

## Impact of EPA's Regulatory Assault on Power Plants: New Regulations to Take More than 72 GW of Electricity Generation Offline and the Plant Closing Announcements Keep Coming...

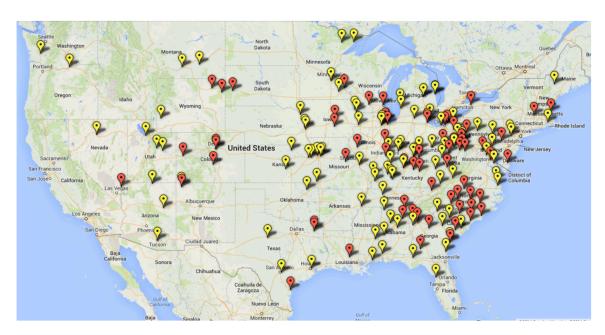
So if somebody wants to build a coal-fired plant they can.

It's just that it will bankrupt them..."

- Barack Obama speaking to San Francisco Chronicle, January 2008

More than 72 gigawatts (GW) of electrical generating capacity have already, or are now set to retire because of the Environmental Protection Agency's (EPA) regulations. The regulations causing these closures include the Mercury and Air Toxics Standards (colloquially called MATS, or Utility MACT)<sup>1</sup>, proposed Cross State Air Pollution Rule (CSAPR)<sup>2</sup>, and the proposed regulation of carbon dioxide emissions from existing power plants.

To put 72 GW in perspective, that is enough electrical generation capacity to reliably power 44.7 million homes<sup>3</sup>—or *every* home in every state west of the Mississippi River, excluding Texas.<sup>4</sup> In other words, EPA is shutting down enough generating capacity to power every home in Washington, Oregon, California, Idaho, Nevada, Arizona, Utah, Montana, Wyoming, Colorado, New Mexico, North and South Dakota, Nebraska, Kansas, Oklahoma, Minnesota, Iowa, Missouri, Arkansas, and Louisiana.



Over 94 percent these retirements will come from generating units at coal-fired power plants, shuttering over one-fifth of the U.S.'s coal-fired generating capacity.<sup>5</sup> While some of the effected units will be converted to use new fuels, American



families and businesses will pay the price with higher utility bills and less reliability for their electricity.

This report is an update of a report we first issued in October 2011.<sup>6</sup> In the original report, we calculated that 28.3 GW of generating capacity would close as a result of EPA's regulations. At the time, we warned, "...This number will grow as plant operators continue to release their EPA compliance plans." Unfortunately, this statement has proven to be true and will continue to grow in the future as new EPA regulations continue to be released. This latest update shows that 72.7 GW of electrical generating capacity will now close—a 44.4 GW increase.

To calculate the impact of EPA's rules, we first assumed that EPA's modeling of the regulations correctly predicted which power plants would close as a result of the regulations. Then, we looked at statements, filings, and announcements from electrical generators where they stated they would be closing power plants and in which they cited EPA's regulations as the precipitating cause of the plant closures. We then compared EPA's modeling outputs with the announcements and created a master list of plant closures as the result of EPA regulations (the master list is below).

Combining actual announcements with EPA's modeling shows that EPA's modeling grossly underestimates the actual number of closures. Originally, EPA calculated that only 9.5 GW of electrical generating capacity would close as a result of its MACT and CSAPR rules. Before President Obama's newly proposed regulations on existing power plants even begin take effect, however, it is clear that actual number will now be much higher. We predict that over 72 GW of power generating capacity will likely close—over seven times the amount originally predicted by EPA modeling. Worse, as utilities continue to assess how to comply with EPA's finalized rules, there will again likely be further plant closure announcements in the future. In our original 2011 report there were 30 states with projected power plant closures. Today, that number has risen to 37.

## NERC is Concerned about Reliability even though It Underestimates the Amount of Closures

It should be further noted that the North American Reliability Corporation's (NERC) original modeling of the MACT rule and original CSAPR rules estimated that under the worst case, or "strict" scenarios, 16.3 GW of electricity capacity would be closed due to the regulations, and the Department of Energy's (DOE) "stringent" test showed that only 21 GW of generating capacity would be closed. More recently, however, NERC has admitted that, "Since January 2011, the introduction and implementation of several environmental regulations combined with increased natural gas availability has contributed to the closure of nearly 43 GW of baseload capacity." NERC has shown concern that the closures will cause electricity reliability problems.



According to their 2013 Summer Reliability Assessment, some areas of the country have not been able to build enough generation capacity to meet recent load growth. A major reason for this is uncertainty surrounding environmental regulations. Because of these deficiencies, some areas will see their generation reserve margins fall below target levels that can jeopardize power reliability. According to NERC, "Insufficient reserves during peak hours could lead to increased risk of entering emergency operating conditions, including the possibility of curtailment...and even rotating outages of firm load." <sup>10</sup>

How much greater will the reliability problems be, given that retirements appear to be higher than initial NERC estimates, and additional burdensome regulations are continually being added?

## Announced and EPA Projected Retirements Are Significantly Higher than DOE's Worst Case Scenarios

As noted in our previous update, public statements and the Utility MACT itself showed that EPA relies heavily on a DOE study claiming that even under a theoretical "stringent" test, EPA Utility MACT and CSAPR regulations would only close 21 GW of generation. EPA then claimed this study proves regulations will not threaten reliability. Our analysis, however, shows that with the addition of President Obama's newest proposed rules, EPA projections and operator announcements will total more than 72 GW of generation retirements—over 50 GW more than DOE's supposedly ultra-strict test scenario.

In fact, the initial reliability assessment released by the EPA with their new CO2 restrictions on existing power plants even points out that regions in the Southeast and Northeast may experience effects from the regulation that "...raise concerns over reliability." <sup>11</sup>

#### **EPA Regulations are Already Causing Electricity Prices to Dramatically Rise**

Unfortunately, recent EPA regulations are already greatly reducing U.S. coal power capacity and raising electricity prices for homes and businesses across the country. According to Dr. Julio Friedman, Assistant Secretary for Clean Coal at the U.S. Department of Energy, wholesale electricity prices could end up rising as much as 80 percent from the effects of these rules.<sup>12</sup>

This past winter demonstrated in real time the value of the existing coal fleet. During the winter of 2014, coal was the only fuel with the ability to meet demand increases for electricity, providing 92 percent of incremental electricity in January/February, 2014 versus the same months in 2013. Americans were harmed as the relentless cold indicated that prudent utility practices require large, baseload coal plants to stabilize the grid, keep society functioning, and maintain electricity availability. Many regions suffered; for example, in late January and early February 2014 some locations in the Midwest experienced gas prices as high as \$35/MMBtu,



and the Chicago Citygate price exceeded \$40/MMBtu. Those figures are nearly 10 times higher than EIA's estimated average price of \$4.46/MMBtu for natural gas in 2014.

The result of these and ongoing EPA rules, if put into force, will be no new coal-fired plants in the United States and massive closures of existing coal plants. Since coal is our single largest source of electricity generation, replacing these units will require the construction of higher-cost renewable generating technologies and/or natural gas units that will need massive infrastructure improvements to meet the higher demand. And, consumers will need to pay for these changes. Those added costs will make utility bills unaffordable for many families and force industry to curb production, relocate, or shut down altogether slowing any further recovery in an already lagging economy.

## Updated List of Power Plants Set to Close According to EPA's Modeling and Public Disclosures

The following is a list of all of the power plants that are set to close according to EPA's modeling combined with public disclosures. A complete explanation of the methodology we used to compile this list is in the Appendix.

<sup>&</sup>lt;sup>1</sup> Environmental Protection Agency, Regulatory Impact Analysis of the Proposed Toxics Rule, Mar. 2011, http://www.epa.gov/ttn/atw/utility/ria\_toxics\_rule.pdf.

<sup>&</sup>lt;sup>2</sup> Environmental Protection Agency, *Regulatory Impact Analysis (RIA)* for the final Transport Rule, <a href="http://www.epa.gov/airtransport/pdfs/FinalRIA.pdf">http://www.epa.gov/airtransport/pdfs/FinalRIA.pdf</a>. \*\*\* Note: At the time of this release, CSAPR is in legal limbo. In 2011, The D.C. Circuit issued a stay on CSAPR, but the D.C. Circuit's opinion was vacated by the Supreme Court in 2014. EPA has filed a motion to have the stay on CSAPR lifted, but the D.C. Circuit has not yet ruled on the motion according to EPA's website: <a href="http://www.epa.gov/airtransport/CSAPR/bulletins.html">http://www.epa.gov/airtransport/CSAPR/bulletins.html</a>

 $<sup>^{3}</sup>$  Assuming the 72 GW is made up solely of coal retirements with an 80 percent capacity factor

<sup>4</sup> http://quickfacts.census.gov/qfd/states/53000.html.

<sup>&</sup>lt;sup>5</sup> Energy Information Agency, "Existing Net Summer Capacity by Energy Source and Producer Type, 2002 through 2012 (Megawatts)", http://www.eia.gov/electricity/annual/html/epa\_04\_02\_a.html

<sup>&</sup>lt;sup>6</sup> Institute for Energy Research, *IER Identifies Coal Fired Power Plants Likely to Close as Result of EPA Regulations*, Oct. 7, 2011, <a href="http://instituteforenergyresearch.org/2011/10/07/ier-identifies-coal-fired-power-plants-likely-to-close-as-result-of-epa-regulations/">http://instituteforenergyresearch.org/2011/10/07/ier-identifies-coal-fired-power-plants-likely-to-close-as-result-of-epa-regulations/</a>.

<sup>&</sup>lt;sup>7</sup> see North American Electric Reliability Corp, *2011 Long-Term Reliability Assessment*, Nov. 2011, http://www.nerc.com/files/2011LTRA\_Final.pdf.

<sup>&</sup>lt;sup>8</sup> North American Reliability Corporation, "2014 Summer Reliability Assessment", May 2014, http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/2014SRA.pdf.

<sup>&</sup>lt;sup>9</sup> North American Reliability Corporation, "2013 Summer Reliability Assessment", May 2013, <a href="http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/2013SRA\_Final.pdf">http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/2013SRA\_Final.pdf</a>. <sup>10</sup> ibid.

 $<sup>^{11}</sup>$  Environmental Protection Agency, "Technical Support Document: Resource Adequacy and Reliability Analysis,"  $\frac{\text{http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-resource-adequacy-reliability.pdf.} Pg. 6.$ 

 $<sup>^{12}</sup>$  Aaron Larson, "CCS Could Increase Coal-Fired Electric Generation Costs By 70%–80%," Power Magazine, February 13, 2014.

Plant Name	Units	State	Full Address	Capacity (MW)	Fuel Source	Source	Citation	Туре	Year	Status Update
Barry	1-3	AL	Bucks AL 36512	524	Coal	Operator Announced	http://www.al.com/news/index.ssf/2014/08/ci ting_federal_regulation_alab.html	Conversion	2016	Projected conversion to Natural Gas 2016
Colbert	1-5	AL	900 Colbert Steam Plant Rd. Tuscumbia AL 35674	1184	Coal	Operator Announced	http://www.tva.gov/news/releases/octdec13/ board_files/Fact_Sheet_Colbert_Fossil_11_14_ 13.pdf	Retirement	2016	Projected retirement 2016
Gorgas	6-7	AL	460 Gorgas Rd. Parrish AL 35580	207	Coal	Operator Announced	http://www.al.com/news/index.ssf/2014/08/ci ting_federal_regulation_alab.html	Retirement	2016	Projected retirement 2016
Greene County	1-2	AL	Hwy. 43 and C.R. 18 Forkland AL 36740	297	Coal	Operator Announced	http://www.al.com/news/index.ssf/2014/08/ci ting_federal_regulation_alab.html	Conversion	2016	Projected conversion to Natural Gas 2016
Widows Creek	1-6,8	AL	County Road 96 Stevenson AL 35772	111	Coal	Operator Announced	http://www.tva.gov/news/releases/octdec13/ board_files/Fact_Sheet_Widows_CreekFossil_1 1_14_13_Final.pdf	Retirement	2013	Unit 1,2,4 & 6: Idled in 2011; Projected retirement July 31, 2015. Unit 3 & 5: Retired in 2013
Gaston Steam	1-4	AL	31972 Highway 25 Wilsonville, AL 35186	1061	Coal	Operator Announced	http://blog.al.com/businessnews/2012/05/ala bama_power_to_connect_shelb.html	Conversion	2015	Projected conversion 2015
Gadsden Steam	1-2	AL	1000 Goodyear Ave Gadsden, AL 35903	138	Coal	Operator Announced	http://blog.al.com/businessnews/2012/05/ala bama_power_to_connect_shelb.html	Conversion	2011	Units Converted in 2011
Cholla	1-3	AZ	4801 Frontage Rd Joseph City AZ 86032	647	Coal	Operator Announced	http://www.azcentral.com/story/money/busin ess/2014/09/11/aps	Retirement	2025	Unit 1 & 3: Agreement pending for retirement or conversion to Natural Gas in 2025, Unit 2: Agreement pending for retirement in 2016
Navajo	1-2	AZ	P.O. Box 850 Page AZ 86040	1500	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2020	Unit 1: Projected retirement by 2020. Remaining units closed by 2044.
Sundt	4	AZ	3950 East Irvington Rd Tucson AZ 85714	156	Coal	Operator Announced	https://news.azpm.org/p/nat-enviro- news/2014/9/5/43508-epa-finalizes-emissions- reduction-rules-for-6-az-facilities/	Conversion	2017	Projected conversion to Natural Gas 2017
W.N. Clark	1-2	со	550 West U.S. Highway Canon City, CO 81212	44	Coal	Operator Announced	http://www.reuters.com/article/2012/08/06/i dUS215340+06-Aug-2012+HUG20120806	Retirement	2012	Unites Retired 2012
Arapahoe	1-4	со	2601 S. Platte River Dr. Denver, CO 80223	243	Coal	Operator Announced	https://www.xcelenergy.com/staticfiles/xe/Cor porate/Corporate%20PDFs/Xtra_Jan2014.pdf	Retirement	2013	Units 1 & 2 Retired in 2003; Units 3 & 4 Retired in 2013.
Cherokee	1-4	со	6198 Franklin St. Denver, CO 80216	717	Coal	Operator Announced	http://www.denverpost.com/ci_23652433/xcel s-cherokee-plant-amid-major-changes	Retirement	2011	Unit 1 Retired 2012; Unit 2 Retired 2011; Unit 3 Projected Retirement by 2015; Unit 4 Converted to Natural Gas by 2017
Cameo	1-2	со	Palisade, CO 81526	66	Coal	Operator Announced	https://www.xcelenergy.com/staticfiles/xe/Cor porate/Environment/09A- 015E%20Final%20CISP%20Report%20Final.pdf	Retirement	2010	Units retired in 2010
Indian River	1-3	DE	29416 Powerplant Rd. Millsboro, DE 19966	340	Coal	Operator Announced	Agreement signed to close coal unit at Indian River Power Plant by 2013, WGMD.com (July 15, 2010).	Retirement	2013	Unit 1 retired in 2010; Unit 2 retired in 2011; Unit 3 retired in 2013.
Scholz	1-2	FL	1460 Gulf Power Road Sneeds FL 32460	98	Coal	EPA Modeled	http://southerncompany.mediaroom.com/inde x.php?s=43&item=2802	Retirement	2015	Projected retirement April 2015
Crystal River	1-2	FL	15760 West Powerline St Crystal River, FL 34428	965	Coal	Operator Announced	http://www.power- eng.com/articles/2013/04/two-units-at-the- crystal-river-coal-fired-plant-may-close.html	Retirement	2016	Projected Retirement by 2016

Plant Name	Units	State	Full Address	Capacity (MW)	Fuel Source	Source	Citation	Туре	Year	Status Update
Harllee Branch	1-4	GA	1100 Milledgeville Road Milledgeville GA 31061	1551	Coal	Operator Announced	http://www.unionrecorder.com/gallery/news/ article_0ad78f0e-379f-11e4-98d0- 001a4bcf887a.html	Retirement	2013	Units 1,3 & 4: Retired by 2015. Unit 2: Retired Fall 2013
Kraft	1-4	GA	Crossgate Road Port Wentworth GA 31405	316	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2016	Projected retirement April 2016
McManus	1-2	GA	1 Crispen Island Brunswick GA 31525	122	Oil	Operator Announced	http://southerncompany.mediaroom.com/inde x.php?s=43&item=2734	Retirement	2015	Projected retirement 2015
Plant Mitchell	3-4	GA	5200 Radium Springs Road Albany GA 31705	197	Coal	Operator Announced	Power play: Rate hikes for Georgia electricity consumers might be just beginning, Ledger-Enquirer (Oct. 1, 2011).	Retirement	2012	Unit 3: Projected retirement April 2015, Unit 4C: Retired March 2012
Yates	Y1BR,2-7	GA	708 Dyer Road Newnan GA 30264	1288	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Conversion	2015	Units 1-5:Projected retirement April 2015; Unit 6 & 7: Projected retirement April 2015 and subsequent conversion to natural gas.
Boulevard	2-3	GA	Chatham, GA	31.2	Natural Gas	Operator Announced	http://www.georgiapower.com/docs/about- us/2013GPCAnnualReport.pdf	Retirement	2013	Retired July 2013
Bowen	6	GA	317 Covered Bridge Rd SW Euharlee, GA 30120	42	Oil	Operator Announced	http://www.georgiapower.com/docs/about- us/2013GPCAnnualReport.pdf	Retirement	2013	Retired April, 2013
Jack McDonough	1-2	GA	5551 South Cobb Dr Smyrna, GA 30080	598	Coal	Operator Announced	http://www.power- eng.com/articles/2012/10/georgia-power- completes-plant-mcdonough-atkinson- conversion-to-natural-gas.html	Conversion	2011	Replaced by Natural Gas Plant in September 2011
Dubuque	1,3,4,5	IA	920 Kerper Road Dubuque IA 52001	129	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2015	Units 1 & 5: Projected retirement 2015, Units 3 & 4: Projected retirement Dec. 2016
Sutherland	2	IA	3001 E Main St Marshalltown, IA 50158	38	Coal	Operator Announced	http://www.governing.com/news/local/AP-EPA Rules-Force-Shut-Down-of-32-Coal-Fire- Plants.html	Retirement	2014	Plant will close by December 31, 2014
Riverside	3HS, 5	IA	6001 State St Bettendorf, IA 52722	141	Coal	Operator Announced	http://www.midamericanenergy.com/newsroo m/aspx/newsdetails.aspx?id=618&type=curren t	Conversion	2016	Projected Conversion to Natural Gas in 2016
Walter Scott Jr. (Council Bluffs)	1-2	IA	2115 Navajo St. Council Bluffs, IA 51501	131	Coal	Operator Announced	http://www.midamericanenergy.com/newsroo m/aspx/newsdetails.aspx?id=618&type=curren t	Retirement	2016	Projected Retirement in 2016
George Neal North	1-2	IA	1151 260th St Sergeant Bluff, IA 51054	496	Coal	Operator Announced	http://siouxcityjournal.com/business/local/mid american-deal-to-end-coal-burning-at-sioux- city-area/article_64720b93-22a2-5052-9ca2- 2c477ff7f863.html	Retirement	2016	Projected Retirement April 2016
Pella	5-6	IA	519 East Oskaloosa St Pella, IA 50219	38	Coal	Operator Announced	http://www.pellachronicle.com/news/local_ne ws/article_663976f7-d3f8-5ae2-81e2- c7e900cf083a.html?mode=jqm	Retirement	2012	Retired in 2012
Hutsonville	3-4	IL	15142 E. 1900th Ave. Hutsonville IL 62433	150	Coal	Operator Announced	http://www.robdailynews.com/Main.asp?SectionID=2&SubSectionID=2&ArticleID=9174.	Retirement	2011	Retired 2011
Marion	4	IL	11543 Lake of Egypt Rd. Marion IL 62959	170	Coal	EPA Modeled	IPM Parsed Results - Remedy Case (CSAPR)	Retirement	2040	No Planned Retirement Date

Plant Name	Units	State	Full Address	Capacity (MW)	Fuel Source	Source	Citation	Туре	Year	Status Update
Meredosia	4-5	IL	800 W. Washington Meredosia IL 62665	369	Oil (Coal?)	Operator Announced	http://futuregenalliance.org/community- corner/2013/03/	Retirement	2011	Retired 2011; purchsed by FutureGen for CCS transition
Will County	3	IL	529 East Romeo Rd Romeoville, IL 60441	299	Coal	Operator Announced	http://www.chicagotribune.com/business/ct- coal-plant-closing-0807-biz20140807- story.html	Retirement	2015	Projected Retirement April 2015
Vermillion	ST1, 2-3	L	10188 East 2150 North Rd. Oakwood, IL 61858	197	Coal, Oil	Operator Announced	http://www.news- gazette.com/news/business/2010-12- 28/dynegy-will-close-power-plant-near- oakwood.html	Retirement	2011	Units Retired in 2011
Crawford	7-8	IL	3501 S. Pulaski Rd. Chicago, IL 60608	597	Coal	Operator Announced	http://articles.chicagotribune.com/2012-08- 30/business/chi-closure-of-chicagos-crawford- fisk-electric-plants-ends-coal-era- 20120830_1_fisk-and-crawford-midwest- generation-coal-plants	Retirement	2012	Retired August 2012
Fisk Street	19	±	1111 W. Cermak Rd Chicago, IL 60608	374	Coal	Operator Announced	http://articles.chicagotribune.com/2012-08- 30/business/chi-closure-of-chicagos-crawford- fisk-electric-plants-ends-coal-era- 20120830_1_fisk-and-crawford-midwest- generation-coal-plants	Retirement	2012	Retired in August 2012
Joliet 9	6	IL	1601 South Patterson Rd. Joliet, IL 60436	360	Coal	Operator Announced	http://www.chicagotribune.com/business/ct- coal-plant-closing-0807-biz20140807- story.html	Conversion	2016	Projected Conversion to Natural Gas in 2016
Joliet 29	7-8	IL	1800 Channahon Rd Joliet, IL 60436	1320	Coal	Operator Announced	http://www.chicagotribune.com/business/ct- coal-plant-closing-0807-biz20140807- story.html	Conversion	2016	Projected Conversion to Natural Gas in 2016
Eagle Valley	IC1, ST1, 2- 6	IN	4040 Blue Bluff Road Martinsville IN 46151	341	Oil	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Conversion	2016	Projected retirement 2016; planned replacement by new 671 MW CCGT in 2017
Frank E. Ratts	1-2	IN	6825 N. Blackburn Rd. Petersburg IN 47567	234	Coal	Operator Announced	http://www.hepn.com/assets%5Cfiles%5Cener gylines%5CMarch%202013.pdf	Retirement	2015	2015 (March)
Harding Street	3-7	IN	3700 South Harding Street Indianapolis IN 46217-3333	717	Oil	Operator Announced	http://www.mcilvainecompany.com/Decision_ Tree/subscriber/Tree/DescriptionTextLinks/Po wer%20Projects/Eagle%20Valley%20Combined %20Cycle%20Power%20Plant-IPL.htm	Retirement	2016	Units 3 & 4: Projected retirement 2016, Units 5-7: Conversion to natural gas by 2016
R Gallagher	1,3	IN	30 Jackson St New Albany IN 47200	280	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2012	Retired February 2012
State Line	1-4	IN	103rd St. & Lake Michigan Hammond IN 46325	795	Coal	Operator Announced	http://www.nwitimes.com/business/local/stat e-line-energy-s-owner-sells-power-plant-to- texas/article_3f56e216-cbf6-52c0-b7bf- f075d75ee2fa.html	Retirement	2012	Retired March 25, 2012
Tanners Creek	1-4	IN	800 AEP Drive Lawrenceburg IN 47025	1013	Coal	Operator Announced & EPA Modeled	https://www.aep.com/newSroom/newSreleaS eS/Default.aspx?id=1834	Retirement	2015	Projected retirement 2015
Wabash River	2-6	IN	450 Bolton Rd Terre Haute IN 47885	861	Coal	Operator Announced	http://www.duke-energy.com/about- us/retired-coal-units-potential-retirements.asp	Retirement	2015	Projected retirement 2015

Plant Name	Units	State	Full Address	Capacity (MW)	Fuel Source	Source	Citation	Туре	Year	Status Update
Clifton	T1	KS	319 Eagle Rd Clifton KS 66937	73	Natural Gas	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2040	No planned retirement date
Hutchinson Energy Center	GT1-4	KS	3200 E 30th Ave Hutchinson KS 67501	239	Natural Gas	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2040	No planned retirement date
Lawrence Energy Center	3-4	KS	1250 N 1800 Rd Lawrence KS 66049	158	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2040	No planned retirement date
Quindaro	ST1-2, GT2- 3	KS	3601 North 12th St Kansas KS 66104	342	Coal	EPA Modeled	http://www.wycokck.org/uploadedFiles/Depar tments/Clerk/Agenda_and_Minutes/2013/Spe cial%20Session%20121213%20Minutes.pdf, p. 7	Conversion	2015	ST 1-2: Projected retirement April 2015; projected conversion to Natural Gas at 25% utilization, GT2-3: no planned retirement date
Riverton	7-9	KS	7240 SE HWY 66 Riverton KS 66730	104	Coal (transitione d to NG in 2012)	EPA Modeled	https://www.empiredistrict.com/DocHandler.a shx?id=6697	Retirement	2016	Projected retirement 2016 after completion of unit 12 250 MW CCGT
Tecumseh Energy Center	9	KS	PO Box 38 Tecumseh KS 66542	74	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2040	No planned retirement
Big Sandy	1-2	KY	23000 Highway 23 North Louisa KY 41230	1060	Coal	Operator Announced	http://www.power- eng.com/articles/2013/12/kentucky-power-to- convert-unit-at-big-sandy-power-plant-from- coal-fired-to-natural-gas.html	Retirement	2016	Unit 1: Projected coversion to Natural Gas April 2016, Unit 2: Projected retirement June 1, 2015.
Cane Run	4-6,11	KY	5252 Cane Run Road Louisville KY 40216	660	Coal (should be natural gas)	Operator Announced	http://www.power- eng.com/articles/2014/01/kentucky-utilities- louisville-seek-approval-of-700-mw-gas- project.html	Retirement	2015	Unit 4-6: Projected retirement May 2015; replacement by 640 MW NGCC. Unit 11: No Planned Retirement
Dale	1-4	KY	1925 Ford Road Winchester KY 40391	204	Coal	EPA Modeled	http://www.platts.com/latest- news/coal/louisville-kentucky/east-kentucky- power-cooperative-to-deactivate-21470513	Retirement	2014	Units 1 & 2: Retired Spring 2014, Units 3 & 4: Projected retirement April 2015; to be "conditioned for indefinite storage"
Green River	1-4	KY	811 Power Plant Drive Central City KY 42330	352	Coal	Operator Announced	http://marcellus.com/news/id/105650/kentuck y-natural-gas-plant-go/	Retirement	2015	Units 1 & 2: Retired 2002, Units 3 &4: Projected retirement Spring 2015
Paradise	1-2	KY	13246 Hwy. 176 Drakesboro KY 42337	1230	Coal	Operator Announced	http://www.tva.gov/news/releases/octdec13/ board_files/Fact_Sheet_Paradise_Fossil_11_14 13.pdf	Conversion	2017	Projected retirement 2017; to be replaced by Natural Gas plant
Robert A Reid	1	KY	9000 Highway 2096 Robards KY 42452	65	Coal	EPA Modeled	http://www.bigrivers.com/documents/2012_Bi gRivers_AR.pdf	Conversion	2015	Projected conversion to Natural Gas 2015
Shawnee	1,4,10	KY	7900 Metropolis Lake Rd West Paducah KY 42086	525	Coal	Operator Announced	http://www.tva.gov/sites/shawnee.htm	Retirement	2017	Units 1 & 4: Uncertain; converted, controlled, or retired by December 31, 2017. Unit 10: idled in October 2010.
Tyrone	3	KY	6800 Tyrone Pike Versailles KY 40383	75	Coal	Operator Announced & EPA Modeled	http://lge-ku.com/our- company/community/neighbor- neighbor/tyrone-generating-station	Retirement	2013	Retired February 2013
Big Cajun II	2	LA	9951 Cajun 2 Rd. New Roads, LA 70760	590	Coal	Operator Announced	http://generationhub.com/pages/article_pdf.p hp?aid=2014/01/17/nrg-energy-readies-coal-to gas-switch-at-big-cajun	Conversion	2014	Projected Completion of Natural Gas Conversion in Fall 2014
Brayton Point	1-4	MA	Brayton Point Road Somerset MA 02726	1535	Coal	EPA Modeled	IPM Parsed Results - Remedy Case (CSAPR)	Retirement	2017	Projected retirement June 1, 2017

Plant Name	Units	State	Full Address	Capacity (MW)	Fuel Source	Source	Citation	Туре	Year	Status Update
Mount Tom	1	MA	200 Northampton St Holyoke MA 1040	144	Coal	Operator Announced	http://www.masslive.com/news/index.ssf/201 4/06/mount_tom_coal_power_plant_in.html	Retirement	2014	Projected retirement October 2014
Salem Harbor	1-4	MA	24 Fort Avenue Salem MA 01970	806	Coal	Operator Announced	http://www.clf.org/blog/clean-energy-climate- change/salem-harbor-enforced-shutdown-the- beginning-of-the-end-for-old-coal-in-new- england/	Retirement	2011	Units 1 &2: Retired December 2011. Units 3 & 4: Retired June 2014; projected replacement by 700 MW Natural Gas plant (which might be delayed
R. Paul Smith	9,11	MD	PO Box 168 Williamsport MD 21795	110	Coal	Operator Announced	http://www.eia.gov/electricity/annual/html/ep a_04_08.html	Retirement	2012	Retired September 2012
Chalk Point	ST1-2	MD	25100 Chalk Point Rd Aquasco, MD 20608	728	Coal	Operator Announced	http://www.gazette.net/article/20131209/NE WS/131209198/dickerson-plant-plans-to-stop- using-coal&template=gazette	Retirement	2017	Projected Retirement June 2017
Dickerson	ST1,2,3	MD	21200 Martinsburg Rd Dickerson, MD 20842	588	Coal	Operator Announced	http://www.eenews.net/climatewire/stories/1 059991548/search?keyword=coal+plant	Retirement	2017	Projected Retirement in June 2017
Rumford Cogeneration	6-7	ME	35 Hartford St Rumford ME 4276	86	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2040	No projected retirement date
B.C. Cobb	4-5	МІ	151 N. Causeway Muskegon MI 49445	312	Coal	Operator Announced	http://www.mlive.com/news/muskegon/index. ssf/2014/02/consumers_energy_hires_global.h tml	Retirement	2016	Projected retirement in April, 2016
D.E Karn	1-2	МІ	2742 N. Weadock Hwy. Essexville MI 48732	515	Coal	Operator Announced	http://wcmu.org/news/?p=3815	Retirement	2040	No Planned Closure Date
Endicott Station	4	МІ	720 Herring Road Litchfield MI 49252	55	Coal	EPA Modeled	IPM Parsed Results - Remedy Case (CSAPR)	Retirement	2040	No Planned Closure Date
J.C. Weadock	7-8	МІ	2555 N. Weadock Hwy. Essexville MI 48732	310	Coal	Operator Announced	http://www.mlive.com/news/bay- city/index.ssf/2013/10/consumers_energy_to_ demolish_w.html	Retirement	2016	Projected retirement April 2016
J.R Whiting	1-3	МІ	4525 E. Erie Rd. Erie MI 48133	345	Coal	Operator Announced	http://www.power- eng.com/articles/2013/09/consumers-energy- receives-approval-to-delay-retiring-coal-fired- units.html	Retirement	2016	Projected retirement in April, 2016
James De Young	1	МІ	64 Pine Ave. Holland MI 49423	27	Coal	EPA Modeled	IPM Parsed Results - Remedy Case (CSAPR)	Retirement	2040	No Planned Closure
Harbor Beach	1	МІ	755 North Huron Ave. Harbor Beach, MI 48841	103	Coal	Operator Announced	http://en.ecoalchina.com/info/mtzx/gjmt/1015 067.shtml	Retirement	2015	Projected Retirement in 2015
Trenton Channel	7A,8	MI	4695 West Jefferson Ave Trenton, MI 48183	240	Coal	Operator Announced	http://thenewsherald.com/articles/2014/07/2 9/news/doc53d18f8d00ed0609926093.txt	Retirement	2016	Projected Retirement in 2016
Black Dog	3-4	MN	1400 Black Dog Road Burnsville MN 55101	294	Coal	Operator Announced	http://www.startribune.com/business/203104 681.html	Retirement	2015	Projected Closure in 2015
Silver Lake	1-4	MN	425 West Silver Lake Dr. NE Rochester, MN 55906	99	Coal	Operator Announced	http://www.startribune.com/business/165367 786.html	Retirement	2015	Set for Decommissioning in late 2015
Taconite Harbor	3	MN	8124 West Hwy. 61 Schroeder, MN 55613	84	Coal	Operator Announced	http://finance- commerce.com/2013/01/minnesota-power- converting-coal-plant-to-natural-gas/	Retirement	2015	Planned Retirement in 2015
Syl Laskin	1-2	MN	5699 Colby Lake Rd Hoyt Lakes, MN 55750	116	Coal	Operator Announced	http://finance- commerce.com/2013/01/minnesota-power- converting-coal-plant-to-natural-gas/	Conversion	2015	Projected Conversion to Natural Gas in 2015

Plant Name	Units	State	Full Address	Capacity (MW)	Fuel Source	Source	Citation	Туре	Year	Status Update
Blue Valley	2	МО	21499 E. Truman Rd. Independence MO 64056	51	Coal	EPA Modeled	IPM Parsed Results - Remedy Case (CSAPR)	Retirement	2040	No Planned Closure
Chamois	6	МО	9321 Highway 100 Chamois MO 65024	49	Coal	EPA Modeled	IPM Parsed Results - Remedy Case (CSAPR)	Retirement	2013	Closed in October, 2013
Meramec	1-4	МО	8200 Fine Rd St. Louis MO 63129	924	Coal	Operator Announced	http://www.stltoday.com/business/local/mera mec-coal-power-plant-once-celebrated-draws- cheers-with-closure/article_7472c581-5ceb- 5d5f-ab7a-2d49a4c68ad2.html	Retirement	2022	Projected to Close by 2022
Sibley	1-2	МО	33200 E. Johnson Rd Sibley MO 64088	108	Coal	EPA Modeled	IPM Parsed Results - Remedy Case (CSAPR)	Retirement	2040	No Planned Closure Date
Watson	4-5	MS	10406 Larraine Rd Gulfport, MS 39503	877	Coal	Operator Announced	http://www.eenews.net/eenewspm/stories/10 60004041/search?keyword=coal+plant	Conversion	2015	Planned Conversion to Natural Gas in 2015
Sweatt	1-2	MS	5118 Valley Rd Meridian, MS 39307	95	Natural Gas	Operator Announced	http://www.eenews.net/eenewspm/stories/10 60004041/search?keyword=coal+plant	Retirement	2018	Projected Retirement or conversion by 2018
Colstrip Energy LP	BLR1	MT	18 Snider Subdivision Road Colstrip MT 59323	35	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2040	No Planned Closure Date
Yellowstone Energy LP	BLR1-2	MT	2215 N. Frontage Rosd Billings MT 59101	56	Petro. Coke	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2040	No Planned Closure Date
Buck	1,6,7	NC	1555 Dukeville Rd Salisbury NC 28145	114	Coal	EPA Modeled	http://www.bizjournals.com/charlotte/blog/po wer_city/2013/02/duke-energy-shuttering- buck-and.html?page=all	Retirement	2013	Closed in April, 2013
Cape Fear	5-6	NC	500 CP&L Road Moncure NC 27559	323	Coal	Operator Announced & EPA Modeled	http://www.eia.gov/electricity/annual/html/ep a_04_08.html	Retirement	2012	Closed October, 2012
H.F. Lee	1-3,GT1-4	NC	1677 Old Smithfield Rd. Goldsboro NC 27530	457	Coal	Operator Announced	http://www.duke- energy.com/news/releases/2012091401.asp	Retirement	2012	Units 1-3: Retired September 2012; replaced by 920 MW CCGT in December 2012. Units GT1-4: Retired October 2012.
L.V. Sutton	1-3	NC	Sutton Steam Plant Rd Wilmington NC 28401	575	Coal	Operator Announced	http://www.duke-energy.com/power- plants/coal-fired/sutton.asp	Conversion	2013	Retired November 2013; replaced by 624 MW CCGT
Riverbend	7-8	NC	175 Steamplant Rd Mount Holly NC 28120	188	Coal	EPA Modeled	http://www.bizjournals.com/charlotte/blog/po wer_city/2013/02/duke-energy-shuttering- buck-and.html?page=all	Retirement	2013	Closed in April, 2013
Weatherspoon	1-3	NC	491 Power Plant Road Lumberton NC 28358	177	Coal	Operator Announced	http://www.wral.com/business/story/1018892 7/	Retirement	2011	Closed in September, 2011
Dan River	1-6	NC	900 South Edgewood Rd Eden, NC 27288	576	Coal, Natural Gas	Operator Announced	http://www.duke- energy.com/news/releases/2013010301.asp	Conversion	2012	Converted to CCGT in December 2012
North Omaha Station	1-5	NE	7475 Pershing Dr. Omaha NE 68112	638	Coal	Operator Announced	http://www.omaha.com/news/metro/oppd- plans-to-retire-all-north-omaha-station-s- coal/article_2218822c-f7d0-11e3-a070- 0017a43b2370.html	Retirement	2016	Units 1-3: Projected retirement 2016. Units 4-5: Projected Conversion to Natural Gas 2023.
Glen Gardner	1-8	NJ	Rocky Run Road Glen Gardner NJ 8826	160	Coal	Operator Announced	http://www.njspotlight.com/stories/13/05/15/ company-to-shutter-one-of-dirtiest-power- plants-ahead-of-schedule/	Retirement	2015	Projected Closure by Janurary, 2015
Four Corners	1-3	NM	End of County Rd 6675 Fruitland NM 87416	633	Coal	Operator Announced	http://www.pennenergy.com/articles/pennene rgy/2014/01/aps-completes-purchase-of-four- corners-coal-fired-power-plant.html	Retirement	2013	Closed December 31st, 2013

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San Juan	2-3	NM	6800 N County Rd Waterflow NM 87421	815	Coal	Operator Announced	http://www.daily- times.com/energymagazine/ci_25487958/unio ns-worry-about-jobs-pending-closure-san-juan	Conversion	2025	Request to retire pending; potential replacement by 177 MW Natural Gas plant and 40 MW solar plant
Reid Gardner	1-4	NV	1 Wally Kay Wy Moapa NV 89025	553	Coal	Operator Announced	http://www.reviewjournal.com/business/energ y/nv-energy-proposes-shutting-three-four-reid- gardner-coal-fired-units	Retirement	2014	Projected retirement 2014
North Valmy	1-2	NV	Interstate 80 Exit 212 Valmy, NV 89438	567	Coal	Operator Announced	http://www.reuters.com/article/2013/04/04/u tilities-nvenergy-coal- idUSL2N0CR1LO20130404	Retirement	2025	Unit 1: Projected Retirement in 2021, Unit 2: Projected Retirement in 2025
WPS Power Niagara	1	NY	5300 Frontier Avenue Niagara Falls NY 14302	53	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Conversion	2008	Converted to Wood Biomass Burning in Spring, 2008. No Planned Closure
Ashtubula	5	ОН	2133 Lake Road Ashtabula Township OH 44004	256	Coal	Operator Announced	http://www.ohio.com/news/break- news/closings-delayed-until-2015-at-three- firstenergy-plants-1.304388	Retirement	2015	Project Closure: April 2015
Avon Lake	7,9,10	ОН	33569 Avon Lake OH 44012	795	Coal	Operator Announced	http://www.cleveland.com/avon- lake/index.ssf/2013/06/nrg_energys_avon_lak e_plant_co.html	Conversion	2016	Partially Converting to Natural Gas by May, 2016
Bay Shore	2-4	ОН	4701 Bay Shore Road Oregon OH 43616	500	Coal	Operator Announced	http://www.toledonewsnow.com/story/16608 069/units-at-oregons-bay-shore-power-plant- to-shut-down	Retirement	2012	Closed in December, 2012
Conesville	3	ОН	47201 CR 273 Conesville OH 43811	165	Coal	Operator Announced	http://www.platts.com/latest-news/electric- power/louisville-kentucky/aep-revising-upward- its-projected-coal-generation-21443742	Retirement	2012	Retired December 2012
Eastlake	1-6	ОН	10 Erie Road Eastlake OH 44095	1289	Coal	Operator Announced	http://www.cleveland.com/business/index.ssf/ 2014/02/firstenergy_to_close_eastlake.html	Retirement	2014	Projected to close / Has Closed: Fall, 2014
Lake Shore	18, IC1-2	ОН	6800 S Marginal Drive Cleveland OH 44103	260	Coal	Operator Announced	http://www.cleveland.com/business/index.ssf/ 2014/02/firstenergy_to_close_eastlake.html	Retirement	2014	Projected to close / Has Closed: Fall, 2014
Miami Fort	6	ОН	PO Box 128 Brower Rd North Bend OH 45100	163	Coal	Operator Announced	http://ohiocitizen.org/duke-energy-to-retire- miami-fort-coal-plant-unit-6-by-2015/	Retirement	2015	Projected Closure: 2015
Muskingum River	1-5	ОН	County Road 32 Beverly OH 45715	1501	Coal	Operator Announced & EPA Modeled	http://www.aep.com/newSroom/newSreleaSe S/Default.aspx?id=1820	Retirement	2015	Projected retirement 2015
Niles	1-2	ОН	1047 Belmont Avenue Niles OH 44446	266	Coal	Operator Announced	http://www.thenewsoutlet.org/2013/07/obam as-call-for-co2-emission-restrictions-may-hit- ohio-hard/	Retirement	2012	Closed in September, 2012
Picway	-	ОН	US 23 Lockbourne OH 43137	100	Coal	Operator Announced	http://news.heartland.org/editorial/2013/11/0 8/wood-burning-power-plants-misguided- climate-change-solution	Retirement	2015	Projected Closure: 2015
R E Burger	4-6	ОН	57246 Ferry Landing Road Shadyside OH 43947	359	Coal	EPA Modeled	http://www.renewableenergyworld.com/rea/n ews/article/2010/11/no-biomass-at-burger-as- firstenergy-opts-to-close-coal-fired-units	Retirement	2010	Closed in 2010

Plant Name	Units	State	Full Address	Capacity (MW)	Fuel Source	Source	Citation	Туре	Year	Status Update
WC Beckjord	1-6	ОН	757 US Rt 52 New Richmond OH 45200	1222	Coal	Operator Announced & EPA Modeled	http://www.marketwatch.com/story/duke- energy-to-retire-coal-operations-at-its-wc- beckjord-station-2014-08-28	Retirement	2012	Unit 1: Closed in 2012. Unit 2 & 3: Closed in 2013. Unit 4-6: Closed in 2014.
Hutchings Station	1-6	ОН	9200 Chautauqua Rd. Miamisburg, OH 45342	413	Coal	Operator Announced	http://www.reuters.com/article/2013/05/13/u tilities-aes-coal-idUSL2N0DU1PH20130513	Retirement	2015	All units will be retired by June 2015
Northeast Station	3	ОК	Highway 169 & 88 Oologah OK 74053	473	Coal	Operator Announced	http://www.tulsaworld.com/business/energy/ epa-approves-aep-pso-plan-to-exit-coal-fired- generation/article_bf8b601d-96ca-5089-a8c9- a95656ef982f.html	Retirement	2026	Projected Closure: 2026
Boardman	-	OR	73334 Tower Rd Boardman OR 97818	601	Coal	Operator Announced	http://www.oregonlive.com/pacific-northwest- news/index.ssf/2014/06/pge_building_boardm an_naturalhtml	Retirement	2020	To be Closed or Converted to Natural Gas by 2020
Armstrong	1-2	PA	108 Power Plant Road Adrian PA 16210	326	Coal	Operator Announced	http://www.post- gazette.com/business/businessnews/2013/07/ 09/West-Penn-Power-parent-to-close-2-coal- fired-plants-in-Western- Pennsylvania/stories/201307090181	Retirement	2012	Closed in 2012
Elrama Power Plant	1-4	PA	30 Duquesne Light Way Elrama PA 15038	510	Coal	Operator Announced	http://triblive.com/news/editorspicks/4502423- 74/union-plants-coal#axzz3DgpzbUD6	Retirement	2012	Closed October, 2012
New Castle	2A,4,5	PA	2189 St. Rt. 168 South West Pittsburg PA 16160	372	Coal	Operator Announced & EPA Modeled	http://stateimpact.npr.org/pennsylvania/2013/ 06/25/western-pa-coal-plant-slated-for-closure- will-stay-open-with-natural-gas/	Conversion	2016	Converting to Natural Gas by May 2016
P H Glatfelter	5PB036	PA	128 S. Main Street Spring Grove PA 17362	36	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2040	No Planned Closure Data
Portland	1-5	PA	5027 River Road Mt. Bethel PA 18351	621	Coal	Operator Announced	http://www.nj.com/warren/index.ssf/2013/05/ pa_power_plant_spewing_polluti.html	Retirement	2015	Projected Closure: January, 2015
Shawville	1-7	PA	250 Power Plant Drive Shawville PA 16873	632	Coal	Operator Announced & EPA Modeled	http://www.pabusinesscentral.com/shawville- power-plant-to-convert-to-natural-gas-reopen- in-april-2016/	Conversion	2016	Projected Closure in April, 2015. Set to convert to Natural Gas and Reopen in 2016
Sunbury Generation LP	2A,2B,3,4	PA	N. Old Trail Road, PO Box 517 Shamokin Dam PA 17876	302	Coal	EPA Modeled	http://www.sourcewatch.org/index.php/Sunbu ry_Generation	Retirement	2015	Projected Closure: 2015
Titus	1-5	PA	296 Poplar Neck Road Birsboro PA 19508	261	Coal	Operator Announced	http://powersource.post- gazette.com/powersource/latest- utilities/2014/03/09/Titus-Station-goes- silent/stories/201403090171	Retirement	2013	Closed September 1st, 2013
Hatfield's Ferry	1-3	PA	2907 East Roy Furman Hwy. Masontown, PA 15461	1728	Coal	Operator Announced	http://www.heraldstandard.com/new_today/h atfield-s-ferry-power-station-quietly-closes-for- good/article_cd0133e1-9adb-58c2-8f8d- 66769de34835.html	Retirement	2013	Plant Closed October 2013
Mitchell	2-3	PA	50 Electric Way Courtney, PA 15067	374	Coal/Oil	Operator Announced	http://www.heraldstandard.com/new_today/h atfield-s-ferry-power-station-quietly-closes-for- good/article_cd0133e1-9adb-58c2-8f8d- 66769de34835.html	Retirement	2013	Plant closed in 2013

Plant Name	Units	State	Full Address	Capacity (MW)	Fuel Source	Source	Citation	Туре	Year	Status Update
AES Beaver Valley	2-3	PA	394 Frankfort Rd Monaca, PA 15061	149	Coal	Operator Announced	http://www.eenews.net/climatewire/stories/1 059991548/search?keyword=coal+plant	Retirement	2017	Projected Retirement in 2017
Canadys Steam	1-3	SC	13139 Augusta Hwy. Walterboro SC 29433	400	Coal	EPA Modeled	https://www.sceg.com/about- us/newsroom/2013/11/13/sce-g-retires- canadys-station-power-plant-as-part-of- strategy-to-meet-more-stringent- environmental-regulations	Retirement	2013	Retired November 2013
Grainger	1-2	sc	1605 Marina Dr Conway SC 29526	166	Coal	Operator Announced	http://www.postandcourier.com/article/20121 218/PC05/121219392	Retirement	2012	Retired December 2012
H.B. Robinson Steam	-	sc	3512 Lakeside Dr. Hartsville SC 29550	177	Coal	Operator Announced	http://www.duke- energy.com/news/releases/2012092801.asp	Retirement	2012	Retired October 2012
Jeffries	1-4	sc	463 Powerhouse Rd Moncks Corner SC 29461	386	Oil	Operator Announced	http://www.postandcourier.com/article/20121 218/PC05/121219392	Retirement	2025	Projected retirement indefinite
W.S. Lee	1-3	SC	Hwy. S-4/178 Pelzer SC 29669	370	Coal	Operator Announced	http://www.newsobserver.com/2014/09/23/4 176516/duke-energy-to-remove-ash-from.html	Conversion	2015	Projected retirement April 2015; to be replaced by 750 MW Natural Gas plant
McMeekin	1-2	SC	2000 North Lake Dr. Columbia, SC 29212	294	Coal	Operator Announced	http://www.scana.com/en/news-room/current- news-releases/sceg-announces-plans-to-retire- a-portion-of-its-coal-fired-generation.htm	Retirement	2018	Planned Retirement by 2018
Urquhart Station	3	SC	100 Urquhart Dr Beech Island, SC 29842	100	Coal	Operator Announced	http://www.scana.com/en/news-room/current news-releases/sceg-announces-plans-to-retire- a-portion-of-its-coal-fired-generation.htm	Retirement	2018	Projected Retirement in 2018
Ben French	ST1	SD	409 Deadwood Ave. Rapid City, SD 57702	25	Coal	Operator Announced	http://www.reuters.com/article/2012/08/06/i dUS215340+06-Aug-2012+HUG20120806	Retirement	2012	Suspended Operations August 2012
Allen	1-3	TN	2574 Plant Rd Memphis TN 38109	741	Coal	Operator Announced	http://www.timesfreepress.com/news/2014/a ug/22/tva-turns-to-gas-to-replace-memphis- coal-plant/	Conversion	2018	Projected retirement December 31, 2018; to be replaced by 1000 MW Natural Gas CCGT
John Sevier	1-4	TN	Hwy 70 S PO Box 2000 Rogersville TN 37857	728	Coal	EPA Modeled	http://www.tva.com/sites/johnsevier.htm	Retirement	2012	Unit 1 & 2: Retired December 31, 2012. Unit 3 & 4: Removed from service December 31, 2012; implementation of emissions controls, conversion to biomass, or retirement by December 31, 2015.
Johnsonville	1-10	TN	Hwy 70 PO Box 259 New Johnsonville TN 37134	1200	Coal	EPA Modeled	http://www.ens- newswire.com/ens/apr2011/2011-04-14- 091.html	Retirement	2017	Unit 1-4: Projected retirement December 31, 2017. Unit 5 & 6: Preojected retirement December 31, 2015. Unit 7-10: Idled March 1, 2012; projected retirement December 31, 2015.
AES Deepwater	AAB001	TX	701 Light Company Road Pasadena TX 77506	139	Petro. Coke	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2040	No Planned Closure Date
Lone Star	1	TX	Hwy 259 South Lone Star TX 75668	50	Natural Gas	EPA Modeled	IPM Parsed Results - Remedy Case (CSAPR)	Retirement	2040	No Planned Closure Date

Plant Name	Units	State	Full Address	Capacity (MW)	Fuel Source	Source	Citation	Туре	Year	Status Update
Monticello	1-2	TX	PO Box 1266 Mount Pleasant TX 75455	1186	Coal	Operator Announced	http://prairiepundit.blogspot.com/2014/02/na tural-gas-price-jump-causes-reopening.html	Retirement	2014	Idled for a Period of Time, Resumed Operations on February 15th, 2014. Long- term future uncertain.
Welsh	2	TX	FM Rd 1735 Pittsburg TX 75686	528	Coal	Operator Announced	http://www.sourcewatch.org/index.php/Welsh _Power_Plant#Proposed_coal_plant_closure	Retirement	2014	Projected Partial Closure by December 31st, 2014
Deely	1-2	TX	9599 Gardner Rd San Antonio, TX 78263	932	Coal	Operator Announced	http://www.businessweek.com/ap/financialne ws/D9NVQ3600.htm	Retirement	2018	Scheduled for Retirement in 2018
Las Brisas Energy Center	1-4	TX	Corpus Christi, TX	1320	Petroleum Coke	Operator Announced	http://washingtonexaminer.com/obama-epa- kills-power-plant-3900-jobs-in- texas/article/2519575	Retirement	2013	Project Canceled before completion
Sunnyside Cogen Associates	1	UT	#1 Power Plant Road Sunnyside UT 84539	51	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2040	No Planned Closure Date
Carbon	1-2	UT	Hwy 6 & Hwy 91, 12 mi N Price Price UT 84526	189	Coal	Operator Announced	http://www.nytimes.com/2013/11/28/us/a- part-of-utah-built-on-coal-wonders-what- comes-next.html?_r=0	Retirement	2015	Project Closure: April 2015
кисс	1-3	UT	9200 West 3325 South Magna UT 84044	90	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Retirement	2040	No Planned Closure Date
Naughton	3	UT	1025 Sublette Dr. Kemmerer, UT 83101	326	Coal	Operator Announced	http://trib.com/business/energy/the-big- switch-utilities-conversion-from-coal-to-natural- gas/article_d3d15b5f-cd0d-5af9-aebd- 3280e68884d8.html	Conversion	2018	Plant will be converted to natural gas in 2018
Chesapeake	1-4,6- 9,ST1,2,4	VA	2701 VEPCO St Chesapeake VA 23323	789	Coal	Operator Announced	http://dom.mediaroom.com/index.php?s=266 77&item=71833	Retirement	2016	Projected partial closure in 2015, and full closure by 2016
Clinch River	1-3	VA	State Route 82 Cleveland VA 24225	695	Coal	Operator Announced	http://www.platts.com/latest- news/coal/louisvillekentucky/aeps-clinch-river- power-plant-in-virginia-to-21100599	Conversion	2015	Units 1-2: Projected conversion to Natural Gas Sept. 2015. Unit 3: Projected retirement 2015.
Glen Lyn	1-2	VA	U.S. Route 460 Glen Lyn VA 24093	338	Coal	Operator Announced	http://www.washingtonpost.com/business/eco nomy/a-dilemma-with-aging-coal-plants-retire- them-or-restore-them/2014/06/13/8914780a- f00a-11e3-914c-1fbd0614e2d4_story.html	Retirement	2015	Projected Closure: 2015
Potomac River	1-5	VA	1400 Royal St. Alexandria VA 22314	506	Coal	Operator Announced	http://www.alexandrianews.org/2012/potoma c-river-generating-station-ceases-operation/	Retirement	2012	Closed October 1st, 2012
Yorktown	1-2	VA	1600 Waterview Road Yorktown VA 23690	376	Coal	Operator Announced	http://wydaily.com/2014/02/07/dominion- seeks-extension-to-keep-yorktown-station- running-longer?cat=localnews/localnews/	Retirement	2015	Projected Closure: 2015 - 2 year extension sought
Transalta Centralia Generation	BW21-22	WA	913 Big Hanaford Rd. Centralia WA 98531	1406	Coal	EPA Modeled	IPM Parsed Results - Policy Case (MATS Rule)	Conversion	2020	Unit BW21: Projected to Switch to Natural Gas in 2020. Unit BW22: Projected to Switch to Natural Gas in 2025.
Alma	1-5	WI	1420 S. Main Alma WI 54610	165	Coal	Operator Announced	http://www.ect.coop/power-supply/power- plants/dairyland-power-cooprative-closes- plants/62546	Retirement	2011	Units 1-3: Closed December 31st, 2011. Units 4-5: Projected retirement in 2015.
Blount Street	8-9	WI	715 E. Main Street Madison WI 64056	97	Coal	EPA Modeled	http://www.jsonline.com/business/88508257. html	Conversion	2010	Converted to Natural Gas February, 2010

Plant Name	Units	State	Full Address	Capacity (MW)	Fuel Source	Source	Citation	Туре	Year	Status Update
Valley	1-4	WI	1035 West Canal Street Milwaukee WI 53233	280	Coal	EPA Modeled	https://www.we- energies.com/home/projects/vapp.htm	Conversion	2014	Converting to Natural Gas September, 2014
Nelson Dewey	1-2	WI	11999 County Rd. Cassville, WI 53806	200	Coal	Operator Announced	http://host.madison.com/business/wisconsin- power-light-unveils-billion-plan-to-clean-up- energy/article_591abccc-d80b-11e1-a271- 0019bb2963f4.html	Retirement	2015	Plant will be retired by end of 2015
Albright Power Station	1-3	wv	P.O.Box 125 Albright WV 26519	278	Coal	Operator Announced	http://www.epa.gov/wastes/nonhaz/industrial /special/fossil/surveys2/albright_pwr_action_p ln.pdf	Retirement	2012	Closed September 1st, 2012.
Kammer	1-3	wv	W.Va. State Route 2 Captina WV 26041	714	Coal	Operator Announced	http://www.platts.com/latest-news/electric- power/louisville-kentucky/aep-revising-upward- its-projected-coal-generation-21443742	Retirement	2015	Projected June 1st, 2015
Kanawha	1-2	wv	U.S. Route 60 Glasgow WV 25086	440	Coal	Operator Announced	http://www.sourcewatch.org/index.php?title= Kanawha_River_Plant	Retirement	2014	Projected Closure: Decemember 31st, 2014
Phillip Sporn	1-5	WV	State Route 62 Graham Station WV 25265	1108	Coal	Operator Announced	http://www.sourcewatch.org/index.php?title= Philip_Sporn_Power_Plant	Retirement	2018	Units 1-4: Projected Closure: 2018. Unit 5: Closed February 2012.
Rivesville	5-6	wv	P.O.Box 190 Rivesville WV 26588	110	Coal	Operator Announced & EPA Modeled	http://www.timeswv.com/news/local_news/ar ticle_5b161c46-6466-5bc2-96ee- 8cf89fd5ffc5.html	Retirement	2012	Closed December 1st, 2012
Willow Island	1-2	wv	#2 Power Station Blvd Willow Island WV 26134	213	Coal	Operator Announced & EPA Modeled	http://www.thenewscenter.tv/home/wova/he adlines/Possible_Delay_In_Willow_Island_Plan t_Closing_147348505.html	Retirement	2012	Closed September 1st, 2012.
Osage	1-3	WY	3363 Hwy. 16 Osage, WY 82723	36	Coal	Operator Announced	http://www.reuters.com/article/2012/08/06/i dUS215340+06-Aug-2012+HUG20120806	Retirement	2014	Retired March, 2014
Neil SImpson	1	WY	13151 Hwy 51 Gillette, WY 82718	22	Coal	Operator Announced	http://www.reuters.com/article/2012/08/06/i dUS215340+06-Aug-2012+HUG20120806	Retirement	2014	Retired March, 2014

#### Notes:

- 1.All retirements announced by plant owners result from EPA regulation. In each such case, the citation included directly identifies EPA regulations as the sole or main reason for the power plant's retirement.
- 2. 2. Plant closures attributed to EPA modeling only include those plants that EPA projects to close as a result of EPA regulations. "MATS Rule results were found by removing plants listed on the MATS Rule Parsed File Base Case (EPA-HQ-OAR-2009-0234-19982) from the Parsed File 2015 MATS Policy Case (EPA-HQ-OAR-2009-0234-19983). CSAPR results were found by removing plants listed on CSAPR Base Case Final from the Remedy Final (both files available at: http://www.epa.gov/airmarkets/progsregs/epa-ipm/transport.html).
- 3. According to the EPA, the MATS Rule base case includes CSAPR. Thus, theoretically, both the MATS Rule Policy Case and CSAPR Remedy Case (when controlled for their respective base cases) should not both independently identify closure of the same plant. Nevertheless, the list shows a slight overlap between the two rules. This is, presumably, due to variance in the modeling platforms EPA utilized for both rules.
- 4. Capacity as reported by Energy Information Agency data for nameplate capacity.



## POWER PLANT RETIREMENT LIST BACKGROUND INFORMATION METHODOLOGY

#### LIST SOURCES

This list is derived from three sources: (1) EPA's parsed modeling files, which identify the power-plant units that EPA models say will close as a result of either the Cross State Air Pollution Rule (CSAPR) or Mercury and Air Toxics Standards (MATS Rule); (2) news releases or press stories where a power-plant operator says a unit will or is likely to close due to EPA regulations; and (3) filings with state public utility commissions where a power-plant operator says a unit will or is likely to close due to EPA regulations. This list does not include the EPA's parsed modeling files for the 111(d) rule. All sources are publically available information. Note that many of the plants originally projected to close by EPA modeling have already been retired.

#### **EPA PARSED FILES**

#### **Process to Identify Units Closed by EPA Regulation**

Individual power plants often have multiple boilers, called "units," that generate electricity. EPA, in addition to overall modeling, models the impact that the Agency believes its regulations will have on each unit, at each power plant in America. EPA lists these results in "parsed files." When producing parsed files for a regulation, EPA will first create a business-as-usual "base" case parsed file where the Agency details what it believes will happen absent EPA's new regulation. Next, EPA creates a "policy" or "remedy" case parsed file showing how EPA believes plants will respond to a regulation. Thus, one can find the difference between these two cases, and figure out the impact EPA believes a regulation will have, by comparing the policy/remedy case parsed file to the base case parsed file. As such, the following steps were CSAPR and MATS Rule:

- 1. For CSAPR, data from the parsed files for the CSAPR's base case and remedy case were put on a single spreadsheet. The combined results were organized by plant name. Each plant listed in both the base case and remedy case was removed. Thus, the resulting list only shows those plants that EPA believes will close because of the CSAPR. Plants projected to close under CSAPR rules were retained in this update despite the uncertain legal status of the rule. Regardless of the legal status, many of the plants that were originally projected by EPA modeling to be impacted have already been retired or converted. In these instances, some of the citations will reflect the public statements or announcements made stating these impacts rather than the original EPA modeling.
- 2. For the MATS Rule, data from the parsed files for the MATS Rule's base case and policy case were put on a single spreadsheet. The combined results were organized by plant name. Each plant listed in both the base case and policy case was removed.



Thus, the resulting list only shows those plants that EPA believes will close because of the MATS Rule.

3. The resulting base case-free CSAPR list and MATS Rule list were then put on a single spreadsheet. The combined results were organized by plant name. In each instance where the CSAPR and the MATS Rule independently said the same plant would retire, one of the entries was deleted so as to not double-count it. The citation was modified to attribute the unit closure to both the CSAPR and MATS Rule.

#### POWER-PLANT OWNER PUBLIC ANNOUNCEMENTS

#### **Ensuring that Retirements are Result of EPA Regulation**

All retirements announced by plant owners in news releases or through public filings on this list were due to EPA regulation. In each such case, the source cited directly identifies EPA regulations as the sole or main reason for the power plant's retirement.

#### **Avoiding Double-Counting**

If a unit was identified to close by both EPA parsed files and public announcements, then the duplicate entry was released. The unit's citation was modified to indicate that both EPA and public announcements slated the unit for retirement.

#### FREQUENTLY ASKED QUESTIONS

#### Why is this list's total retired capacity higher than EPA's total?

The total retired capacity for this list is higher than EPA's total because this list includes EPA's projected unit retirements and unit retirements announced by power-plant operators. No unit cited by both sources was double counted.

## Does this list include plants that will close even without the CSAPR or MATS Rule?

No. The parsed file results used in this list do not include business-as-usual base case results. In other words, if EPA modeled a unit to close even if the CSAPR or MATS Rule were not implemented, then that unit was not included.

### EPA said only 4.7 GW will close, so why are these numbers higher?

The 4.7 GW retired coal-plant capacity figure is from the EPA Regulatory Impact Analysis (RIA) for the MATS Rule alone. The CSAPR RIA projects an additional 4.8 GW of coal-plant capacity to retire due to the CSAPR. When combined, the RIA's project 9.5 GW of coal-plant capacity to retire due to the MATS Rule and CSAPR. As



noted above, additional plant retirements are due to actually announced retirements.

# When a power-plant operator announces that it is closing a certain unit, how do you know that is because of EPA regulations?

In each case where a retirement is attributed to public announcements, the cited source material lists EPA regulations as the sole or main reason for the plant's retirement.

# Some groups have said EPA regulations will retire up to 103 GW of coal-fired generation, but this list only shows 72 GW. Does this mean those projections are wrong?<sup>i</sup>

No. If anything this list gives more credibility to those higher retirement projections. This list is very conservative; it merely shows what units EPA says its regulations will close, plus specific units that plant-operators have said will close because of EPA regulations. Those analyses that show higher power-plant retirements than this list lay out what the final overall impact of EPA's regulation will be. On the other hand, this list focuses just on the currently disclosed impact. Thus, this list will likely grow far higher, especially as states realize what will be needed to comply with recently announced 111(d) regulations. However, because this list already finds many more retirements than EPA projected, the Agency's claim that its regulations will have minimal impact on electric generation are clearly incorrect.

# EPA has said that other projections showing a high coal generation retirements were based on incorrect assumptions. Is that the case for this list?

No. The only modeling in this list is from EPA. Thus, any mistaken assumption would be EPA's mistaken assumption. Otherwise, the remaining data is from actual public announcements detailing the imminent or highly possible closure of specific units at specific power plants. Since our initial release in 2011 it is evident that any claims of incorrect assumptions regarding coal plants were unfounded.

#### Does this list account for other EPA regulations that may impact power plants?

This list only includes the parsed files for EPA's CSAPR and MATS Rule modeling. No other specific EPA models were consulted to compile this list. While some of the public statements from power plant operators cite specific EPA regulations like CSAPR, MATS and 111(d), many times the statements are more general and broadly cite EPA as the catalyst for retirement. Regardless, all of the publically announced plant retirements listed are due to EPA regulations.

http://www.ucsusa.org/sites/default/files/legacy/assets/documents/clean\_energy/EPA-standards-and-electricity-reliability.pdf