

August 10, 2005

Mary E. Major
Environmental Program Manager
Office of Air Regulatory Development
Department of Environmental Quality
P.O. Box 10009
Richmond, VA 23240
(email memajor@deq.virginia.gov)

Re: Notice of Intended Regulatory Action for Proposed Regulation Revision F05 (9 VAC 5 Chapter 140) – Clean Air Mercury Rule

Dear Ms. Major:

The Southern Environmental Law Center (SELC) submits these comments on behalf of itself and the National Parks Conservation Association, the Piedmont Environmental Council, the Virginia Chapter of the Sierra Club, and the Virginia League of Conservation Voters, in response to the Virginia Department of Environmental Quality's (DEQ) Notice of Intended Regulatory Action for Proposed Regulation Revision F05 (9 VAC 5 Chapter 140), concerning the Clean Air Mercury Rule (June 21, 2005).¹ These comments discuss the severe threat mercury poses for the people and environment of Virginia, explains why banking and trading of emissions credits for hazardous air pollutants like mercury is unlawful and poses a danger to public health, and identifies additional issues that DEQ should consider to address this critical issue affecting the health and well-being of Virginia residents.

Mercury pollution from anthropogenic air emission sources – including coal-fired power plants – poses serious threats to Virginia's public health, environment and economy. The Virginia Department of Health has imposed mercury-related fish advisories on hundreds of miles of rivers within the Commonwealth, in many cases prohibiting the human consumption of fish because of extreme levels of mercury contamination. Recent warnings issued in pristine areas such as the Blackwater River, Dragon Run, and the Great Dismal Swamp Canal, are clear evidence of air emissions significantly contributing to mercury pollution in Virginia.

¹ We have reviewed the comments of the Chesapeake Bay Foundation, which we fully support and incorporate by reference.

In December 2000, EPA determined that mercury emitted from coal-fired power plants must be regulated as a Hazardous Air Pollutant (HAP) under the Clean Air Act's most stringent controls in section 112, due to the serious hazards mercury presents to public health and the environment. In March 2005, however, EPA abruptly reversed its prior determination and declared that mercury could be regulated through an unlawfully lax and ineffective cap-and-trade program. EPA formally adopted this weak program as part of its Clean Air Mercury Rule (CAMR).

As DEQ begins the process of developing state-specific mercury regulations, the undersigned organizations wish to emphasize the following three concerns:

- (1) CAMR, because it fails to recognize mercury as an air toxic subject to the most stringent Clean Air Act controls, is illegal, and is currently being challenged in the U.S. Court of Appeals for the District of Columbia Circuit by fourteen states and several citizens' organizations, including the American Academy of Pediatrics;
- (2) An effective state mercury rule must include a more stringent approach – as EPA initially envisioned with its December 2000 ruling – that would deliver 90% control efficiency for mercury at all electric utility steam generating units (EUSGUs) within three years of finalizing a rule. We strongly oppose any credit banking or trading for mercury;
- (3) In developing a comprehensive mercury reduction strategy, DEQ should evaluate the impact of airborne mercury pollution from all known sources, including EUSGUs, steel recycling facilities, and coke smelting operations.

I. AIRBORNE MERCURY POLLUTION POSES A SEVERE THREAT TO PUBLIC HEALTH, THE ENVIRONMENT, AND THE ECONOMY OF VIRGINIA.

Mercury pollution severely damages the human nervous system and kidneys and threatens the brain development of children. Nationally, between 316,588 and 637,233 children are estimated to be born each year having mercury levels associated with loss of IQ.² The loss of intelligence causes diminished productivity that lasts a lifetime. The lost productivity from methylmercury is estimated at \$8.7 billion annually in the United States.³ Of this total, \$1.3 billion annually is attributable to mercury emissions from domestic power plants.⁴ In addition to lowering IQ, mercury causes other permanent neurological and developmental injuries that drain educational and public healthcare resources and diminish the quality of life for affected children and their families.

² Trasande, Landrigan, and Schechter, *Public Health and Economic Consequences of Methyl Mercury Toxicity to the Developing Brain*, Environmental Health Perspectives (May 2005).

³ *Id.*

⁴ *Id.*

Coal-fired power plants are the largest uncontrolled sources of mercury, emitting approximately 45 tons of mercury into the air every year and accounting for 30 to 40 percent of total domestic mercury emissions.⁵ According to the EPA's Toxic Release Inventory (TRI) program, nineteen Virginia power plants reported emitting 1,999 pounds of mercury, accounting for 69% of in-state mercury emissions, far above the national average. This fact is especially troubling, since 1.25 million Virginia children live within 30 miles of a power plant.⁶

In the Director's Report to the State Air Pollution Control Board, delivered on June 22, 2005, DEQ noted that domestic fossil-fueled power plants "contribute only about 1% to global annual mercury emissions." The critical question, however, is not the amount of mercury emitted globally, but rather the amount – and the source – of mercury *deposited* in the United States and, more specifically, in Virginia waters. On this issue, EPA has estimated that "roughly 60 percent of the total mercury deposited in the U.S. comes from U.S. anthropogenic air emission sources," with domestic coal-fired power plants as the largest contributor.⁷ Moreover, the contribution of power plants to mercury pollution continues to grow. EPA noted in 2000 that "[e]stimated growth in the number of, and fuel use by, electric utility steam generating units (particularly coal-fired units) during the period 1990 to 2010 will result in an overall increase in HAP emissions."⁸

Further evidence shows that a significant amount of mercury emitted from power plants deposits close to the source.⁹ Two studies conducted by the National Oceanic and Atmospheric Administration have determined that sources within sixty miles of a particular water body contribute more mercury to that water body than sources farther away, despite the level of emissions from the distant sources.¹⁰ An analysis of 1999 emissions shows that several, nearby power plants – including Dominion's Possum Point, Yorktown, and Chesterfield facilities – are among the greatest contributors of mercury pollution to the Chesapeake Bay.¹¹ In fact, local emissions of mercury can account for 50% to 80% of mercury deposition in "hot spots."¹²

EPA has recognized that mercury is "highly toxic, persistent, and bioaccumulates in food chains."¹³ Industrial sources emit airborne elemental mercury, a portion of which deposits in

⁵ See EPA, Final 1999 Point Source National Emissions Inventory for Hazardous Air Pollutants (July 9, 2003); 65 Fed. Reg. 79825, 79827 (Dec. 20, 2000). In addition, coal-burning plants annually emit 56 tons of arsenic, 62 tons of lead compounds, 62 tons of chromium compounds, 23,000 tons of hydrogen fluoride, and 134,000 tons of hydrochloric acid. U.S. EPA, Study of Hazardous Air Pollutant Emissions from Electric Steam Generating Units: Final Report to Congress, EPA-453/R-98-004A, at ES-5, Table ES-1 ("Utility Report to Congress").

⁶ Clear The Air, *Dirty Air, Dirty Power: Mortality and Health Damage Due to Air Pollution from Power Plants* (June 9, 2004).

⁷ 65 Fed Reg. at 79827.

⁸ *Id.* at 79829.

⁹ Environmental Defense, *Out of Control and Close to Home: Mercury Pollution from Power Plants* (2003).

¹⁰ M. Cohen *et al.*, Modeling the Atmospheric Transport and Deposition of Mercury to the Great Lakes, 95 *Env'tl Res.* 247, 262-63 & fig. 14 (2004) (power plant contribution to Great Lakes mercury hot spots); M. Cohen, NOAA, Modeling the Fate and Transport of Atmospheric Mercury in the Chesapeake Bay Region (May 17, 2004) ("NOAA Chesapeake Bay") available online at http://www.arl.noaa.gov/data/web/reports/cohen/20_Ches_Bay_talk.pdf.

¹¹ NOAA Chesapeake Bay, at 37.

¹² *Id.*

¹³ 65 Fed. Reg. at 79827.

surface waters. Toxic mercury in surface waters enters the food chain when it is converted to methylmercury by bacteria. Methylmercury then concentrates in the flesh of fish and other aquatic organisms, eventually threatening human health. As EPA explained in 2000, “[b]ecause the developing fetus is the most sensitive to the effects of methylmercury, the greatest concern is the consumption of mercury contaminated fish by women of childbearing age.”¹⁴ A National Academy of Sciences study “confirm[ed] that mercury in the environment presents significant hazards to public health.”¹⁵ EPA, in 1998 and again in 2000, concluded that “electric utility steam generating units are the largest domestic source of mercury emissions, and mercury in the environment presents significant hazards to public health and the environment.”¹⁶

Unfortunately, the Southeast’s meteorology and unique biogeochemistry of wetlands and blackwater rivers favor methylmercury formation. The process leading to high rates of methylmercury in these waters works as follows: (1) plentiful rainfall leads to high mercury deposition rates in many surface waters of the Southeast; (2) the chemical characteristics of these waters mobilizes the deposited elemental mercury, making it more available to the bacteria that generate methylmercury; and (3) methylmercury generation is increased to an even greater extent by the proliferation of the necessary bacteria in many Southeastern waters.

Virginia’s wetlands are especially prone to methylmercury formation and concentration, enhancing the bioavailability of this toxic pollutant.¹⁷ Low pH, hypoxic and anoxic conditions, elevated dissolved organic carbon levels, and periodic flooding are only a few of the characteristics of Virginia’s wetlands that contribute to the high rates of methylmercury generation in the Commonwealth’s coastal regions.¹⁸ Surface waters in coastal regions, termed “blackwater” due to their naturally dark tint, contain elevated levels of organic matter and are characterized by other conditions favoring proliferation of the bacteria that convert mercury to methylmercury.

As DEQ is well aware, methylmercury contamination has reached such high levels in many Virginia waters that marine and freshwater fish tissue samples routinely violate aquatic life and human health criteria. The *Richmond Times-Dispatch* recently reported that “[t]he more Virginia scientists look for mercury in swampy eastern waters, the more they find.”¹⁹ Federal and state agencies have issued numerous fish consumption advisories, warning the public of the risks associated with eating certain fish that are high in methylmercury. Over time, these advisories have covered more fish species in more geographic locations and have urged the consumption of smaller and smaller amounts of affected fish. In fact, EPA and the Food and Drug Administration recently issued a joint advisory urging women and children not to consume

¹⁴ *Id.*

¹⁵ *Id.* at 79830.

¹⁶ *Id.*

¹⁷ Lacerda, L.D., Fitzgerald, W.F. , “Biogeochemistry of Mercury in Wetlands”, *Wetlands Ecology and Management* 9: 291-293 (2001).

¹⁸ Snodgrass, J.W., Jagoe, C.H., Bryan, A.L., Brant, H.A., Burger, J., “Effects of Trophic Status and Wetland Morphology, Hydroperiod, and Water Chemistry on Mercury Concentrations in Fish,” *Canadian Journal of Fisheries and Aquatic Sciences* 57: 171-180 (2000).

¹⁹ Rex Springston, “Eastern Va. Waters Prey to Mercury Contamination,” *Richmond Times-Dispatch* (Aug. 1, 2005).

any shark, swordfish, king mackerel, or tilefish.²⁰ The joint advisory also warned women and children against consuming more than one meal per week of white albacore tuna.²¹

The Virginia Department of Health has issued fish consumption advisories because of mercury contamination for largemouth bass, redear sunfish, bluegill sunfish, bowfin, longnose gar, chain pickerel, carp, redhorse sucker, white catfish, blue catfish, and yellow bullhead catfish.²² Recent mercury advisories have been for Dragon Run, the Piankatank River, the Blackwater River, the Great Dismal Swamp Canal, and Lake Drummond in the Great Dismal Swamp National Wildlife Refuge – waters that, until recently, had been regarded as “remote” and among “Virginia’s most pristine” waterways.²³ Airborne mercury pollution is the primary source of this contamination, as there are no known sources discharging mercury directly into these waters.²⁴

The answer to the problem of mercury emissions and their health consequences is not to continue to identify fish species after fish species that cannot be safely eaten. The answer is to slash mercury emissions so that fish populations have a chance to recover from mercury loading. Fish advisories are, at best, a stopgap measure best suited to stemming the immediate damage to public health while strong mercury emissions controls are put into place. Particularly in Virginia, where fish and seafood represent a significant component in the diet of many populations, the health of the community depends on mercury pollution being controlled at the source.

Moreover, fish advisory systems are often ineffective at adequately protecting public health. For example, the United States Department of Health and Human Services conducted a 1995 study assessing the health of subsistence fishermen in the Florida Everglades. The study found that nearly 30 percent of those surveyed were unfamiliar with the mercury consumption advisories issued for the waters in which they fished.²⁵ Of those who were aware of the fish advisories, nearly 75 percent failed to change consumption patterns in response.²⁶ Other coastal residents also may be exposed to unsafe levels of methylmercury because their diets are especially high in fish and shellfish. An investigative study in Alabama found extremely high levels of mercury in hair samples from southeastern residents who consume seafood and fish every week,²⁷ indicating elevated mercury levels in their bodies overall. This study, as well as the Florida study of subsistence fishermen, highlights the severity of the problem of mercury exposure throughout the Southeastern states, including Virginia, as well as the importance of

²⁰ EPA and FDA, *Joint Federal Advisory for Mercury in Fish* (2004).

²¹ *Id.*

²² Virginia Department of Health, Fish Consumption Advisories and Restrictions in Effect for Virginia Waterways, available at <http://www.vdh.state.va.us/HHCControl/fishingadvisories.asp>.

²³ Springston, *supra* note 19.

²⁴ Scott Harper, “Health Department Warns of Mercury in Local Fish,” *The Virginian-Pilot* (July 28, 2005) (noting that “the most widely accepted theory is that the toxic metal stems from power plant emissions, which then fall onto waterways”).

²⁵ United States Department of Health and Human Services, *Health Study to Assess the Human Health Effects of Mercury Exposure to Fish Consumed from the Everglades* (1995).

²⁶ *Id.*

²⁷ Raines, B., “Hair Tests Indicate High Mercury Levels,” *The Mobile Register* (Sept. 30, 2001).

controlling mercury air emissions before the mercury makes its way into fish stocks and ultimately to the human population.

In addition to the public health and environmental problems, mercury pollution also poses a significant threat to Virginia's economy and culture. Fishing is a key industry in Virginia, and over time it has become a strong cultural tradition for many in this region. Commercial fishing remains a significant contributor to the state's economy. In 2004, Virginia's commercial watermen landed nearly 85 million pounds of seafood, valued at more than \$170 million.²⁸ In 2003, recreational fishing supported more than 10,000 Virginia jobs, led to \$604,142,622 in retail sales, \$262,542,074 in salaries and wages, and \$11,562,195 in state tax collections.²⁹ Mercury contamination in fish and seafood threatens the livelihood of independent and commercial fishermen and has the potential to drastically impact Virginia's economy.

Moreover, many in Virginia have historically made their livings or spent their recreational time on the state's waters. Yet mercury contamination of fisheries threatens this way of life. As Secretary of Natural Resources W. Tayloe Murphy, Jr. recently commented, "When I am at home in the Northern Neck it deeply saddens me to ride by one abandoned oyster shucking house after another – by lifeless crab picking facilities that today stand empty – all monuments to a once thriving commercial seafood industry that no longer exists because we placed on that industry the cost of our failure to keep its workplace clean and healthy."³⁰ The failure to adequately address the state's mercury pollution problem could force many more Virginians to abandon traditions deeply rooted in their family and cultural identities.

II. EPA'S POLLUTION TRADING SCHEME IS ILLEGAL AND INEFFECTIVE.

The Clean Air Act lists mercury as a Hazardous Air Pollutant (HAP), or air toxic, due to the serious threat it poses to human health and the environment.³¹ As a result of this designation, airborne mercury emissions from listed sources are subject to the strictest Clean Air Act controls – Maximum Achievable Control Technology (MACT).³² In December 2000, EPA added coal- and oil-fired power plants to the list of HAP source categories, finding that MACT requirements for such facilities were *appropriate and necessary* based on a congressionally-mandated study of the public health hazards of HAP emissions from power plants.³³ EPA determined that regulation of hazardous power plant emissions under section 112 was "appropriate" because

²⁸ Virginia Marine Resources Commission, Virginia Landings Bulletin, Commercial Fisheries Statistics, Annual Report 2004 (preliminary).

²⁹ American Sportfishing Association, Economic Impact of Sportfishing, 2003 State Overview, *available at* http://www.asafishing.org/asa/statistics/economic_impact/state_allfish_2003.html.

³⁰ W. Tayloe Murphy, Jr., Remarks to the Environment Virginia Conference, Virginia Military Institute, Lexington, Va., (Apr. 11, 2005).

³¹ Clean Air Act § 112(b)(1), 42 U.S.C. § 7412(b)(1).

³² Clean Air Act § 112(d)(3), 42 U.S.C. § 7412(d)(3).

³³ 65 Fed. Reg. at 79825. Clean Air Act section 112(n)(1)(A) requires EPA to conduct a study of the public health hazards resulting from emissions of HAPs from electric utility steam generating units and to regulate these units under section 112 "if the Administrator finds such regulation is appropriate and necessary after considering the results of the study[.]" 42 U.S.C. § 7412(n)(1)(A).

*“electric utility steam generating units are the largest domestic source of mercury emissions, and mercury in the environment presents significant hazards to public health and the environment.”*³⁴ EPA further concluded that MACT standards under section 112 were “necessary ... because the implementation of *other requirements under the CAA will not adequately address the serious public health and environmental hazards* arising from such emissions... which section 112 is intended to address.”³⁵

The EPA based its conclusions on an extensive body of evidence – a 1998 statutorily-mandated Report to Congress on “Hazardous Air Pollutant Emissions from Electric Utility Steam Generating Units” in which EPA evaluated the mercury emissions from 1,149 units at 464 coal-fired power plants; a National Academy of Sciences evaluation of “the available data related to the health impacts of methylmercury,” and emissions data acquired by the United States Department of Energy, the regulated industry, and EPA itself.³⁶ Based on this evidence, EPA concluded that “mercury is the HAP of greatest concern,” and that “[m]ost of the mercury currently entering U.S. water bodies and contaminating fish is the result of air emissions.”³⁷ EPA determined that “[t]here is a linkage between coal consumption and mercury emissions; electric utility steam generating units are the largest domestic source of mercury emissions; and certain segments of the U.S. population (i.e., the developing fetus, subsistence fish-eating populations) are believed to be at potential risk of adverse health effects due to mercury exposures resulting from consumption of contaminated fish.”³⁸

In March 2005, EPA remarkably reversed course and, without new data to support its about-face, stated that the regulation of coal- and oil-fired power plants under section 112 was not “appropriate and necessary” after all.³⁹ Instead, EPA proposed an ineffective and lax cap-and-trade program that fails to recognize mercury as an air toxic that cannot be regulated in the same manner as conventional pollutants.⁴⁰ Due to its severe failings, EPA’s pollution trading program has been challenged in a lawsuit brought by fourteen states, the American Academy of Pediatrics and several other organizations representing concerned citizens and healthcare professionals.⁴¹

EPA’s rule fails to adequately protect Virginia’s citizens in large part because it fails to appreciate the distinction between air toxics such as mercury and conventional pollutants such as sulfur dioxide. While conventional pollutants are hazardous in the aggregate, air toxics pose substantial and severe public health threats even in the most minute concentrations. Earlier this year in Washington, D.C., EPA and local public health officials mandated the closure of a high school for several days because of a small number of “‘BB-sized’ droplets of mercury” in the

³⁴ 65 Fed. Reg. at 79830 (emphasis added).

³⁵ *Id.* (emphasis added).

³⁶ 65 Fed. Reg. at 79827.

³⁷ *Id.* at 79827.

³⁸ *Id.* at 79830.

³⁹ 70 Fed. Reg. 15,994 (Mar. 29, 2005).

⁴⁰ 70 Fed. Reg. 28,606 (May 18, 2005).

⁴¹ *New Jersey, et. al v. EPA*, Docket No. 05-1097 (D.C. Cir. filed Mar. 28, 2005) and consolidated cases.

school's basement.⁴² While cap-and-trade programs might work for some conventional pollutants, an emission trading program for mercury would be woefully ineffective at protecting the public health.

Section 112 of the Clean Air Act recognizes the need for the most stringent technology-based controls for HAPs. Pollution trading is an unacceptable and illegal substitute for the installation of effective controls on all facilities because it allows some plants to avoid adequately controlling HAP emissions by purchasing pollution credits. This system allows for the geographic concentration of pollutants in "hot spots," resulting in unacceptably high levels of exposure to these toxics in affected areas. Requiring reductions at every facility is the only way to guarantee that all Virginia citizens are protected and will benefit from the reduction in mercury emissions.

In addition to adopting the wrong approach (a trading program), EPA's mercury rule also employs weak limits and delayed deadlines that mean Virginia will not reach the proposed mercury reduction targets on schedule. Rather than implementing the 90% reduction requirements that the MACT standards would achieve, EPA's rule imposes a two-phase cap, with reductions required by 2010 and 2018. The 2010 requirement is so lax that every Virginia facility except for two – AEP's Clinch River and Glen Lyn plants – will be able to meet the standard without installing any new controls. As a result, most of Virginia's utility operators will bank credits before the 2018 limits come into effect, and use those credits to further delay any real-world progress in reducing mercury emissions.⁴³

More fundamentally, EPA's own projections show that actual reductions expected from CAMR will not meet even the lax targets in that rule. CAMR is expected to cut mercury emissions gradually and weakly, to 31.3 tons in 2010 (a 35% cut from 1999 emission levels), 27.9 tons in 2015 (a 42% cut), 24.3 tons in 2020 (a 49% cut), and 19.7 tons in 2025 (a 59% cut).⁴⁴ EPA projects that U.S. power plants will continue to emit nearly 20 tons of mercury into the air every year as late as 2030.⁴⁵ The explanation for this poor performance is that CAMR is designed to require no additional reductions beyond those that would occur as a consequence of a separate EPA rule, the Clean Air Interstate Rule (CAIR).⁴⁶ EPA's claim that its Mercury Rule will reduce emissions 70% by 2018, therefore, is belied by its own analysis.

⁴² See Henri E. Cauvin & Donna St. George, "More Mercury Found at Cardozo," *The Washington Post*, (Mar. 7, 2005), at B1.

⁴³ See Martha Keating, Keating Environmental, Calculations of Mercury Credits/Deficits for Virginia Power Plants Following CAMR Implementation (July 26, 2005). Ms. Keating, a former EPA scientist and nationally respected toxics specialist, conducted this analysis at the request of SELC. For example, her study concluded that by banking its own credits, Mirant's Potomac River Generating Facility in Alexandria, Virginia will be able to delay installing mercury controls or buying emissions credits for nine years past the 2018 deadline.

⁴⁴ U.S. EPA, CAMR 2005 Option 1 IPM Output - Regional Summary Report, Docket OAR-2002-0056, Item 6144.

⁴⁵ See U.S. EPA, CAMR 2005 Option 1 IPM Output - Regional Summary Report, Docket OAR-2002-0056, Item 6144 (table titled "MER National Constraint" lists projected emissions from affected units under CAMR from 2023-2030 of 19.7 tons/year, which is greater than CAMR's second phase cap of 15 tons by 2018).

⁴⁶ See 70 Fed. Reg. at 28618 ("The CAIR-CAMR approach . . . does not impose any . . . reduction requirements beyond those required to control SO₂ and NO_x emissions under Phase I of CAIR. . . . Thus, a cap of 38 tons reflects the co-benefits level and is established as a fixed cap in the final [CAMR].").

III. DEQ SHOULD ADOPT A STATEWIDE MERCURY RULE THAT REQUIRES REDUCTIONS AT EVERY FACILITY.

Virginia, as a Southeastern coastal state, faces a unique threat from airborne mercury pollution. It is clear that a cap-and-trade program would be woefully ineffective at combating this threat. We recommend, therefore, that DEQ develop a regulatory program that prohibits participation in EPA's proposed trading scheme. Instead, we urge DEQ to develop a regulation that complies with the Clean Air Act's mandate for Hazardous Air Pollution controls. The MACT standard set out in section 112 requires controls of HAP emissions from existing sources that are at least as effective as the average of the best-performing 12% of sources in the industry.⁴⁷ A legitimate MACT standard for mercury emissions from power plants would require plants to implement at least 90% control efficiency within three years of finalizing a mercury rule.⁴⁸ In addition to cutting mercury emissions from coal-fired power plants through the adoption of a true, MACT-equivalent standard, Virginia should also identify and implement strong mercury pollution standards for other sources of mercury within the Commonwealth, such as facilities associated with coke smelting, steel recycling, and other contributing industries.

EPA's 2000 analysis demonstrates that stringent targets are already readily achievable. "Technologies available today and technologies expected to be available in the near future can eliminate most of the mercury from utilities at a cost far lower than 1 percent of utility industry revenues."⁴⁹ For example, full-scale tests of activated carbon injection (ACI) have shown that at least 90 percent control of mercury could be achieved with the utilization of modern particulate matter control equipment – regardless of the rank of coal burned.⁵⁰ ACI has been used for years on municipal waste combustors, and is being installed at new units in Iowa and Colorado.

Most importantly, because most of the mercury in Virginia waters can be attributed to local pollution sources,⁵¹ reducing in-state emissions can quickly have a positive impact on the health of fish populations in nearby water bodies.⁵² A study by the Florida Department of Environmental Protection demonstrated that reducing emissions from regional waste incineration facilities led to a 75% reduction in mercury levels in largemouth bass and great egret within only a few years.⁵³

⁴⁷ 42 U.S.C. 7412(d)(3)(A)

⁴⁸ See, e.g., EPA Presentation—Potential Regulation of Electric Utility Hazardous Air Pollution Emissions Under Clean Air Act § 112, at <http://cta.policy.net/epamercury.pdf>. (last visited June 13, 2005).

⁴⁹ EPA Fact Sheet, EPA to Regulate Mercury and Other Air Toxics Emissions from Coal- and Oil-Fired Power Plants (Dec. 14, 2000), available at <http://www.epa.gov/ttn/atw/combust/utiltox/hgfs1212.html>.

⁵⁰ Results from Four Full-Scale Tests of ACI for Control of Mercury Emissions. Presentation to the Utility MACT Working Group, March 4, 2003, Michael D Durham, ADA-Environmental Solutions, conclusions.

⁵¹ M. Cohen, NOAA, Modeling the Fate and Transport of Atmospheric Mercury in the Chesapeake Bay Region (May 17, 2004) available online at http://www.arl.noaa.gov/data/web/reports/cohen/20_Ches_Bay_talk.pdf.

⁵² Florida Department of Environmental Protection, *Integrating atmospheric Mercury Deposition with Aquatic Cycling in South Florida: An Approach for Conducting a Total Maximum Daily Load Analysis for an Atmospherically Derived Pollutant*, at 56 (2003).

⁵³ *Id.*

Several other states have recently mandated similar levels of control at power plants within their borders, requiring as much as 95% control efficiency of mercury emissions. Even Pennsylvania, a major coal-mining state that produces more than twice as much coal as Virginia, is planning to go above and beyond the EPA regulation. Pennsylvania's Secretary of the Department of Environmental Protection, Kathleen A. McGinty, recently acknowledged that the federal mercury rule "falls far short of what is required to protect vulnerable young lives."⁵⁴ As a result, Secretary McGinty announced that her Department is developing a more stringent statewide rule to protect Pennsylvania's citizens. Virginia should join Pennsylvania and other states by proposing a stringent and effective rule to reduce mercury pollution.

In developing a statewide program, it is vital that DEQ prohibit out-of-state trading of pollution credits, which would only allow upwind sources to emit more mercury into our air. While much of Virginia's mercury problem is attributable to in-state emissions, upwind sources are also significant contributors. Consequently, any public health benefits gained from in-state reductions could be significantly diminished if excess credits are used by neighboring, upwind sources to avoid reducing mercury emissions, or even worse, to increase mercury emissions. At the same time, technical solutions to the problem of mercury pollution should be crafted at the regional, as well as the state, level. To ensure that Virginia realizes the full benefit of lowering in-state mercury emissions, DEQ should engage in a NESCAUM-type coalition with states in the Southeast and Mid-Atlantic regions.⁵⁵

Finally, we understand that the State and Territorial Air Pollution Program Administrators (STAPPA) and the Association of Local Air Pollution Control Officials (ALAPCO), are currently formulating a menu of options for state implementation of CAMR. In the interest of creating the best proposal for Virginia, as well as maximizing the chance of adopting an approach that is consistent with neighboring and upwind states, DEQ should review the results of the STAPPA/ALAPCO analysis prior to formulating a proposal to implement the EPA Mercury Rule in Virginia.

IV. CONCLUSION.

Every day, Virginia's residents suffer the costs of mercury pollution through health and developmental problems in our children and a mounting peril to our commercial, recreational, and subsistence fishing industries. As recent media accounts demonstrate, the public's awareness of these concerns continues to grow.⁵⁶ At the same time, the scientific evidence

⁵⁴ Tom Avril, "Pa. to Set Tougher Rules to Cut Mercury Emissions," *Philadelphia Inquirer* (May 19, 2005).

⁵⁵ NESCAUM, the Northeast States for Coordinated Air Use Management, is an eight-state coalition whose purpose is to exchange technical information, and to promote cooperation and coordination of technical and policy issues regarding air quality control among the member states. Virginia currently participates in MARAMA, the Mid-Atlantic Regional Air Management Association, which has focused on ozone and particulate matter pollution.

⁵⁶ Scott Harper, "Health Department Warns of Mercury in Local Fish," *The Virginian-Pilot* (July 28, 2005); Rex Springston, "Eastern Va. Waters Prey to Mercury Contamination," *Richmond Times-Dispatch* (Aug. 1, 2005).

demonstrates that meaningful and stringent in-state controls have been proven to dramatically reduce mercury levels in fish.⁵⁷

Swift, strong measures are required to address mercury pollution. First, DEQ should adopt a MACT-equivalent rule for the control of mercury emissions from coal-fired power plants to achieve 90 percent control efficiency at plants across the Commonwealth within three years. Second, DEQ's plan must also prohibit interstate trading of pollution credits. The Clean Air Act does not allow for trading toxics. Third, with the aim of developing a comprehensive mercury reduction strategy, DEQ should implement strict standards for non-power plant sources of mercury. Finally, to facilitate the implementation of the most effective mercury controls achievable, Virginia should collaborate with its Southeast and Mid-Atlantic neighbors to lower mercury emissions regionwide.

In sum, we respectfully urge DEQ to take aggressive steps now to address the serious threat that toxic mercury poses to the public health, the environment, and the economy of our state. We thank you for the opportunity to present these comments.

Sincerely,

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⁵⁷ Florida Department of Environmental Protection, *Integrating atmospheric Mercury Deposition with Aquatic Cycling in South Florida: An Approach for Conducting a Total Maximum Daily Load Analysis for an Atmospherically Derived Pollutant* (2003).