Union Power	55380	STG3	NG	CC	255.0	2,319	1,040,930.6			1,040,930.6	451,818.9	868.1	1567944	1361141173
NGCC	AR	Union Power	55380	STG4	NG	CC	255.0	2,319	1,040,930.6			1,040,930.6	451,818.9	868.1	1567944	1361141173
NGCC	AR	Hot Spring G	55418	CT1	NG	CC	198.9	2,650	142,923.6			142,923.6	62,929.7	880.6	1222996.32	1076978198
NGCC	AR	Hot Spring G	55418	CT2	NG	CC	198.9	2,650	142,923.6			142,923.6	62,929.7	880.6	1222996.32	1076978198
NGCC	AR	Hot Spring G	55418	ST1	NG	CC	317.0	2,650	227,786.8			227,786.8	100,295.2	880.6	1949169.6	1716450923
NGCC	AR	Magnet Cove	55714	GT1	NG	CC	242.0	2,800	836,463.9			836,463.9	351,046.1	839.4	1488009.6	1248971943
NGCC	AR	Magnet Cove	55714	GT2	NG	CC	242.0	2,800	836,463.9			836,463.9	351,046.1	839.4	1488009.6	1248971943
NGCC	AR	Magnet Cove	55714	ST1	NG	CC	262.0	2,800	905,593.2			905,593.2	380,058.2	839.4	1610985.6	1352192764
														Sum:	**34,361,953.92**	**30,427,648,903.43**

	Step 1 (Data for Fossil Sources)										Step 2 (HRI)	Step 3a & 3b (Redispatch)							p 4a Nucle
Dataset	Coal Rate (lb/MWh)	NGCC Rate (lb/MWh)	O/G rate (lb/MWh)	Other Emissions (lbs)	Hist Coal Gen (MWh)	Hist NGCC Gen. (MWh)	Historic OG steam Gen. (MWh)	Other Gen. (MWh)	NGCC Capacity (MW)	Under Construction NGCC Capacity (MW)	Adj. Coal Rate (lbs/MWh)	Redispatched Coal Gen. (MWh)	Redispatch O/G steam Gen. (MWh)	Redispatched NGCC Gen. (MWh)	Other Emissions (lbs)	Other Gen. (MWh)	2012 NGCC Capacity Factor	Post Redispatch Assumed NGCC Capacity Factor for Existing Fleet	Nuclear Generation Under Construction and "At Risk" (MWh)
EPA 2012 dataset	2,276	827	1,446	789,080,955	28,378,831	15,651,185	860,470	1,310,917	5,588	0	2,140	10,218,693	309,839	34,361,954	789,080,955	1,310,917	32%	70%	842,037
Prime-Mover Specific 2012 Dataset	2,276	864	1,446	810,895,697	28,378,831	15,651,185	860,565	1,108,853	5,588	0	2,140	10,218,752	309,875	34,361,954	810,895,697	1,108,853	32%	70%	842,037

	CA and CT aggregated	Prime Mover Specific
NGCC Emissions (tons CO2)	7,015,577	7,239,688
NGCC Emissions rate (lb CO2/MWh)	827	864
Other Generation (MWh)	1,310,917	1,108,853
Other Emissions (lb CO2)	789,080,955	810,895,697
Final Goal (lb CO2/MWh)	910	936

Step 4b Renewable (MWh)*										Step 5 (Demand Side EE - % of avoided MWh sales)*											
2020 Existing and Incremental RE	2021 Existing and Incremental RE	2022 Existing and Incremental RE	2023 Existing and Incremental RE	2024 Existing and Incremental RE	2025 Existing and Incremental RE	2026 Existing and Incremental RE	2027 Existing and Incremental RE	2028 Existing and Incremental RE	2029 Existing and Incremental RE	2020 EE Potential	2021 EE Potential	2022 EE Potential	2023 EE Potential	2024 EE Potential	2025 EE Potential	2026 EE Potential	2027 EE Potential	2028 EE Potential	2029 EE Potential (%)	State Generation as % of sales	2012 Total MWh (sales x 1.0751)
2,288,229	2,479,266	2,686,252	2,910,519	3,153,509	3,416,786	3,702,042	4,011,114	4,345,990	4,708,823	1.52%	2.31%	3.24%	4.28%	5.42%	6.46%	7.41%	8.26%	9.03%	9.71%	113.99%	50,378,721
2,288,229	2,479,266	2,686,252	2,910,519	3,153,509	3,416,786	3,702,042	4,011,114	4,345,990	4,708,823	1.52%	2.31%	3.24%	4.28%	5.42%	6.46%	7.41%	8.26%	9.03%	9.71%	113.99%	50,378,723

Step 6&7 (State Goal Phase I & II (lbs/MWh))											
2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	**Interim Goal (2020 - 2029 average)**	**Final Goal (2030 and thereafter)**
1,028	1,017	1,003	989	974	959	946	933	921	910	968	910
1,058	1,046	1,032	1,017	1,002	987	973	960	948	936	996	936

Category	Plant Name	ORIS code	Generator ID	Fuel type	Prime mover type	Nameplate Capacity (MW)	Electric Generation (MWh)	EIA Ratio (EAF) eMMBtu/totMMBtu	Useful Thermal Output (UTO) (MMBtu)	Net Energy Output (MWh)	Carbon Dioxide Emissions (Unadjusted) (tons)	Source Category	Cogen Flag Y/N	Unit Status
COALST	Flint Creek	6138	1	SUB	ST	558	3,791,093			3,791,093	4,150,944	Electric Utility	N	OP
COALST	Independence	6641	1	SUB	ST	900	5,293,747			5,293,747	5,804,743	Electric Utility	N	OP
COALST	Independence	6641	2	SUB	ST	900	5,126,271			5,126,271	5,996,078	Electric Utility	N	OP
COALST	John W Turk Jr Power Plant	56564	1	SUB	ST	609	294,975			294,975	188,786	Electric Utility	N	OP
COALST	Plum Point Energy Station	56456	STG1	SUB	ST	720	4,366,528			4,366,528	4,944,118	Electric Utility/IPP Non-CHP	N	OP
COALST	White Bluff	6009	1	SUB	ST	900	4,500,415			4,500,415	5,314,862	Electric Utility	N	OP
COALST	White Bluff	6009	2	SUB	ST	900	5,005,802			5,005,802	5,897,951	Electric Utility	N	OP
NGCC	Dell Power Station	55340	CTG1	NG	CT	199.3	336,511			336,511	172,754	Electric Utility	N	OP
NGCC	Dell Power Station	55340	CTG2	NG	CT	199.3	336,511			336,511	144,552	Electric Utility	N	OP
NGCC	Dell Power Station	55340	STG	NG	CA	280.5	14,786			14,786	7,818	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G1	NG	CT	51	36,798			36,798	21,820	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G2	NG	CT	51	36,798			36,798	21,971	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G3	NG	CT	51	36,798			36,798	20,759	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G4	NG	CT	51	36,798			36,798	20,795	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G5	NG	CT	51	36,798			36,798	17,788	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G6	NG	CT	51	36,798			36,798	19,171	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G7	NG	CT	83.5	60,248			60,248	58,111	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G8	NG	CA	105	75,327			75,327	0	Electric Utility	N	OP
NGCC	Harry L. Oswald	55221	G9	NG	CA	105	0			0	0	Electric Utility	N	OP
NGCC	Hot Spring Generating Facility	55418	CT1	NG	CT	198.9	150,125			150,125	115,396	Electric Utility	N	OP
NGCC	Hot Spring Generating Facility	55418	CT2	NG	CT	198.9	150,125			150,125	110,758	Electric Utility	N	OP
NGCC	Hot Spring Generating Facility	55418	ST1	NG	CA	317	213,384			213,384	25,628	Electric Utility	N	OP
NGCC	Magnet Cove	55714	GT1	NG	CT	242	818,923			818,923	553,025	Electric Utility	N	OP
NGCC	Magnet Cove	55714	GT2	NG	CT	242	818,923			818,923	529,125	Electric Utility	N	OP
NGCC	Magnet Cove	55714	ST1	NG	CA	262	940,675			940,675	7,606	Electric Utility	N	OP
NGCC	Pine Bluff Energy Center	55075	CT01	NG	CT	180	1,195,860	0.52	5,044,544	2,304,713	842,709	IPP CHP	Y	OP
NGCC	Pine Bluff Energy Center	55075	ST01	NG	CA	56	293,245			293,245	22,278	IPP CHP	Y	OP
NGCC	Thomas Fitzhugh	201	1	NG	CA	59	27,901			27,901	0	Electric Utility	N	OP
NGCC	Thomas Fitzhugh	201	2	NG	CT	126	86,558			86,558	64,818	Electric Utility	N	OP
NGCC	Union Power Partners LP	55380	CTG1	NG	CT	176	762,577			762,577	498,428	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG2	NG	CT	176	762,577			762,577	502,255	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG3	NG	CT	176	762,577			762,577	448,671	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG4	NG	CT	176	762,577			762,577	449,745	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG5	NG	CT	176	762,577			762,577	603,254	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG6	NG	CT	176	762,577			762,577	532,432	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG7	NG	CT	176	762,577			762,577	640,235	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	CTG8	NG	CT	176	762,577			762,577	627,005	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	STG1	NG	CA	255	866,329			866,329	36,409	Electric Utility/IPP Non-CHP	N	OP

Category	Plant Name	ORIS code	Generator ID	Fuel type	Prime mover type	Nameplate Capacity (MW)	Electric Generation (MWh)	EIA Ratio (EAF) eMMBtu/totMMBtu	Useful Thermal Output (UTO) (MMBtu)	Net Energy Output (MWh)	Carbon Dioxide Emissions (Unadjusted) (tons)	Source Category	Cogen Flag Y/N	Unit Status
NGCC	Union Power Partners LP	55380	STG2	NG	CA	255	800,869			800,869	34,125	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	STG3	NG	CA	255	1,011,707			1,011,707	45,214	Electric Utility/IPP Non-CHP	N	OP
NGCC	Union Power Partners LP	55380	STG4	NG	CA	255	1,131,773			1,131,773	45,031	Electric Utility/IPP Non-CHP	N	OP
OGST	Carl Bailey	202	1	NG	ST	120	46,502			46,502	35,551	Electric Utility	N	OP
OGST	Cecil Lynch	167	2	NG	ST	69	0			0	0	Electric Utility	N	OS
OGST	Cecil Lynch	167	3	NG	ST	156.2	2,581			2,581	3,235	Electric Utility	N	SB
OGST	Hamilton Moses	168	1	NG	ST	69	No data			No data	No data	Electric Utility	N	OS
OGST	Hamilton Moses	168	2	NG	ST	69	No data			No data	No data	Electric Utility	N	OS
OGST	Harvey Couch	169	2	NG	ST	156.2	-626			-626	0	Electric Utility	N	SB
OGST	Lake Catherine	170	1	NG	ST	40	35			35	62	Electric Utility	N	SB
OGST	Lake Catherine	170	2	NG	ST	40	2			2	170	Electric Utility	N	SB
OGST	Lake Catherine	170	3	NG	ST	119.5	887			887	2,253	Electric Utility	N	SB
OGST	Lake Catherine	170	4	NG	ST	552.5	612,047			612,047	436,567	Electric Utility	N	OA
OGST	McClellan	203	1	NG	ST	136	199,295			199,295	144,437	Electric Utility	N	OP
OGST	Robert E Ritchie	173	1	NG	ST	359	-158			-158	0	Electric Utility	N	OS
OGST	Robert E Ritchie	173	2	NG	ST	544.6	0			0	0	Electric Utility	N	SB

Dataset compiled using methodology and sources described in EPA's Description of 2012 Unit-Level Data using eGRID Methodology Technical Support Document. CA and CT prime movers data not aggregated

Sources: EIA 923, EIA 860, Air Markets Program Division

Data priority as described in Unit-Level Data using eGRID Methodology TSD

1) Generator-specific data from EIA 923

2) Prime Mover Fuel Level Net Generation distributed to each generator in the prime mover proportionally by nameplate capacity

Noted differences in EPA Unit-Level Data using eGRID Methodology dataset from described methodology in TSD

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Cecil Lynch	4	EXCLUDE	IC	5.8	0	8	EIA 923 Prime Mover Fuel-Level Net Generation for IC prime mover at Cecil Lynch is 8 MWh; Unit 4 is the only unit at Cecil Lynch with the IC prime mover.
Dell Power Station	CTG1	NGCC	CT	199.3	201,856	336,511	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Dell Power Station distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Dell Power Station	CTG2	NGCC	CT	199.3	201,856	336,511	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Dell Power Station distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Dell Power Station	STG	NGCC	CA	280.5	284,097	14,786	ADEQ value is the generator-specific net generation from EIA 923 for unit STG. Value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA's dataset uses neither the generator-specific data, nor the prime mover-specific data. Instead, EPA combines prime mover categories before distributing generation.
Elkins Generating Center	A	EXCLUDE	GT	22	547	820	ADEQ distributed prime mover fuel level net generation data among operable units A and B proportionally by nameplate capacity.
Elkins Generating Center	B	EXCLUDE	GT	22	547	820	ADEQ distributed prime mover fuel level net generation data among operable units A and B proportionally by nameplate capacity.
Elkins Generating Center	C	EXCLUDE	GT	22	547	0	ADEQ value is 0 because the unit status for unit C is proposed; this unit did not operate in 2012.
Fourche Creek Wastewater	4	EXCLUDE	IC	1.3	0	6,155	EIA 923 Prime Mover Fuel-Level Net Generation for IC prime mover at Fourche Creek Wastewater is 6155.38 MWh; Unit 4 is the only operable unit at Fourche Creek Wastewater with the prime mover IC.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Harry Oswald	G1	NGCC	CT	51	30,316	36,798	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Harry Oswald distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Harry Oswald	G2	NGCC	CT	51	30,316	36,798	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Harry Oswald distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Harry Oswald	G3	NGCC	CT	51	30,316	36,798	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Harry Oswald distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Harry Oswald	G4	NGCC	CT	51	30,316	36,798	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Harry Oswald distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Harry Oswald	G5	NGCC	CT	51	30,316	36,798	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Harry Oswald distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Harry Oswald	G6	NGCC	CT	51	30,316	36,798	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Harry Oswald distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Harry Oswald	G7	NGCC	CT	83.5	49,635	60,248	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Harry Oswald distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Harry Oswald	G8	NGCC	CA	105	62,416	75,327	ADEQ value is based on EIA 923 Generator-Specific data; The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Harry Oswald	G9	NGCC	CA	105	62,416	0	ADEQ value is based on prime mover fuel level net generation for CA minus the generator specific value for G8. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Hot Spring Generating Facility	CT1	NGCC	CT	198.9	142,924	150,125	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Hot Springs Generating Facility distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Hot Spring Generating Facility	CT2	NGCC	CT	198.9	142,924	150,125	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Hot Springs Generating Facility distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Hot Spring Generating Facility	ST1	NGCC	CA	317.0	227,787	213,384	ADEQ value is based on EIA 923 Generator-Specific data; The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Magnet Cove	GT1	NGCC	CT	242	836,464	818,923	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Magnet Cove distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Magnet Cove	GT2	NGCC	CT	242	836,464	818,923	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Magnet Cove distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Magnet Cove	ST1	NGCC	CA	262	905,593	940,675	ADEQ value is based on EIA 923 Generator-Specific data; The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Paragould Reciprocating	011	EXCLUDE	IC	6.4	0	5,088	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Paragould Reciprocating	021	EXCLUDE	IC	6.4	0	5,088	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Paragould Reciprocating	031	EXCLUDE	IC	6.4	0	5,088	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Pine Bluff Energy Center	CT01	NGCC	CT	180	1,135,758	1,195,860	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Pine Bluff Energy Center. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Pine Bluff Energy Center	ST01	NGCC	CA	56	353,347	293,245	ADEQ value is based on EIA 923 Generator-Specific data; The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Robert Ritchie	2	OGST	ST	544.6	-95	0	ADEQ value is based on prime mover fuel level net generation for ST minus the generator specific value for generator 1. The value in EPA dataset represents the distribution of ST generation to generators proportionally by nameplate capacity.
Thomas Fitzhugh	2011	NGCC	CA	59	36,503	27,901	ADEQ value is based on EIA 923 Generator-Specific data; The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Thomas Fitzhugh	2012	NGCC	CT	126	77,956	86,558	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Thomas Fitzhugh. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Two Pine Landfill Gas Recovery	GEN1	EXCLUDE	IC	0.8	0	4,200	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Two Pine Landfill Gas Recovery	GEN2	EXCLUDE	IC	0.8	0	4,200	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Two Pine Landfill Gas Recovery	GEN3	EXCLUDE	IC	0.8	0	4,200	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Two Pine Landfill Gas Recovery	GEN4	EXCLUDE	IC	0.8	0	4,200	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Two Pine Landfill Gas Recovery	GEN5	EXCLUDE	IC	0.8	0	4,200	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Two Pine Landfill Gas Recovery	GEN6	EXCLUDE	IC	0.8	0	4,200	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Union Power Partners LP	CTG1	NGCC	CT	176	718,446	762,577	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Union Power distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Union Power Partners LP	CTG2	NGCC	CT	176	718,446	762,577	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Union Power distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Union Power Partners LP	CTG3	NGCC	CT	176	718,446	762,577	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Union Power distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Union Power Partners LP	CTG4	NGCC	CT	176	718,446	762,577	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Union Power distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Union Power Partners LP	CTG5	NGCC	CT	176	718,446	762,577	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Union Power distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Union Power Partners LP	CTG6	NGCC	CT	176	718,446	762,577	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Union Power distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Union Power Partners LP	CTG7	NGCC	CT	176	718,446	762,577	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Union Power distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Union Power Partners LP	CTG8	NGCC	CT	176	718,446	762,577	ADEQ value is based on prime mover fuel level net generation data for the CT prime mover at Union Power distributed to each CT generator proportionally to nameplate capacity. The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Union Power Partners LP	STG1	NGCC	CA	255	1,040,931	866,329	ADEQ value is based on EIA 923 Generator-Specific data; The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Union Power Partners LP	STG2	NGCC	CA	255	1,040,931	800,869	ADEQ value is based on EIA 923 Generator-Specific data; The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Union Power Partners LP	STG3	NGCC	CA	255	1,040,931	1,011,707	ADEQ value is based on EIA 923 Generator-Specific data; The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Union Power Partners LP	STG4	NGCC	CA	255	1,040,931	1,131,773	ADEQ value is based on EIA 923 Generator-Specific data; The value in EPA dataset represents the sum of net generation from both CA and CT prime movers distributed to both CA and CT generators proportionally by nameplate capacity. This treatment of the data does not fit into the data priority list given in the TSD. EPA combines prime mover categories before distributing generation.
Waste Management Eco Vista LFGTE	GEN1	EXCLUDE	IC	0.8	0	5,726	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Waste Management Eco Vista LFGTE	GEN2	EXCLUDE	IC	0.8	0	5,726	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Waste Management Eco Vista LFGTE	GEN3	EXCLUDE	IC	0.8	0	5,726	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Waste Management Eco Vista LFGTE	GEN4	EXCLUDE	IC	0.8	0	5,726	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.
Waste Management Eco Vista LFGTE	GEN5	EXCLUDE	IC	0.8	0	5,726	ADEQ value is based on prime mover fuel level net generation data for the IC prime mover distributed to each generator according to nameplate capacity. It is unclear why EPA has a generation value of 0 for these units.

Data priority as described in Unit-Level Data using eGRID Methodology TSD							
1) Reported emissions from units which report to EPA under 40 CFR Part 75 (AMPD)							
2) Unit-level Fuel Use from EIA 923 (Boiler-level)							
3) Prime Mover Fuel Level fuel consumption multiplied by the emission factor for a given fuel distributed to each generator in the prime mover proportionally by nameplate capacity							
Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Ashdown	GEN1	EXCLUDE	ST	19.5	400,200	334,411	ADEQ is unsure why its values differ from EPA's for this unit. ADEQ calculated plant-level emissions based on plant-level fuel consumption for each fuel using EPA's emission factors and formulas given in the 2012 Unit-Level Data using EGRID Methodology spreadsheet, then distributed emissions among generators according to nameplate capacity.
Ashdown	GEN2	EXCLUDE	ST	47	953,137	806,017	ADEQ is unsure why its values differ from EPA's for this unit. ADEQ calculated plant-level emissions based on plant-level fuel consumption for each fuel using EPA's emission factors and formulas given in the 2012 Unit-Level Data using EGRID Methodology spreadsheet, then distributed emissions among generators according to nameplate capacity.
Ashdown	GEN3	EXCLUDE	ST	45	749,674	771,719	ADEQ is unsure why its values differ from EPA's for this unit. ADEQ calculated plant-level emissions based on plant-level fuel consumption for each fuel using EPA's emission factors and formulas given in the 2012 Unit-Level Data using EGRID Methodology spreadsheet, then distributed emissions among generators according to nameplate capacity.
Ashdown	GEN4	EXCLUDE	ST	45	699,509	771,719	ADEQ is unsure why its values differ from EPA's for this unit. ADEQ calculated plant-level emissions based on plant-level fuel consumption for each fuel using EPA's emission factors and formulas given in the 2012 Unit-Level Data using EGRID Methodology spreadsheet, then distributed emissions among generators according to nameplate capacity.
Cecil Lynch	4	EXCLUDE	IC	5.8	0	8	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet. ADEQ is unsure why EPA has a value of 0 for this unit.
Dell Power Station	CTG1	NGCC	CT	199.3	93,122	172,754	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Dell Power Station	CTG2	NGCC	CT	199.3	93,122	144,552	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Dell Power Station	STG	NGCC	CA	280.5	131,062	7,818	ADEQ value is based on boiler-level fuel emissions associated with this generator calculated according to EPA emission factors and formulas;EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Georgia-Pacific Crossett	GEN4	EXCLUDE	ST	28	564,846	622,503	ADEQ is unsure why its values differ from EPA's for this unit. ADEQ calculated plant-level emissions based on plant-level fuel consumption for each fuel using EPA's emission factors and formulas given in the 2012 Unit-Level Data using EGRID Methodology spreadsheet, then distributed emissions among generators according to nameplate capacity.
Georgia-Pacific Crossett	GEN5	EXCLUDE	ST	30	734,367	666,968	ADEQ is unsure why its values differ from EPA's for this unit. ADEQ calculated plant-level emissions based on plant-level fuel consumption for each fuel using EPA's emission factors and formulas given in the 2012 Unit-Level Data using EGRID Methodology spreadsheet, then distributed emissions among generators according to nameplate capacity.
Georgia-Pacific Crossett	GEN6	EXCLUDE	ST	34	925,467	755,897	ADEQ is unsure why its values differ from EPA's for this unit. ADEQ calculated plant-level emissions based on plant-level fuel consumption for each fuel using EPA's emission factors and formulas given in the 2012 Unit-Level Data using EGRID Methodology spreadsheet, then distributed emissions among generators according to nameplate capacity.
Harry Oswald	G1	NGCC	CT	51	15,348	21,820	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Harry Oswald	G2	NGCC	CT	51	15,348	21,971	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Harry Oswald	G3	NGCC	CT	51	15,348	20,759	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Harry Oswald	G4	NGCC	CT	51	15,348	20,795	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Harry Oswald	G5	NGCC	CT	51	15,348	17,788	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Harry Oswald	G6	NGCC	CT	51	15,348	19,171	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Harry Oswald	G7	NGCC	CT	83.5	25,129	58,111	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Harry Oswald	G8	NGCC	CA	105	31,599	0	ADEQ value is based on plant-level prime-mover specific fuel consumption for the prime mover CA. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Harry Oswald	G9	NGCC	CA	105	31,599	0	ADEQ value is based on plant-level prime-mover specific fuel consumption for the prime mover CA. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Hot Spring Generating Facility	CT1	NGCC	CT	198.9	62,930	115,396	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Hot Spring Generating Facility	CT2	NGCC	CT	198.9	62,930	110,758	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Hot Spring Generating Facility	ST1	NGCC	CA	317.0	100,295	25,628	ADEQ value is based on plant-level prime-mover specific fuel emissions for the prime mover CA calculated using EPA's emission factors and formulas listed in the Unit-Level Data using eGRID Methodology spreadsheet. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Jonesboro City Water & Light Plant	SN01	EXCLUDE	GT	24.5	11,496	12,652	ADEQ value is plant-level prime-mover specific fuel consumptions (minus AMPD generator-specific emissions) calculated using fuel consumption and EPA's emission factors and formulas listed in the 2012 Unit-Level Data using eGRID Methodology Spreadsheet, which was then distributed to units for which no generator-specific data was available based on nameplate capacity.
Jonesboro City Water & Light Plant	SN02	EXCLUDE	GT	21.4	10,042	11,051	ADEQ value is plant-level prime-mover specific fuel consumptions (minus AMPD generator-specific emissions) calculated using fuel consumption and EPA's emission factors and formulas listed in the 2012 Unit-Level Data using eGRID Methodology Spreadsheet, which was then distributed to units for which no generator-specific data was available based on nameplate capacity.
Jonesboro City Water & Light Plant	SN04	SSTLOGN	GT	60.5	28,388	27,680	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for reporting generators at the facility distributed to all generators according to nameplate capacity.
Jonesboro City Water & Light Plant	SN06	SSTLOGN	GT	57.4	26,934	39,445	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for reporting generators at the facility distributed to all generators according to nameplate capacity.
Jonesboro City Water & Light Plant	SN07	SSTLOGN	GT	60.5	28,388	38,123	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for reporting generators at the facility distributed to all generators according to nameplate capacity.
Magnet Cove	GT1	NGCC	CT	242	351,046	553,025	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Magnet Cove	GT2	NGCC	CT	242	351,046	529,125	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Magnet Cove	ST1	NGCC	CA	262	380,058	7,606	ADEQ value is based on plant-level prime-mover specific fuel emissions for the prime mover CA calculated using EPA's emission factors and formulas listed in the Unit-Level Data using eGRID Methodology spreadsheet. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Paragould Reciprocating	011	EXCLUDE	IC	6.4	0	2,974	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet. ADEQ is unsure why EPA has a value of 0 for this unit.
Paragould Reciprocating	021	EXCLUDE	IC	6.4	0	2,974	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet. ADEQ is unsure why EPA has a value of 0 for this unit.
Paragould Reciprocating	031	EXCLUDE	IC	6.4	0	2,974	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet. ADEQ is unsure why EPA has a value of 0 for this unit.
Pine Bluff Energy Center	CT01	NGCC	CT	180	642,744	842,709	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Pine Bluff Energy Center	ST01	NGCC	CA	56	199,965	22,278	ADEQ value is based on plant-level prime-mover specific fuel emissions for the prime mover CA calculated using EPA's emission factors and formulas listed in the Unit-Level Data using eGRID Methodology spreadsheet. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Pine Bluff Mill	1TG1	EXCLUDE	ST	40	1,150,266	815,934	ADEQ is unsure why its values differ from EPA's for this unit. ADEQ calculated plant-level emissions based on plant-level fuel consumption for each fuel using EPA's emission factors and formulas given in the 2012 Unit-Level Data using EGRID Methodology spreadsheet, then distributed emissions among generators according to nameplate capacity.
Pine Bluff Mill	2TG1	EXCLUDE	ST	20	583,043	407,967	ADEQ is unsure why its values differ from EPA's for this unit. ADEQ calculated plant-level emissions based on plant-level fuel consumption for each fuel using EPA's emission factors and formulas given in the 2012 Unit-Level Data using EGRID Methodology spreadsheet, then distributed emissions among generators according to nameplate capacity.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Pine Bluff Mill	3TG1	EXCLUDE	ST	25	64,363	509,959	ADEQ is unsure why its values differ from EPA's for this unit. ADEQ calculated plant-level emissions based on plant-level fuel consumption for each fuel using EPA's emission factors and formulas given in the 2012 Unit-Level Data using EGRID Methodology spreadsheet, then distributed emissions among generators according to nameplate capacity.
Riceland Foods Cogeneration Plant	STEC	EXCLUDE	ST	18.0	37,615	?	EPA did not provide an emission factor for the fuel OBG; therefore, ADEQ was unsure of which emission factor to use (OBS, OG, etc.). Use of either the OG or OBS emission factor in EPA's formulas to calculate fuel emissions did not result in a match with EPA's value.
Thomas Fitzhugh	2011	NGCC	CA	59	20,672	0	ADEQ value is based on plant-level prime-mover specific fuel consumption for the prime mover CA. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Thomas Fitzhugh	2012	NGCC	CT	126	44,146	64,818	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Two Pine Landfill Gas Recovery	GEN1	EXCLUDE	IC	0.8	0	2,916	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet, then emissions were distributed according to nameplate capacity. ADEQ is unsure why EPA has a value of 0 for this unit.
Two Pine Landfill Gas Recovery	GEN2	EXCLUDE	IC	0.8	0	2,916	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet, then emissions were distributed according to nameplate capacity. ADEQ is unsure why EPA has a value of 0 for this unit.
Two Pine Landfill Gas Recovery	GEN3	EXCLUDE	IC	0.8	0	2,916	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet, then emissions were distributed according to nameplate capacity. ADEQ is unsure why EPA has a value of 0 for this unit.
Two Pine Landfill Gas Recovery	GEN4	EXCLUDE	IC	0.8	0	2,916	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet, then emissions were distributed according to nameplate capacity. ADEQ is unsure why EPA has a value of 0 for this unit.
Two Pine Landfill Gas Recovery	GEN5	EXCLUDE	IC	0.8	0	2,916	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet, then emissions were distributed according to nameplate capacity. ADEQ is unsure why EPA has a value of 0 for this unit.
Two Pine Landfill Gas Recovery	GEN6	EXCLUDE	IC	0.8	0	2,916	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet, then emissions were distributed according to nameplate capacity. ADEQ is unsure why EPA has a value of 0 for this unit.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Union Power Partners LP	CTG1	NGCC	CT	176	311,844	498,428	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Union Power Partners LP	CTG2	NGCC	CT	176	311,844	502,255	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Union Power Partners LP	CTG3	NGCC	CT	176	311,844	448,671	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Union Power Partners LP	CTG4	NGCC	CT	176	311,844	449,745	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Union Power Partners LP	CTG5	NGCC	CT	176	311,844	603,254	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Union Power Partners LP	CTG6	NGCC	CT	176	311,844	532,432	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Union Power Partners LP	CTG7	NGCC	CT	176	311,844	640,235	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Union Power Partners LP	CTG8	NGCC	CT	176	311,844	627,005	ADEQ value is based on generator-specific AMPD reported emissions. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Union Power Partners LP	STG1	NGCC	CA	255	451,819	36,409	ADEQ value is based on plant-level prime-mover specific fuel emissions for the prime mover CA calculated using EPA's emission factors and formulas listed in the Unit-Level Data using eGRID Methodology spreadsheet, plant-level emissions under the CA prime mover were distributed to all CA generator units according to nameplate capacity. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Union Power Partners LP	STG2	NGCC	CA	255	451,819	34,125	ADEQ value is based on plant-level prime-mover specific fuel emissions for the prime mover CA calculated using EPA's emission factors and formulas listed in the Unit-Level Data using eGRID Methodology spreadsheet, plant-level emissions under the CA prime mover were distributed to all CA generator units according to nameplate capacity. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.

Plant Name	Generator Unit	Category	Prime Mover	Nameplate capacity	EPA Value	ADEQ value	Notes
Union Power Partners LP	STG3	NGCC	CA	255	451,819	45,214	ADEQ value is based on plant-level prime-mover specific fuel emissions for the prime mover CA calculated using EPA's emission factors and formulas listed in the Unit-Level Data using eGRID Methodology spreadsheet, plant-level emissions under the CA prime mover were distributed to all CA generator units according to nameplate capacity. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Union Power Partners LP	STG4	NGCC	CA	255	451,819	45,031	ADEQ value is based on plant-level prime-mover specific fuel emissions for the prime mover CA calculated using EPA's emission factors and formulas listed in the Unit-Level Data using eGRID Methodology spreadsheet, plant-level emissions under the CA prime mover were distributed to all CA generator units according to nameplate capacity. EPA's value is based on the sum of AMPD values for CT generators at the facility distributed to each generator (both CA and CT) according to nameplate capacity.
Waste Management Eco Vista LFGTE	GEN1	EXCLUDE	IC	0.8	0	3,745	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet, then emissions were distributed according to nameplate capacity. ADEQ is unsure why EPA has a value of 0 for this unit.
Waste Management Eco Vista LFGTE	GEN2	EXCLUDE	IC	0.8	0	3,745	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet, then emissions were distributed according to nameplate capacity. ADEQ is unsure why EPA has a value of 0 for this unit.
Waste Management Eco Vista LFGTE	GEN3	EXCLUDE	IC	0.8	0	3,745	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet, then emissions were distributed according to nameplate capacity. ADEQ is unsure why EPA has a value of 0 for this unit.
Waste Management Eco Vista LFGTE	GEN4	EXCLUDE	IC	0.8	0	3,745	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet, then emissions were distributed according to nameplate capacity. ADEQ is unsure why EPA has a value of 0 for this unit.
Waste Management Eco Vista LFGTE	GEN5	EXCLUDE	IC	0.8	0	3,745	ADEQ value was calculated using plant-level prime-mover specific fuel consumption data from EIA 923 and emission factors contained in EPA's Unit-Level Data using eGRID Methodology according to formulas given in that spreadsheet, then emissions were distributed according to nameplate capacity. ADEQ is unsure why EPA has a value of 0 for this unit.