



# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SECRETARY

November 28, 2011

U.S. Environmental Protection Agency  
EPA Air and Radiation Docket and Information Center  
1301 Constitution Avenue, NW  
Washington, DC 20460

Attention: Docket ID No. EPA-HQ-OAR-2009-0491

The Pennsylvania Department of Environmental Protection (DEP) appreciates the opportunity to submit comments on the U.S. Environmental Protection Agency's (EPA) proposed *Revisions to Federal Implementation Plans To Reduce Interstate Transport of Fine Particulate Matter and Ozone* published in the *Federal Register* on October 14, 2011 (76 *Fed. Reg.* 63,860) (Transport Rule Proposed Revisions). According to the Transport Rule Proposed Revisions preamble, EPA is proposing revisions to correct technical errors affecting individual unit allowance allocations, state budgets, new source set-asides and typographical errors in the final Transport Rule promulgated on August 8, 2011 (76 *Fed. Reg.* 48,208). The Transport Rule Proposed Revisions also would provide for what EPA calls a "limited postponement" of the assurance provision penalties until January 1, 2014. This is really not a "postponement" as such but a return to the provisions as outlined in the proposed rule published on August 2, 2010 (76 *Fed. Reg.* 45,210, 45,245, 45,314). EPA indicates that in conducting this proposed rulemaking it will entertain similarly justified revisions in the final Transport Rule and would proceed with a subsequent rulemaking to address any further revisions to state budgets.

## **EPA's Rush To Judgment Across the Board Is Causing It To Make Technical Errors.**

EPA's across the board "rush to judgment" in not just the final Transport Rule but many other rulemakings is causing it to make scientific and technical errors. We are not the only ones seeing this. Just recently, the President of the United States had to take the extraordinary step of telling EPA to "stand down" on its rush to impose a mid-term ozone standard because the mid-term standard EPA was rushing to implement was not only not required by law but, more importantly, was "not based on the best available science." Our review of the Transport Rule Proposed Revisions shows that EPA now realizes, after the adoption of the final rule, that it made at least 14 substantive mistakes covering at least 17 states. So the statement in the Transport Rule Proposed Revisions that "EPA believes that the likelihood of additional substantive revisions merited to the Transport Rule state budgets is limited, considering that EPA has already conducted several notice-and-comment processes" for this rule becomes hardly credible nor can EPA's proposed "technical fixes" be relied upon to remedy flaws in the final rule (76 *Fed. Reg.* 63,863).

Moreover, many of EPA's now admitted errors deal in an area in which many observers have already noted it has very little expertise and has done too little analysis or consultation with

experts regarding electricity market dispatch/local grid security issues. For example, EPA now realizes that it missed “out-of-merit” dispatch situations in New Jersey, New York’s Long Island, Louisiana and Texas, as well as missing New York Independent System Operator N-1-1 Contingency and Minimum Oil Burn Rules issues. EPA even missed the fact that a nuclear power plant in Florida was scheduled to be off-line for a year.

This “rush to judgment” is being shown in other areas as well and seems to be driven to a large extent by self-imposed litigation deadlines. The proposed rule setting hazardous air pollutant emission and standards of performance standards for electric generating units and boilers<sup>1</sup> (Utility MACT Rule) is another example. In this hurried proposed rulemaking, EPA committed the now well-known mistake of confusing “megawatts” with “gigawatts.” This has prompted 11 Governors to ask for a re-proposal of the Utility MACT Rule after study of its impacts on electricity grid reliability and its economic impacts and 27 state attorneys general, including four Democrats, supported an amendment to a self-imposed court deadline by filing an amicus brief, so that a more rigorous scientific and economic analysis can be done. Senator Murkowski and Federal Energy Regulatory Commission (FERC) Commissioner Moeller have agreed that the impact of EPA power sector rules on grid reliability must be assessed. The Pennsylvania-New Jersey-Maryland Interconnection (PJM), the FERC-approved Regional Transmission Organization (RTO) serving all or parts of 13 states encompassing 20 percent of the Gross Domestic Product of the United States, 24 percent of all the generation, 27 percent of the load and 19 percent of all the transmission assets in the Eastern Interconnection, operates the largest competitive wholesale market in the United States and is responsible for both planning and reliable operation of the electric grid serving over 58 million people. PJM fully documented in its comments on EPA’s proposed Utility MACT Rule how the agency failed to understand or fully analyze the grid security issue. FERC Commissioner Moeller has pointed to EPA’s deficiency in this regard as well. EPA does not deny it.

Of course, this does not address, nor has EPA ever adequately addressed, the potential synergistic impacts of the anticipated suite of power sector rules on electricity grid reliability. FERC Commissioner Moeller has pointed this out in recent testimony before the U.S. House of Representatives Committee on Energy and Commerce, Subcommittee on Energy and Power and correspondence to Senator Murkowski. He has also pointed out that the EPA has been derelict in failing to undertake consultation with FERC or RTOs in its process. Commissioner Moeller has also indicated that FERC should undertake an open process with the opportunity for public comment on the cumulative impacts of EPA’s suite of regulations on the electric grid. Only recently has the FERC decided that it will call an electricity grid reliability conference to discuss these concerns.

In light of the preliminary projections by FERC staff that an estimated 81 gigawatts (GW) of coal-fired electric generating capacity is either “likely” or “very likely” to retire, and another

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<sup>1</sup> National Emission Standards for Hazardous Air Pollutants from Coal and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units (76 *Fed. Reg.* 24,976 (May 3, 2011)).

50 GW is “somewhat likely” to retire because of EPA regulations affecting the power sector, consultations with RTOs and Independent System Operators (ISO) are long overdue.<sup>2</sup> Some of the opposition to the Transport Rule and other proposed rules may have been avoided had consultations begun earlier. The DEP believes that EPA’s future revisions to the Transport Rule and all the other power sector rules under consideration will be better informed by consultations with FERC, RTOs and ISOs to address electric grid reliability concerns.

DEP, of course, has serious concerns about the technical framework of the final Transport Rule that now requires not an eleventh hour, but a thirteenth hour, rulemaking to correct serious technical errors discovered only after the promulgation of the final rule. This renders either as amusing, or as famous last words, or both, EPA’s statement in this Proposed Revision that “EPA believes that the likelihood of additional substantive revisions...is limited considering that EPA has already conducted several notice-and-comment processes” [and NODA processes for this Rule].<sup>3</sup> With a January 2012 compliance date for the sulfur dioxide (SO<sub>2</sub>) and oxides of nitrogen (NO<sub>x</sub>) annual programs, we are only a month out from the start of implementation of the Transport Rule that affects 27 states—this technically flawed rule includes erroneous assumptions about control devices, omissions of planned new units, operational constraints in consent orders and the unavailability of a nuclear unit.

All that said, the Department will weigh in on the final Transport Rule and revisions proposed on October 14, 2011.

**EPA’s FIP First Approach for 2012 and 2103 Violates the Clean Air Act’s Mandate of Cooperative Federalism, and for No Substantial Environmental or Health Gain.**

The DEP believes that EPA has very likely overstepped its legal boundaries under the cooperative-federalism mandates of, among other provisions of the Clean Air Act (CAA), 42 U.S.C. §§ 7407(a), 7401(a)(3), and 7410(c). These CAA provisions and court cases as well, mandate a state action first approach. EPA’s transgression is evident for the years 2012 and 2013, where the EPA has adopted what has been called the “FIP first approach” which has illegally commandeered the States’ role under the cooperative federalism mandates of the CAA. EPA will not accept SIP revisions for the 2012 control periods, and most states cannot realistically submit SIPs in time for the 2013 compliance periods. The DEP has reserved the right to submit a SIP revision by April 1, 2012, and is examining all options available under state law to expedite the rulemaking and SIP development process in order to allocate 2013 Transport Rule allowances.

The Transport Rule FIPs promulgated by EPA with a January 1, 2012, compliance date usurp states’ rights by depriving states of any opportunity to regulate directly sources within their own

<sup>2</sup> “Potential Retirement of Coal-Fired Generation and its Effect on System Reliability,” (Preliminary Results), Office of Electric Reliability, Division of Bulk Power System Analysis, FERC, as posted on the Senate Energy Committee website, <http://energy.senate.gov/public/>

<sup>3</sup> 76 *Fed. Reg.* 63,863 (column 1)

borders. The state rights doctrine is of utmost importance to the Commonwealth of Pennsylvania, which is well equipped to regulate its own sources.

EPA's highly questionable "FIP first" approach for 2012 and 2013 is especially troublesome in that EPA has not specifically quantified any environmental or health benefits for 2012 and 2013. The full range of benefits that EPA has quantified will take place after 2013 when anticipated controls will be installed.

Sources in Pennsylvania currently operate under Pennsylvania's Clean Air Interstate Rule (CAIR) SIP, which EPA approved on December 10, 2009. There was no urgency for EPA to impose Transport Rule FIPS for 2012 and 2013, as those FIPS may achieve little more than the current CAIR SIPs in terms of emission reductions. EPA could have left CAIR in place until 2014, when state budgets are set to decrease under the Transport Rule. This would have given states time to develop and submit SIP revisions and thereby retain control over sources within their borders.

The DEP urges EPA to consider revising the Transport Rule accordingly.

**DEP Supports the Elimination of the Assurance Penalty Provisions until 2014 to Facilitate the Creation of "Robust Transport Rule Allowance Markets."**

The DEP supports EPA's proposed Transport Rule revision which changes the effective date of the "assurance penalty" provisions to 2014, as proposed in August 2010. The DEP agrees that change in the final rule should promote "market liquidity" during the transition from the CAIR to Transport Rule market-based programs. EPA calls this a "limited postponement" of the assurance penalty provisions but this is really not a "postponement" but a return to the provisions outlined in the proposed rule. EPA's imposition of the assurance provisions for 2012 and 2013 in the final Transport Rule had nothing to do with additional public health or air quality, as EPA pointed out in the October 14, 2011, preamble for the proposed revisions.<sup>4</sup> The DEP also agrees with EPA's position that there is no adverse public health impact nor compromise of air quality involved in EPA putting back the effective date of these provisions to where EPA had them in the first place.

Because CAIR and Acid Rain Program allowances cannot be used to comply with the Transport Rule beginning 2012, the DEP believes that the proposed amendment to the assurance penalty provisions is necessary and should not have an environmental effect. EPA based the 2012-2013 budgets on existing or already planned controls. EPA's analysis indicated that there is a high level of certainty that emission reductions in 2012 and 2013 would occur within individual states, and that it was thus unlikely that states would exceed their assurance levels in any case. The assurance penalty provisions, therefore, in those years could only serve as a drag on trading without air quality benefit.

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<sup>4</sup> 76 Fed. Reg. 63,871 (column 1 and 2)

### **Waste Coal-Fired Power Plants.**

It is ironic and troublesome that EPA in this rule continues to ignore the substantial environmental and health benefits that waste coal-fired or “coal refuse-fired” electric generating units (EGUs) provide to the citizens of Pennsylvania. This group of EGUs that EPA included in the final Transport Rule *should not* be subject to the rule because these sources do not contribute significantly to nonattainment of the national ambient air quality standards or interfere with maintenance in downwind areas. These facilities in Pennsylvania<sup>5</sup> and several other states have particular importance because of the environmental benefits resulting from the clean-up of waste coal piles. In the proposed preamble for the Utility MACT Rule, EPA acknowledges that special consideration is warranted for units that burn coal refuse because of their unique environmental benefits. EPA also already recognizes that their Circulating Fluidized Bed (CFB) technology ensures that the units are inherently cleaner than most EGUs.<sup>6</sup> CFB units are among the units used to set the MACT floor for coal-fired EGUs with the exception of hydrogen chloride. They are also among the units with lowest mercury emissions.

They should be excluded from the Transport Rule because the add-on controls EPA considers cost effective for pulverized-coal fired units are not cost-effective for waste coal-fired units. The waste coal units should be treated similarly to the non-EGUs, which EPA excluded, saying “EPA believes that there are little or no emission reductions available by non-EGUs at the cost thresholds used in the final rule and so no basis for developing non-EGU state budgets reflecting the elimination of significant contribution to nonattainment and interference with maintenance.” (76 Fed. Reg. 48,323)

Waste coal-fired units combust the low British Thermal Unit (BTU)-value waste coal discarded by mining companies for more than 150 years – from the time mining first began in Pennsylvania in the early 1800s through the late 1970s. In 1997, the Pennsylvania Joint Legislative Air and Water Pollution Control and Conservation Committee issued findings that the “record of the cogeneration industry includes the removal of 88 million tons of acid bearing coal refuse and countless culm piles from the Pennsylvania landscape, and the reclamation of 3,400 acres of abandoned minelands at no cost to taxpayers.” The owners and operator of these units have cleaned up massive waste coal piles in Pennsylvania and eliminated stream-threatening acid mine drainage, while using their ash to help reclaim abandoned mine lands. More recent data indicate that the CFBs operating in the Commonwealth have burned over 150 million tons of waste coal and reclaimed nearly 5,000 acres of abandoned mine lands. Should waste coal combustion become unavailable due to the costs of complying with the

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<sup>5</sup> Cambria Cogeneration, Ebensburg Power, Gilberton Power, Colver Power Project, Mount Carmel Cogeneration, Northeastern Power, Panther Creek, Piney Creek, Schuylkill Energy Resources, Scrubgrass Generating, Wheelabrator Frackville, WPS Westwood Generation, Northampton and Seward.

<sup>6</sup> EPA recognized that “data shows that emission levels from some facilities burning coal refuse (namely those equipped with circulating fluidized beds (CFBs)) are lower than most existing pulverized coal utility boilers” in its publication of a Solid Waste Rule-Identification of Non-Hazardous Secondary Materials That Are Solid Waste, 76 Fed. Reg. 15,456, (March 21, 2011)

Transport Rule, the resulting costs to remove the coal refuse piles in Pennsylvania could approach billions of dollars and require over 500 years to complete.

Clearly, these facilities are important to Pennsylvania and Pennsylvanians. Fly ash from the facilities can also be used beneficially to neutralize acidity in groundwater while acting as a seal to slow the generation of acid mine drainage and to reclaim surface lands. Pennsylvania House and Senate leaders have also consistently recognized the air, water, waste, reclamation, energy supply and jobs benefits of the waste coal facilities.<sup>7</sup>

EPA explains in the preamble for the proposed Utility MACT Rule why waste coal-fired units warrant special consideration because of their unique environmental benefits. EPA stated that "...units that burn coal refuse provide multimedia environmental benefits by combining the production of energy with the removal of coal refuse piles and by reclaiming land for productive use...EPA concludes that it is not generally cost effective to add additional post combustion SO<sub>2</sub> controls for modified fluidized beds." (76 *Fed. Reg.* 24976, 25066). However, EPA's cost-effectiveness analysis for the Transport Rule fails to account for significant distinctions in the operation of waste coal-fired units compared to other EGUs. Consequently, EPA's determination that all EGUs can be cost-effectively controlled consistent with the objectives of the Transport Rule does not, in fact, apply to the waste coal-fired facilities, just as it did not apply to non-EGUs.

It is also important to note that the vast majority of these waste coal-fired units, originally constructed as Qualifying Facilities pursuant to the Public Utility Regulatory Policy Act (PURPA), enacted in 1978 and reauthorized in 2001, were subject to size restrictions. As a result, the facilities are relatively small in size. Expansion of these plants is constrained by federal, state and local regulatory requirements.

CFB technology is inherently cleaner-burning and, therefore, its emissions characteristics are distinguishable from pulverized coal-fired EGUs. Because emission controls are primarily achieved through careful management of the combustion zone, CFB operators must maintain strict control over combustion zone characteristics in order to control multiple pollutants simultaneously.

Congress recognized the unique nature of plants developed under PURPA in the 1990 amendments to the CAA by exempting them from the Title IV Acid Rain Program in Section 405(g)(6)(A). 42 U.S.C. 7651d(g)(6)(A). Congress provided the exemption in recognition of the cleaner-burning nature and benefits of energy diversification the sources provide.

The DEP agrees that waste coal-fired units "warrant special attention" and questions the technical and economic feasibility of installing add-on control technology to further reduce

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<sup>7</sup> For example, Senators Mary Jo White and Raphael Musto, leaders of the Senate Environmental Resources and Energy Committee said in 2007, "these small, independent plants contribute greatly to cleaning up waste coal piles and reducing the threat posted from air and water pollution."

SO<sub>2</sub> emissions to achieve the 2014 SO<sub>2</sub> emission budgets, since such results have not yet been demonstrated in actual testing or operation for waste coal-fired units. Even if it were technically feasible, add-on technology would not be considered economically feasible, based on EPA's \$2,300 per ton removed threshold for cost-effective SO<sub>2</sub> controls during Phase II (2014) of the annual program. Presently, in Pennsylvania there is one waste coal-fired plant that operates additional "polishing" scrubbers for acid gas control. Even with these "polishing scrubbers" these two CFB units operate far above their 2014 SO<sub>2</sub> allocations.

Many of the waste coal companies are organized in a trade association called the Anthracite Region Independent Power Producers Association (ARIPPA), comprised of 13 waste coal-fired electric generating plants located in Pennsylvania. ARIPPA facilities are part of the small waste coal power production industry, which is comprised of 14 plants in Pennsylvania, two in West Virginia, one in Montana and one in Utah. ARIPAA has conducted a cost effectiveness analysis. ARIPPA's analysis of the cost-effectiveness of using dry sorbent injection (DSI) to reduce SO<sub>2</sub> emissions demonstrates that it would cost at least \$3,300 per ton of SO<sub>2</sub> removed, but more likely in excess of \$6,400 per ton removed, depending on the sorbent injection rate required to achieve the necessary emission reductions in Phase II. This cost analysis is limited to the direct costs of installation and operation of DSI. Because the application of this technology could degrade the quality of ash generated by waste coal-fired CFB units, ultimately preventing the ash from being used beneficially to reclaim abandoned mines, the total cost per ton removed for reducing SO<sub>2</sub> emissions, taking into account the additional ash disposal cost, would increase to more than \$11,500. ARIPPA also evaluated the potential application of spray drying absorption as an SO<sub>2</sub> emission control option, and concluded that retrofitting a typical 80 MW waste coal-fired plant to meet the Phase II reduction requirements would cost nearly \$9,000 per ton removed. Finally, since the purpose of waste coal-fired plants is to use coal refuse for environmentally beneficial purposes, fuel switching is not an option. The CFB technology designed for use by the ARIPPA member facilities was specifically intended—and is legally obligated—to combust coal refuse as the primary or exclusive fuel source for energy generation.

Should EPA decide not to exclude these units, EPA should increase Pennsylvania's SO<sub>2</sub> budgets by the amount needed to be consistent with their historic emission rates; these allocations would reflect the consideration of (that is, the lack of) cost-effective controls. EPA should allocate the number of allowances to the units in Enclosure 1 using the following methodology:

- Determine the historic annual SO<sub>2</sub> emissions from the eight year period 2003 through 2010 (the same period identified by EPA to capture unit-level emissions before and after the promulgation of CAIR);
- Eliminate the year with the highest and the year with the lowest SO<sub>2</sub> emissions; and
- Calculate the average of the remaining years SO<sub>2</sub> emissions to determine the annual allocation.

This same allocation methodology should be used for 2012 and future year SO<sub>2</sub> allocations. Allocations made in this fashion are not likely to be in excess of the reasonably foreseeable

maximum emissions of the units, but will provide the owners and operators of waste coal facilities with the ability to continue to operate without investing in extremely expensive or undemonstrated control technology. The suggested allocations are shown below, including comparisons to EPA's allocations. The 2003-2010 emissions from the units used to calculate the allocations are included in Enclosure 1.

ORIS Number	Name	Unit ID	Average Emissions DEP Allocations	EPA 2012 Transport Rule Allocations	EPA 2014 Transport Rule Allocations
10343	MT CARMEL COGEN/CULM FIRED COGEN PLT	SG-101	458	525	428
50888	NORTHAMPTON GEN CO/NORTHAMPTON	NGC01	510	514	514
54144	PINEY CREEK LP/PINEY CREEK POWER PLT	031	1,144	514	514
50974	SCRUBGRASS GENERATING CO LP/KENNERDELL PLT	1	767	953	472
50974	SCRUBGRASS GENERATING CO LP/KENNERDELL PLT	2	793	934	463
10641	CAMBRIA COGEN CO/EBENSBURG	1	1,309	1,247	435
10641	CAMBRIA COGEN CO/EBENSBURG	2	1,338	1,271	444
10143	INTER POWER AHLCON L/COLVER POWER PROJ	AAB01	2,503	2,616	913
54634	SCHUYLKILL ENERGY RES/ST NICHOLAS COGEN	1	1,660	1,723	879
50879	WHEELABRATOR FRACKVILLE/MOREA PLT	Gen1	462	558	439
50039	NORTHEASTERN POWER CO/MCADOO COGEN	031	813	844	542
50611	WPS WESTWOOD GEN LLC/GEN STA	031	316	365	304
50776	PANTHER CREEK PARTNERS/NESQUEHONING PLT	1	267	693	383
50776	PANTHER CREEK PARTNERS/NESQUEHONING PLT	2	273	740	394
10113	GILBERTON POWER CO/JOHN B RICH MEM POWER STA	31	739	670	359
10113	GILBERTON POWER CO/JOHN B RICH MEM POWER STA	32	739	625	348
3130	GENON WHOLESALE GEN/SEWARD GEN STA	1	4,083	4,444	1,853
3130	GENON WHOLESALE GEN/SEWARD GEN STA	2	3,769	4,013	1,632
10603	EBENSBURG POWER COMPANY	31	1,845	1,637	571
Totals for all CFB's			23,788	23,249	11,316

**EPA Should Amend the Transport Rule to Allow the Owners and Operators of Non-EGUs to Buy and Surrender NO<sub>x</sub> Allowances.**

Under the two predecessor trading programs, the NO<sub>x</sub> SIP Call and CAIR programs, certain non-EGUs could opt-into the program or buy and surrender NO<sub>x</sub> allowances for compliance with other emission limitation programs. Pennsylvania's SIP-approved air quality regulations<sup>8</sup> authorize the use of this market-based compliance option for small sources of NO<sub>x</sub> in the five-county Philadelphia ozone nonattainment area that were not subject to either trading program

<sup>8</sup> 25 Pa. Code §§ 129.201-129.205, 145.111-145.113 and 145-141-145.143



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(namely certain boilers, stationary combustion turbines, and stationary internal combustion engines) and for large stationary internal combustion engines and cement kilns that are subject to the NO<sub>x</sub> SIP Call.

The DEP requests that EPA amend the Transport Rule to continue to allow for the surrender of NO<sub>x</sub> allowances for these units to avoid a disruption of this cost-effective method of compliance. The impact on the Transport Rule will be insignificant. The smaller NO<sub>x</sub>-emitting units in Southeastern Pennsylvania, the cement kilns and large stationary internal combustion engines together retired only 273 allowances (just about five-tenths of one percent of the Transport Rule's ozone season NO<sub>x</sub> budget) in 2009. In 2010, they retired only 134 allowances (just over two-tenths of one percent of the Transport Rule's ozone season NO<sub>x</sub> budget). The continued use of allowances is a cost-effective way of implementing these SIP-approved programs. While the DEP may be able to address this issue in a state-specific rulemaking for 2013 and subsequent years, only EPA can address this issue during the 2012 compliance period under the FIP. We ask that you do so for all compliance periods to preserve the continuity from the NO<sub>x</sub> SIP Call to CAIR and throughout implementation of the Transport Rule.

Thank you for the opportunity to provide comments on the Transport Rule and amendments under consideration. Should you have questions or need additional information, please contact Vincent J. Brisini, Deputy Secretary for Waste, Air, Radiation and Remediation, by e-mail at [vbrisini@pa.gov](mailto:vbrisini@pa.gov) or by telephone at 717.772.2724. You may also contact Joyce E. Epps, Director of the Bureau of Air Quality, by e-mail at [jeepps@pa.gov](mailto:jeepps@pa.gov) or by telephone at 717.787.9702.

Sincerely,



Michael L. Krancer  
Secretary

Enclosure