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INDEPENDENT REGULATORY REVIEW COMMISSION

333 MARKET STREET, 14TH FLOOR, HARRISBURG, PA 17101

September 25, 2006

Honorable Kathleen A. McGinty, Chairperson
Environmental Quality Board
Rachel Carson State Office Building
400 Market Street, 16th Floor
Harrisburg, PA 17101

Re: Regulation #7-405 (IRRC #2547)
Environmental Quality Board
Standards for Contaminants; Mercury

Dear Chairperson McGinty:

Enclosed are the Commission's comments for consideration when you prepare the final version of this regulation. These comments are not a formal approval or disapproval of the regulation. However, they specify the regulatory review criteria that have not been met.

The comments will be available on our website at www.irrc.state.pa.us. If you would like to discuss them, please contact me.

Sincerely,

Kim Kaufman
Executive Director
kac
Enclosure
cc: Honorable Mary Jo White, Chairman, Senate Environmental Resources and Energy Committee
Honorable Raphael J. Musto, Minority Chairman, Senate Environmental Resources and Energy Committee
Honorable William F. Adolph, Jr., Majority Chairman, House Environmental Resources and Energy Committee
Honorable Camille George, Democratic Chairman, House Environmental Resources and Energy Committee

Comments of the Independent Regulatory Review Commission

on

Environmental Quality Board Regulation #7-405 (IRRC #2547)

Standards for Contaminants; Mercury

September 25, 2006

We submit for your consideration the following comments on the proposed rulemaking published in the June 24, 2006 *Pennsylvania Bulletin*. Our comments are based on criteria in Section 5.2 of the Regulatory Review Act (71 P.S. § 745.5b). Section 5.1(a) of the Regulatory Review Act (71 P.S. § 745.5a(a)) directs the Environmental Quality Board (EQB) to respond to all comments received from us or any other source.

1. **General - Legislative intent; Policy decision requiring legislative review; Comments of a Committee; Protection of public health; Effect on natural resources; Economic impact; Adverse effects on prices, productivity and competition; Consistency with other regulations and statutes; Reasonableness; Implementation procedure; Need; Clarity.**

Mercury is a dangerous neurotoxin that needs to be reduced in our environment. Accordingly, Pennsylvania is required to reduce mercury emissions by the published directives of the U.S. Environmental Protection Agency (EPA) as authorized by the federal Clean Air Act (CAA). These points are not disputed by supporters or opponents of the EQB's proposed regulation.

EPA offered two approaches to reducing mercury. States can either participate in a model rule developed by the EPA which establishes a national cap-and-trade program, or submit a program that meets their mercury budget cap. The EQB has made a policy decision not to participate in national trading of allowances and instead proposes to cap Pennsylvania emissions independently. The decision to take a different path from the EPA model has generated a variety of questions and issues that relate directly to our criteria. The following paragraphs will identify and explain these questions and issues.

Legislative action and intent

Both the House and Senate Environmental Resources and Energy Committees (House and Senate Committees) held several hearings and meetings related to this regulation. Legislation was introduced in both chambers to require implementation of the EPA model (federal Clean Air Mercury Rule (CAMR)) and allow emissions trading in Pennsylvania. Senate Bill 1201 passed the Senate on June 20, 2006, by a vote of 40 to 10. Additionally, a similar bill (HB 2610) with 106 cosponsors was introduced in the House of Representatives. As of the date of these comments, the House of Representatives has not yet voted on either bill. The EQB also received individual legislative comments both in support of this regulation and in opposition.

In the Preamble of the proposed regulation, the EQB cites Section 5(a)(1) of the Air Pollution and Control Act (APCA) (35 P.S. § 4005(a)(1)) as its statutory authority for proposing this regulation. Section 5(a)(8) of the APCA reads:

> (a) The board [EQB] shall have the power and **its duty shall be to** –
>
> * * *
>
> (8) Adopt rules and regulations to implement the provisions of the Clean Air Act. The rules and regulations adopted to implement the provisions of the Clean Air Act shall be **consistent** with the requirements of the Clean Air Act and the **regulations** adopted thereunder. [Emphasis added.]

The EQB also discusses Section 6.6 of the APCA in the Preamble and states:

> Because these standards were established under section 111 of the CAA, rather than section 112 of the CAA, the "no more stringent than" provision under section 6.6(a) of the APCA is inapplicable.

However, the EQB also states in its Preamble:

> The Department strongly opposes a cap-and-trade approach under the CAMR…the Department believes that the EPA does not have the legal authority to regulate an HAP [hazardous air pollutant] like mercury under the less stringent provisions of section 111 of the CAA, as opposed to the more stringent provisions under section 112 of the CAA.

While Section 6.6(a) of the APCA refers to Section 112 of the CAA, it also includes the statement that the EQB "may not establish a more stringent performance or emissions standard for hazardous air pollutant emissions from existing sources, except as provided in subsection (d)." Subsection 6.6(d)(1) of the APCA (35 P.S. § 4006.6(d)(1)) reads:

> When needed to protect public health, welfare and the environment from emissions of hazardous air pollutants from new and existing sources, the department may impose health risk-based emission standards or operating practice requirements. In developing such health risk-based emission standards or operating practice requirements, the department **shall provide an explanation and rationale** for such standards or requirements and provide for public review and comments on plan approvals, operating permits, guidelines and regulations which contain health risk-based emission standards or operating practice requirements. [Emphasis added.]

Hence, the statutory provisions of the APCA require that EQB regulations be consistent with federal regulations promulgated under the CAA and that Department of Environmental Protection (DEP) provide "an explanation and rationale" for health risk-based emission standards. Given these statutory provisions, the record of significant legislative support for the federal CAMR regulation, and the EQB's position that the EPA should regulate mercury under Section 112 of the CAA, the EQB needs to specify in detail how the proposed regulation and the explanation, rationale and supporting information for this proposed regulation are consistent with the intent of the General Assembly.

The EPA allows states to modify their approach to mercury reduction. However, the EQB needs to explain and justify its decision to exceed the federal requirements. Since the EQB has opted to achieve "greater reductions than EPA's CAMR in a shorter period of time," there is an obligation to explain how and why exceeding the federal regulations was determined to be necessary. The Preamble does not contain sufficient information. For each point in the proposed regulation where a state provision is more stringent than its federal counterpart, the EQB must fully explain and document the evidence and findings for each determination that exceeding federal rules is reasonable and necessary. This information needs to accompany the final-form regulation for each exception that is retained.

Comments, objections and recommendations from the Senate Committee

In a letter dated September 22, 2006, Senators Mary Jo White and Raphael J. Musto, Senate Committee Majority and Democratic Chairmen, submitted extensive comments on this proposed regulation on behalf of their Senate Committee. Their areas of concern include "hot spots," need for the proposed regulation, protections or preferences for Pennsylania coal, electric generation costs and pricing, impacts on competition and compliance with Executive Order 1996-1. Consistent with our criterion (71 P.S. § 745.5b(b)(5)), we will thoroughly review the EQB's response to the comments, objections and recommendations of the Senate Committee in our consideration of whether the final-form regulation is in the public interest.

Whether the regulation represents a policy decision of such a substantial nature that it requires legislative review

The EQB's policy decision to independently cap emissions within Pennsylvania carries with it the obligation to document why the incremental difference between its regulation and the federal cap-and-trade program is a necessity. Several public commentators, including the Pennsylvania Chamber of Business and Industry, Pennsylvania Coal Association and Electric Power Generation Association, oppose the EQB decision to deny national trading of allowances under EPA's CAMR. We are concerned by estimates of the costs of this decision and its effect on electric generators, electric utilities, electric ratepayers, coal operations, coal miners, competition between states at many levels and economic development within Pennsylvania. The EQB must explain whether the incremental benefits of this proposed regulation outweigh the associated fiscal impacts and whether this regulation is a policy decision requiring legislative review.

Protection of the public health

In the Preamble published in the June 24, 2006 *Pennsylvania Bulletin*, the EQB states:

> A recent study released by the Centers for Disease Control and Prevention (CDC) found that approximately 8% of women of childbearing age in the United States had mercury levels exceeding the level considered safe by the United States Environmental Protection Agency (EPA) for protecting the fetus. In the United States, this translates into approximately 600,000 babies born each year at risk of developmental harm due to mercury exposure in the womb.

The Preamble did not include a cite to the CDC study used. However, a CDC study, dated November 5, 2004, summarizes results for 1999 to 2002 and includes the following:

- **"The findings confirmed that blood Hg [mercury] levels in young children and women of childbearing age usually are below levels of concern.** However, approximately 6% of childbearing-aged women had levels at or above a reference dose, an estimated level assumed to be without appreciable harm (≥5.8 μg/L)."

- **"Among childbearing-aged women, for the 4-year period 1999--2002, estimates of the GM of blood Hg and the proportion with levels ≥5.8 μg/L were lower than estimates for the 2-year period 1999--2000**...the percentage of women with blood Hg levels ≥5.8 μg/L was 3.9% in 2001--2002 (CI = 2.40--6.43), compared with 7.8% in 1999--2000 (CI = 4.70--12.83)."

- **"The EPA RfD [reference dose] is based on measures of Hg in cord blood and is a level assumed to be without appreciable harm.... All women and children in the 1999--2002 NHANES [National Health and Nutrition Examination Survey] survey period had blood Hg levels below 58 μg/L.** The harm to a fetus from levels of exposure as measured by cord blood levels between 5.8 μg/L and 58 μg/L is uncertain."

  (Emphasis added.)

  (See "Blood Mercury Levels in Young Children and Childbearing-Aged Women --- United States, 1999—2002" (November 5, 2004 / 53(43); 1018-1020) available on the CDC's website at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5343a5.htm)

These CDC findings vary significantly from those cited in the EQB's Preamble and lead to a different conclusion. In judging whether this regulation is in the public interest, we need further support for the EQB's statements in the Preamble and an explanation of whether it considered these findings by the CDC, which were available before the EQB published the Preamble. The EQB also needs to explain how the incremental difference between this regulation and EPA's CAMR will better protect the public health.

Economic impact

In the Preamble's "Compliance Costs" section, the EQB estimates that "the total annualized cost (capital and operating) of mercury-specific control technology that EGUs [electric generating units] must install beyond CAIR [Clean Air Interstate Rule] to comply with the Pennsylvania-specific mercury rule" would be $15.7 million for Phase 1 and $16.7 million for Phase 2. The Electric Power Generation Association (EPGA) believes the EQB estimates have no factual basis. EPGA cited a study done for the Center for Energy and Economic Development and the Pennsylvania Coal Association which states the Pennsylvania rule would:

- Increase Pennsylvania's compliance cost by $1.7 billion.

- Cost $161 million per year from 2009 to 2018 over the CAIR/CAMR.

- Could displace 85.1 million tons of Pennsylvania coal.

- Expose 5,797 Megawatts of electric generating capacity to premature retirement.

The EQB needs to reconcile its cost figures with those of the affected industries, and provide comprehensive support for its estimates of the economic impact of this regulation on the electric industry, coal industry and electric ratepayers in this Commonwealth.

Technical feasibility

Commentators have stated that the technology to meet the limits of this regulation either does not yet exist, or has not been proven to be effective and reliable. The EQB should explain what technology is currently available to meet the requirements set forth in this regulation. If the technology is not yet developed or its reliability is not fully tested, the EQB should explain why it believes effective, dependable technology will be available in time to meet the requirements of this regulation.

Other states

Most of the states with significant electric generation by coal are either adopting the CAMR or a similar rule that allows trading. These states include Ohio, West Virginia, Kentucky, Missouri, North Carolina, Texas and possibly Indiana. The only exception is Illinois. On the other hand, states such as New York, New Jersey, Maryland, Michigan and many in the New England region are adopting state rules that do not allow trading and are similar to the EQB proposed regulation. However, the coal-fired segment of the electric industry is not as large in these states as it is in Pennsylvania, West Virginia, Ohio and Texas. New York and the other states in this second group use other resources, which may include oil, natural gas, hydro-electric power or nuclear power, to generate electricity. Hence, the impact of their mercury rules will not be as great on their economies.

When it comes to coal and electricity, Pennsylvania has more in common with states such as Ohio, West Virginia, Kentucky and Texas. However, unlike Pennsylvania, the coal-fired electric plants in these states will be able to use CAMR to trade to meet emissions requirements and gain financially by investing in mercury emissions control technologies. The same flexibility will not be available to the Pennsylvania industry. It appears there will be no economic incentive to increase reductions in mercury emissions because Pennsylvania EGUs will not be allowed to sell emission credits. The EQB and DEP should carefully consider whether this situation will place Pennsylvania at a competitive disadvantage when compared to the electric and coal industries in the states that allow trading.

2. Comments of the U.S. Environmental Protection Agency - Protection of public health; Effect on natural resources; Consistency with other regulations; Reasonableness; Implementation procedure; Need; Clarity.

In letters dated August 24 and 26, 2006, Judith M. Katz, Director, Air Protection Division, EPA Region III, submitted written comments on this proposed regulation to the EQB. The EPA Region III comments raised several issues directly related to our criteria. EPA Region III conveyed serious concerns in its comments and warned that it may be prohibited from approving portions of this proposed regulation. We share the same comments, questions and concerns

expressed by the EPA Region III and incorporate them into the Commission's comments on this proposed regulation.

3. Section 123.202. Definitions. - Clarity.

Bituminous coal

Paragraph (ii) of this definition includes anthracite coal. It is confusing to include anthracite coal within the definition of bituminous coal. For clarity, we recommend deleting anthracite coal from this definition, defining it separately and adding that term where it is needed in the regulation.

EGU--Electric generating unit

Commentators requested the addition of integrated gasification combined cycle units and units that burn synthetic gas to this definition. Why weren't these included?

SCR--Selective catalytic reduction

Commentators believe the end of this definition should state "molecular" nitrogen. The EQB should consider this clarification.

4. Section 123.205. Emission standards for coal-fired EGUs. - Economic impact; Reasonableness; Clarity.

As fired

Each of the provisions for EGUs in this section include an option for a percentage "control of total mercury as measured from the mercury content in the coal as fired." The phrase "as fired" generates two concerns. First, it is confusing because this appears to be a different standard than the measurement of mercury content specified in Section 123.214 (relating to coal sampling and analysis for input mercury levels). Second, it would exclude the beneficial processes described by commentators that can reduce mercury before the coal is fired. Therefore, the phrase "as fired" should be replaced with a reference to the measurements required by Section 123.214.

Clarification of terms and cross references

Subsection (a)(2)(i) needs two clarifications. First, the defined term "coal refuse" should be used instead of "waste coal." Second, the cross reference to 40 CFR Part 60 Subpart D appears to be incorrect since Subpart D does not contain a mercury emission standard. The reference should be to Subpart D**a**.

EGUs burning 100% bituminous coal

Sections (a)(2)(i) and (ii) are limited to "EGUs burning 100% bituminous coal." Commentators observed that fuel oil and natural gas are needed to start the coal units and stabilize the flame. We recommend amending these provisions to accommodate the use of start up fuels.

Two phases for existing CFB EGUs

Subsection (c) sets identical limits for circulating fluidized bed (CFB) EGUs for Phases 1 and 2. This is confusing because the limits for these units do not vary after January 1, 2010. The limits for existing CFB EGUs should be shown as a single phase.

5. Section 123.206. Compliance requirements for the emission standards for coal-fired EGUs. - Feasibility; Effects on competition; Reasonableness; Clarity.

Facility-wide emissions averaging

Subsection (a)(2) should clearly specify how "facility-wide emissions averaging" would be calculated. Absent the details of this calculation, we cannot evaluate it. For example, could a relatively large unit be averaged with a smaller unit or is a weighted average required? Could inactive units be included in the average?

Presumed to be in compliance

Subsection (b) exempts EGUs that use certain emission controls and states they "will be presumed to be in compliance." We have four concerns. First, why is this presumption reasonable, particularly under Paragraphs (1) and (2) which do not require "any additional compliance demonstrations"?

Second, it is not clear how this exemption affects Pennsylvania's overall compliance with the EPA cap or how it affects other provisions within this regulation including Section 123.207. What happens if an exempted unit emits a disproportionate share of mercury?

Third, why weren't coal refuse facilities included?

Finally, why didn't the EQB include other processes such as activated carbon injection?

EGUs burning 100% bituminous coal

The same as our comment on Section 123.205, the provisions in Subsection (b) are limited to "EGUs combusting 100% bituminous coal." Commentators observed that fuel oil and natural gas are needed to start the coal units and stabilize the flame. We recommend amending these provisions to accommodate the use of start up fuels.

Economically or technologically infeasible

Subsection (c) allows alternative standards and compliance schedules where mercury reduction requirements are economically or technologically infeasible. We see a need for this provision, but we question how other units in Pennsylvania will be affected by a competitor who does not have to meet the same mercury reduction requirements. Also, how would the approval of an alternate plan be counted toward allowances set aside in Section 123.207?

Other information

Subparagraph (c)(2)(x) requires "other information which the Department requests that is necessary for the approval of the application." This provision is vague. The EQB should specify in regulation the information needed for approval of the application.

12-month rolling period

In Subsection (d), a 12-month rolling period is used to calculate the actual emission rate for the EGU. Why is a rolling period used rather than a fixed 12-month period?

6. Section 123.207. Annual emission limitations for coal-fired EGUs. - Economic impact.

Effect on the Pennsylvania Coal Industry

The Electric Power Generation Association and the Pennsylvania Coal Association believe the limits in this section could force many Pennsylvania high-mercury coals out of the market and that some generating units will be in jeopardy of retirement. The EQB should explain how this regulation will affect Pennsylvania's coal industry and whether coal units will be forced to retire as a result of this regulation. If they are, what will be the economic impact on ratepayers?

Set-aside and set aside

We found the terms "set aside" and "set-aside" to be confusing. The Department is clearly and directly setting emission limits by allocating allowances to meet the EPA cap. The regulation would be clearer by describing allocation of allowances rather than "set-aside" of allowances.

Notice of the maximum number of allowances

Subsections (h) and (i) require publication of the allowances just six months before compliance is required. We recommend that this publication date be moved to the earliest date possible so that owners of EGUs have the opportunity to plan and adjust for this allocation. Similarly, under Subsection (j) notice by March 31 could come too late for the owner to make any needed adjustments.

Nontradable mercury allowances

Commentators have stated that there is no incentive to over comply, since the allowances created by this investment would not return to the investor who over complied. We agree. Since there is benefit for all concerned to encourage over-compliance, the EQB should provide incentives for over compliance and increased mercury emissions reductions.

In addition, Subsection (j)(2) requires unused allowances to go back into the supplement pool rather than allowing the owner to use them at another unit. This would discourage owners from balancing their emissions and using their allowances to maximum benefit. Subsection (j)(2) should allow an owner or system to use extra allowances at other facilities.

Except as provided under Section 123.209

Subsection (j)(5) allows the exception of allowances through the petition process in Section 123.209. It would appear that the supplement pool described in Section 123.208 should also be allowed as an exception. Why wasn't it included?

Standby units

Subsection (k) states that allowances will not be set aside for standby units. Commentators stated that standby unit owners will need to know if the unit can return to service, or the unit would have to retire. Why didn't the EQB set aside allowances for standby units?

Future emission limitations

This subsection allows the DEP to revise the percentage of set-aside allowances. We are concerned that adjustments of this percentage will affect all existing EGUs. The EQB needs to explain why the DEP should have this discretion, further establish standards for the DEP to make these adjustments and explain how the affected existing EGUs can participate in this decision.

Facility-wide emissions averaging

In Subsection (o)(2), it is not clear how "facility-wide emissions averaging" would be calculated. As stated in our comment on Section 123.206(a)(2), the regulation should clearly specify how this calculation must be done.

7. Section 123.208. Annual emission limit supplemental pool. - Fiscal impact; Reasonableness; Feasibility; Need.

In this section, the EQB establishes a supplemental pool to monitor nontradable allowances which have been either created or not used. The goals of this process are two-fold. First, it may provide help to EGUs with excessive mercury emissions if the DEP decides to give these EGUs allowances or credits which will enable the EGUs to meet their applicable mercury caps. Second, it is hoped that this process will allow the Commonwealth on a statewide basis to achieve the CAMR mercury budget for the state. Commentators identified two problems.

First, this pool does not provide any financial incentive for an EGU to invest in technologies that will exceed the required reduction in mercury. Hence, very few, if any, allowances or credits for meeting the mercury cap will be available.

Second, since there is no certainty that allowances will be available or that DEP will award them to a petitioner via Section 123.209, EGUs will either need to find other means to meet the mercury cap or shutdown. In addition, the lack of certainty will hinder EGUs and electric wholesalers who need to persuade financial institutions to invest in their operations.

The DEP and EQB need to explain the usefulness and feasibility of this section and the process for creating, documenting and providing allowances.

8. Section 123.209. Petition process. - Fiscal impact; Reasonableness; Feasibility.

This section outlines the application process for EGUs to petition DEP for allowances. Many of the concerns expressed by commentators with this section are similar to their concerns with Section 123.208. The primary concern is that the allowance and petition process will not provide any certainty for EGUs regarding what relief from the mercury cap might be available. EGUs will be forced to find other means to meet the caps.

Another concern is that it is not clear how this allowance process will work. It should be noted that this section contains a detailed list of the required contents for petitions filed by owners or operators of EGUs. In addition, Subsection (g) identifies an order of preference for distributing allowances to different types of EGUs that successfully petition for credits or allowances. However, neither this section nor any other provision in the proposed regulation identifies the criteria or factors that DEP will use in evaluating petitions. There is no indication of what conditions or elements might result in a successful petition.

The proposed regulation should identify how DEP will determine which circumstances justify awarding allowances to EGUs. This could be accomplished by listing examples of the conditions, circumstances or situations that would warrant allowances. The final-form regulation should identify a list of criteria or factors that DEP will use in evaluating petitions and determining when allowances should be given.

Two commentators suggested adding the phrase "as the only solid fuel" to provisions in Subsection (g) that describe EGUs "combusting 100% bituminous coal." They contend that this is necessary to account for EGUs that may use fuel oil or natural gas to initiate combustion in waste coal facilities. The EQB should address this concern in the final-form regulation.

9. Section 123.214. Coal sampling and analysis for input mercury levels. - Fiscal impact; Reasonableness; Feasibility; Need.

Commentators question the need and expense of requiring daily sampling. They complained it would not provide any information necessary for the success of the mercury reduction program. These commentators also asked for greater flexibility in the processes for gathering this data. For one commentator, the requirement was duplicative because this information is already obtained via the purchase of the coal. The supplier will provide the information to verify the quality of the coal. The DEP and EQB need to examine the need for and feasibility of this requirement. Specifically, DEP and EQB should consider broadening the variety of sampling methods and the conditions or options for obtaining samples, and removing the "daily" sampling requirement.

Facsimile Cover Sheet

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INDEPENDENT REGULATORY REVIEW COMMISSION
333 MARKET STREET, 14TH FLOOR, HARRISBURG, PA 17101

To: Debra L. Failor
Agency: Department of Environmental Protection
Phone: 7-2814
Fax: 705-4980
Date: **September 25, 2006**
Pages: 12

Comments: We are submitting the Independent Regulatory Review Commission's comments on the Department of Environmental Protection's regulation #7-405 (IRRC #2547). Upon receipt, please sign below and return to me immediately at our fax number 783-2664. We have sent the original through interdepartmental mail. You should expect delivery in a few days. Thank you.

Accepted by: _____ **Date:** 9-25-06

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