

**Statement of
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“Review of EPA’s Proposed Revision to the Ozone NAAQS”

**Before the Senate Committee on Environment and Public Works
Subcommittee on Clean Air and Nuclear Safety**

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Thank you Mr. Chairman and members of the Environment and Public Works’ Subcommittee for the opportunity to speak with you today about EPA’s recently proposed revisions to the National Ambient Air Quality Standards (NAAQS) for ground-level ozone.

I serve as the Director of the Division of Air and Waste Management in Delaware’s Department of Natural Resources and Environmental Control, and served previously in a similar position in the Missouri Department of Natural Resources. Prior to these state positions, I served in the U.S. Department of Energy as Director of Strategic Planning and Analysis for the Environmental Management office, as well as a private engineering consulting firm, nongovernmental organization, and the Office of Technology Assessment (U.S. Congress). In the 1980’s I served on the Board of the Delaware Valley Clean Air Council. I would also like to acknowledge the assistance of my astute Air Quality Management staff, particularly Ron Amirikian and Frank Gao who assisted in preparation of this testimony, though I bear full responsibility for the content.

After introducing some of the unique aspects of air quality management in Delaware, I will present:

- some concerns about EPA’s proposed ozone NAAQS,
- a summary of the success in reducing ozone concentrations and meeting ozone NAAQS, and
- some remaining challenges for states in meeting the NAAQS, including some observation on future control needs.

A. Delaware – Small, Precious and Downwind

President Thomas Jefferson dubbed Delaware “The Diamond State” because we are “small but precious.” To which we would add, “downwind.” Our air quality on many days is decided before people wake up in the morning and start turning on lights or driving cars. As you may know, all of Delaware is currently in nonattainment for ozone, and our most populous county, New Castle, is also non-attainment for fine particulates. This situation should not obscure the

fact that Delaware has made enormous progress improving air quality. We have met the one-hour standard for ozone, and substantially reduced SO₂ emissions, especially from the oil refinery in Delaware City, which is one of the few oil refineries with the capability of processing “sour” crude. Thanks largely to a variety of state measures and EPA’s Clean Air Interstate Rule (CAIR) rule and implementation we expect further improvements in air quality. Although Delaware expects to meet the ozone standard by 2010, it will be a challenge and require our best efforts. Again the main reason is our down wind location. As with many policy questions, where you stand depends on where you sit. We sit at the end of a conveyor belt of air pollution that is loaded in the mid-west and delivered fully cooked on the Atlantic seaboard. Monday’s rush hour in St. Louis and Cincinnati can become Wednesday’s Ozone alert in Delaware.

Part of our routine function as a state air agency is to constantly monitor air quality and provide reports on the Internet. Often, our high pollution levels are measured in southern Delaware where there are more acres of soybeans than suburbs, and far more chickens than people or industrial emissions. This observation is no puzzle when you consider upwind sources. Our non-attainment status might be understandable if the whole state were industrial or heavily populated. As you well know, Mr. Chairman, the southern portion of New Castle County, and all of Kent and Sussex Counties are relatively rural. They are part of the Delmarva Peninsula, a strip of land extending below the Chesapeake and Delaware Canal, bordered on the east by the Delaware Bay and Atlantic Ocean, and bordered on the west and south by the Chesapeake Bay. In addition to Delaware, the Delmarva Peninsula contains all or portions of eight Maryland counties and two Virginia counties. Except for a few small pockets of relatively high growth, the entire Delmarva Peninsula, including Delaware’s portion, is sparsely populated rural, with agriculture as the predominant business. The counties on the Delmarva Peninsula share similar emissions profiles, population densities, traffic patterns, topography and meteorology. The Peninsula counties also share similar air quality problems. Although only a few of these counties have ozone monitors, all those that do have shown numerous violations of the current 8-hour standard. In addition, photochemical modeling runs performed by the EPA have projected that most counties on the Delmarva Peninsula experience episodes similar to Delaware’s in exceeding the 8-hour NAAQS.

To some, the expected non-attainment is an excuse to kick the can down the road even further. To us, it motivates us to seek other cost-effective controls to control ozone precursors and PM_{2.5} sources. Toward that end we have promulgated rules controlling a variety of ozone precursor sources. Delaware’s permitting of a major source of Volatile Organic Compounds (VOC) – the lightering (off-loading of crude oil) of Supertankers coming out of the Atlantic Ocean into the Delaware Bay before they make their way upriver to refiners in Delaware, Pennsylvania and New Jersey - is an example of the need for each state to address its own unique circumstances. We are proud that we have been able to work constructively with Maritrans (ne’ OSG, Inc.) on these lightering controls in a way that results in a win-win by requiring the lightering company to refit their entire fleet with vapor balancing equipment, and encouraging their customers to contract with compatible ships, to capture the lost VOCs, which is a product for them and their customers. Other examples include Delaware’s stringent regulation of power plants and oil refinery boilers, and Delaware’s participation with the OTC in the development and implementation of numerous regionally consistent control measures.

We are pursuing this variety of air pollution controls initiatives because we know the benefits outweigh the costs. We also know that national and regional solutions are necessary to help control air quality in Delaware. We persevere nonetheless knowing we cannot ask others to take action we ourselves are not willing to take.

B. Setting National Ambient Air Quality Standards – Follow the Science

When I last appeared before this subcommittee in November 2005, EPA was then working on a revised ozone NAAQS. At that time, we counseled EPA to “follow the science.” Regrettably, EPA’s subsequent proposal to revise the ozone NAAQS appears to fail to heed that admonition fully.

The Clean Air Act proscribes that primary standards “shall be ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health.”¹ Despite the difficulty the 8-hour ozone standard presents to Delaware, we nonetheless support EPA’s proposal for a more stringent ozone NAAQS, which is what EPA’s independent scientific advisory committee and others have recommended as being needed to protect public health and the environment. It is simply a matter of supporting the integrity of the Clean Air Act, and the air quality management process of which we are a part.

It may surprise some people, given Delaware’s challenge in attaining the current standard, that we strongly support EPA’s proposal to revise downward the ozone NAAQS. We are the ones who bear the burden of sitting across the table from the people who we must ask to take further control measures, many of whom have already installed some controls. We are “closer to the ground” and deal directly on a daily basis with the business who must take action to further reduce emissions, and the citizens who need options to current auto emissions dependent travel and the current fleet of cars. In a small state like Delaware, these are our friends and neighbors and families affected by the cost of controls. It is also our friends and neighbors and families affect by dirty air. The reason we support downward direction of the ozone NAAQS revision – despite the difficulties - is the distinction between the process of setting standards and states’ dominant role in determining how to meet those standards.

1. EPA Has Recently Failed to Follow the Historic Pattern of Heeding Science Advisory Board Advice

On June 20, 2007 EPA announced its proposal to “revise the level of the 8-hour standard to a level within the range of 0.070 to 0.075 parts per million (ppm).”² Moreover, the Agency’s

¹ 42 U.S.C. 4209(b)(1)

² U.S. EPA announcement on June 21, 2007, *Fed. Reg.* Notice available at http://www.epa.gov/ttn/naaqs/standards/ozone/data/2007_06_o3npr.pdf not published as of July 6, 2007 (Hereinafter “EPA ozone NPR), at 1, 21, 241, and 253.

proposal indicated intent "...to specify the level of the primary standards to the nearest one-thousandth ppm" (i.e., 0.070 ppm would mean exactly that, not rounded up to 0.0074 ppm).

In proposing this slightly more stringent standard, EPA has generally followed the science, in being "directionally correct" – down not up. EPA's proposed standard overlaps with, but is not fully consistent with, the recommendation of the Clean Air Science Advisory Committee (CASAC). This inconsistency raises some areas of concern I would like to highlight briefly.

We are concerned about the potential implications of EPA unprecedented recent actions that fail to follow the advice of the Clean Air Science Advisory Committee (CASAC) of the Science Advisory Board (SAB). This proposed ozone NAAQS is the second instance where EPA has not followed the recommendation of the CASAC; the first example was the 2006 NAAQS for fine particulates.

Congress required in the 1977 CAA, that an independent scientific review committee (i.e., CASAC of the SAB) "...complete a review of the criteria...and the national and secondary ambient air quality standards---and shall recommend to the Administrator any new...standards and revisions of existing criteria and standards as may be appropriate...."³ Since 1979⁴ the CASAC has been making recommendation to EPA, and EPA has generally followed those recommendations in setting NAAQS. After 28 years and dozens of major recommendations, it is troubling that EPA has diverged twice from CASAC recommendations in as many years. The PM_{2.5} standard proposed in January 2006⁵ and finalized in October 2006⁶ was the first time EPA failed to heed to recommendations of the CASAC.⁷ In this case of the PM_{2.5} standard, EPA highlighted the lack of a unanimous consensus among CASAC panel members, although only two out of 22 members dissented.

In the wake of this historic change in course, EPA's recent ozone NAAQS proposal raises some concern about the extent to which EPA is giving adequate consideration to the scientific recommendations of its own scientific advisory committee.

In the case of the ozone NAAQS, the divergence between EPA's proposal and the CASAC recommendations was not as great as the PM_{2.5} NAAQS. The range of concentrations in EPA's proposed ozone NAAQS (0.070 to 0.075) ppm at least intersected with the CASAC recommendation (0.060 to 0.070). CASAC's ceiling was EPA's floor.

It is unclear what EPA's scientific basis is for proposing a range from 0.070 to 0.075, in light of the explicit CASAC recommendation not to exceed 0.070 ppm. Specifically, in October 2006, after EPA's second draft Staff Paper, the CASAC wrote to the Agency:

³ 42 U.S.C. 7409(d)(2)

⁴ Butterfield, Fred, EPA CASAC Designated Federal Officer, Personal Communication, July 6, 2007

⁵ EPA National Ambient Air Quality Standards for Particulate Matter; 71 *Fed.Reg.* 2619, January 17, 2006 (amending 40 CFR Part 50).

⁶ EPA NAAQS PM; 71 *Fed.Reg.* 61144, October 17, 2006 (amending 40 CFR Part 50).

⁷ Henderson, Rogene, CASAC chair, *Letter to EPA Administrator Johnson; CASAC's Recommendations Concerning* Regarding Proposed NAAQS for Particulate Matter, (EPA-CASAC-07-01), March 21, 2006.

“...the CASAC unanimously recommends a range of 0.060 ppm to 0.070 ppm for the primary ozone NAAQS.”⁸

After EPA’s Final Staff paper, the CASAC wrote again to EPA:

“Ozone Panel Members were unanimous in recommending that the level of the current primary ozone standard be lowered from 0.08 ppm to no greater than 0.070 ppm.”⁹

Despite these repeated CASAC recommendations, EPA has proposed an ozone NAAQS range of 0.070 to 0.075 ppm.

It is also unclear what EPA’s technical justification is for inviting comments on retaining the current standard when it has been found to be unprotective by all groups who have examined the issue. In its October 2006 letter to EPA, the CASAC ozone panel unanimously concluded that a 0.08 standard could not be justified scientifically:

“[T]he [CASAC] Ozone Panel is in complete agreement both that: the EPA staff conclusion...arguing that ‘consideration could be given to retaining the current 8-hour ozone standard’; is not supported by the relevant scientific data; and that the current primary 8-hour standard of 0.080 ppm needs to be substantially reduced to be protective of public health, particularly in sensitive subpopulations.”¹⁰

This finding by CASAC was further supported by a group of more than 100 scientists and physicians, who wrote:

“[W]e strongly and solemnly request that you follow the recommendations of the Clean Air Scientific Advisory Committee and reduce the eight-hour primary ozone standard to a range between 0.060 and 0.070 ppm.”¹¹

And in a remarkable show of collective agreement, the Ozone Transport Commission, composed of states with a very broad range of views, wrote to EPA, noting:

“The [Clean Air Act] calls on EPA to rely heavily on the science and CASAC’s recommendation in setting both the primary and secondary NAAQS. OTC supports the work of the CASAC and urges EPA to give great weight to the recommendations of the CASAC for a revisions of the ozone NAAQS as set forth in its March 26, 2007 letter to Administrator Johnson.”¹²

In part of its June 2006 proposal, EPA appears to accept the scientific advice:

“The Administrator judges that there is important new evidence demonstrating that exposures to O₃ at levels below the level of the current standard are associated with a broad array of adverse health effects, especially in at-risk populations.”¹³

⁸ Henderson, Rogene, CASAC chair, *Letter to EPA Administrator Johnson: CASAC’s Review of the Agency’s Second Ozone Staff Paper*, (EPA-CASAC-07-01), October 24, 2006.

⁹ Henderson, Rogene, CASAC chair, *Letter to EPA Administrator Stephen Johnson: CASAC’s Review of the Agency’s Final Ozone Staff Paper*”, (EPA-CASAC-07-02), March 26, 2007.

¹⁰ Henderson, Rogene, CASAC chair, *Letter to EPA Administrator Johnson: CASAC’s Review of the Agency’s Second Ozone Staff Paper*, (EPA-CASAC-07-01), October 24, 2006.

¹¹ Levy, Jonathan I., Kent Pinkerton, and William Rom (also signed by more 100 scientists and physicians), Letter to EPA Administrator Johnson, *Broad Scientific Consensus to Lower Ozone Air Quality Standard and Close the Rounding Loophole*, April 4, 2007.

¹² Ozone Transport Commission, signed by David Paylor, OTC Chair and Director of Virginia DEP, June 6, 2007.

¹³ EPA ozone NPR at 203.

And EPA adds solid support for rejecting the current 8-hour standard:

“Upon meeting the current 8-hour standard, the median estimates are that about 610,000 children would experience a moderate or greater lung function response 1 or more times for the aggregate of the 12 urban areas over a single O₃ season...and that there would be almost 3.2 million occurrences. Thus, on average it is estimated that there would be about 5 occurrences per O₃ season per responding child for air quality just meeting the current 8-hour standard across the 12 urban areas.”¹⁴ [and T]he Administrator judges that there is important new evidence demonstrating that exposures to O₃ at levels below the level of the current standard are associated with a broad array of adverse health effects, especially in at-risk populations.”¹⁵

Nonetheless, EPA appears to roll out the red carpet to naysayers who would seek to dispute this broadly based scientific conclusion:

“EPA solicits comment on alternative levels...up to an including retaining the current 8-hour standard of 0.080 ppm.”¹⁶

Perhaps it is part of legal strategy, rather than stemming from some unseen scientific basis, as a method of trying “smoke out” opposition arguments early in preparation for litigation. We wish EPA well in this endeavor, though it is unlikely to dampen the enthusiasm of K-Street where billable hours can be justified by merely delaying the inevitable adoption of a NAAQS based on solid science. We agree with EPA’s assertion that “...review of this information has been extensive and deliberate.”¹⁷ Obviously, litigants have due process rights that are likely to be exhausted, and in the case of commercial transaction or property takings, no stone should be unturned in giving parties their day in court. What frustrates those of us in the public health business is that when a rule being delayed affects the lives and health of all Americans, especially children, there is a moral dimension that is ignored in the process.

We know that the road to this standard has been long and tortuous, beginning with the promulgation of the existing “8-hour standard” in 1997¹⁸, and suffering a near-death experience for EPA rule writers. Ultimately both EPA’s authority to promulgate an ozone NAAQS, and to do so without regard to cost considerations, was upheld by the Supreme Court.¹⁹ EPA deadline for setting the new ozone NAAQS was set by Consent Decree in December 2005.²⁰ These years of litigation following EPA’s 1997 proposed standard were after decades of mounting scientific evidence that it was not only the concentration of ozone exposure that determined the effect on public health and the environment, but also the duration of exposure. We have come a long way since pollution was measured in “tons per cubic mile” and government action waited until health effects were apparent, but the lag time between the science and policy remains.²¹ It is humbling

¹⁴ EPA ozone NPR at 166.

¹⁵ EPA ozone NPR at 203.

¹⁶ EPA ozone NPR at 1-2.

¹⁷ EPA ozone NPR at 28.

¹⁸ (62 *Fed.Reg.* 38856) July 18, 1997 (amending 40 CFR 50)

¹⁹ *Whitman v. American Trucking Associations*, 531 U.S. 457, 464, 475-476)

²⁰ *American Lung Association v. Whitman* (No. 1:03CV00778, D.D.C. 2003).

²¹ Bachman, John, “Will The Circle be Unbroken: A History of U.S. National Ambient Air Quality Standards,” *Journal of Air and Waste Management Association*, Vol. 57, p652, June 2007.

personally to have read scientific journals and heard undergraduate professors talk in the 1970s about the chronic ozone exposure phenomenon and the need to change the short-term standard, only to be involved with implementing a standard thirty years later. Hence, we appreciate why EPA appears “gun shy” in setting a new NAAQS. Nonetheless, Americans rely on EPA to keep a steely-eye focus on the science, and act boldly to speak truth to power, rather than preemptively surrendering to the almost inevitable litigation against its actions.

We believe it is important to view the revised ozone NAAQS in the context of decades of fine-tuning. The 1-hour ozone standard was first established in 1970, with an attainment date of 1977. After states failed to meet it the attainment date was changed to 1987. When states again failed to meet the standard, the CAA was strengthened in 1990, which proscribed more explicitly what non-attainment areas must do (e.g., lower major source thresholds, RACT, RFP, conformity, etc.). It also set an attainment date for Delaware of 2005 (extreme non-attainment areas were later). Delaware achieved this goal of meeting the 1-hour ozone standard. Although, as described above, EPA first promulgated the 8-hour standard in 1997, litigation delayed designations until 2004, and Delaware’s attainment date was established as 2009. We anticipate meeting this attainment date for the current 8-hour standard. So, our message to EPA is simple; set a standard based on solid science, give us the tools, and work with us collaboratively to get the job done.

EPA proposal also appears not to accept CASAC’s recommendation about the need for a distinct secondary ozone standard. Ozone also adversely affects trees, crops (soybeans are a particularly sensitive species), and other vegetation. EPA has abundant evidence in 1996 for a strong secondary standard to help avoid the national agricultural loss from ozone pollution estimated to be several billion dollars annually.²² For a secondary standard (for welfare protection), EPA proposes two options: (1) setting up a new form of standard which focuses on the highest exposure level during plant and vegetation growing season; and (2) setting the secondary standard identical to the proposed primary standard. Hence, EPA leaves open the door on this issue, and we hope its final rule accept this long-accepted scientific data on the need for a protective secondary standard. Delaware remains largely agricultural in its southern counties, and these farmer are also our friends and neighbors. We know that making a living as a farmer is already too difficult without the extra burden of crop losses due to air pollution.

There are two primary reasons why EPA’s failure to follow its scientific advisory committee is troubling for a regulator. First, when EPA sets a NAAQS, it is like a “north star” used for navigating by more than 200 states and territories and major metropolitan areas across the United States who have a significant role in regulating air pollution.²³ We chart our course toward this

²² (61 FR 65742, December 13, 1996, National Ambient Air Quality Standards for Ozone: Proposed Decision An examination of the monetized benefits reported above indicates that most of the estimated benefits accrue from attainment of the 8-hour, 0.08 ppm primary standard with a smaller incremental improvement obtained by the addition of a seasonal secondary standard. The projected national approximations for commodity crops and fruits and vegetables suggest that benefits on the order of 1 to more than 2 billion dollars would result from the proposed 8-hour, 0.08 ppm primary standard, alone or in combination with a seasonal secondary standard.

²³ The National Association of Clean Air Agencies generally represents air pollution control agencies. See <http://www.4cleanair.org/>

common²⁴ NAAQS goal according to State Implementation Plans (SIPs) as we promulgate regulations, write permits, perform inspections, and conduct enforcement. It is at this stage in the process that we consider cost-effectiveness, not during the standard setting stage. We routinely look carefully at the costs and benefits of various options in an endless complex web of issues, including tradeoffs of time, money, state priorities and staff resources. We need to know that when we attain the NAAQS, it reflects a goal that is protective, based on the best available science. This is something worth working towards. If EPA flinches from its role in setting a NAAQS based on anything less than the best scientific advice, it is like someone putting a prism in our sextants throwing off the navigation of hundreds of regulatory ships.

Second, EPA's failure to propose a standard consistent with the CASAC recommendation tends to undermine environmental professionals everywhere who take pride in operating as much as possible on a science-based approach to problem solving.

Finally, the Committee may wish to examine EPA's broader NAAQS-setting process, which has reportedly changed to eliminate use of staff papers and to instead use risk assessments and Advanced Notices of Proposed Rulemaking. It is not clear what the ultimate impact of this fundamental process change will have, but I recognize it results from weighing the best ways to assess the science, given factors such as the need for reviews every five years, and the lack of a clear health effect threshold.

2. An Increased Number of Non-Attainment Areas is Appropriate and Universally Helpful Toward Improved Air Quality

One of the concerns expressed about EPA's proposed ozone standard is the increased number of non-attainment areas that would be created. Obviously, if the air quality in certain areas – typically bordering current non-attainment areas – fails to meet the new NAAQS, then they should properly be classified as non-attainment. The result of these new non-attainment designations will obviously be more stringent air pollution control requirements and larger offsets.

These additional pollution reduction measures are appropriate not only to protect public health in those new non-attainment areas, but will also help improve air quality in adjacent areas that were previously non-attainment. Significant upwind sources located in attainment areas, continue to enjoy less stringent control requirements than downwind non-attainment areas, even though part of the cause of the downwind non-attainment problems is the upwind sources. For example, if a new cement plant were to be constructed 100 yards inside the border of a county designated as attaining NAAQS, it would enjoy far less stringent air pollution control requirements, even though the top of the smokestack would likely be located in the adjacent non-attainment county if it were to fall over in the right direction. A state agency would have difficulty imposing controls on such a plant in order to protect an adjacent downwind county that is the victim of the

²⁴ California has adopted an ambient 1-hour ozone standard of 0.09 ppm, and an 8-hour standard of 0.070 ppm. Cal. Reg. Notice Reg. 2006, Vol. 17-Z, April 28, 2006, at <http://www.oal.ca.gov/pdfs/notice/17z-2006.pdf>; or <http://www.arb.ca.gov/research/aaqs/ozone-rs/ozone-rs.htm>, and 17 CCR 70100.

new emissions source. This inequity could be rectified by designating this host county as “non-attainment.”

We understand there is some concern with the prospect of adopting a new scientific standard for human health protection, when the implementation of the previous health standard has barely begun. For environmental engineers and scientists, however, this “pipeline” of standards and implementation is part of the normal process of careful development of programs to protect human health, and of the perils of litigation that affect these programs. Accordingly, we believe that a protective ozone NAAQS – certainly no less stringent than proposed by EPA - should be adopted with all due alacrity so that the public benefits can be realized through detailed implementation. Based on the proposal we anticipate the following timeline:

- 2009, States make recommendations for areas to be designated attainment and non-attainment,
- 2010, EPA makes final designations,
- 2013, State Implementation Plans outlining how states will reduce pollution to meet the standards will be due, and
- 2013 to 2030, attainment will be required depending on the severity of the problem.

3. Meeting the Ozone NAAQS Requires Support, Not Cuts, to State and Local Programs

Obviously, further reduction in ozone precursor emissions will be necessary to attain and maintain compliance with any new, more stringent ozone NAAQS. A reduction in emissions will involve the development of control programs, and consultation with other States, the EPA, the OTC, etc; and such activities will take funding. Continued cuts of EPA air grants, like the CAA 105 grant, will set us up to fail. Delaware’s 2008 CAA 105 grant is about 15% below the level it was in 2004, and this reduction occurred at a time when State rules and SIPs were being developed to meet the 1997 ozone and fine particulate matter standards. This trend cannot continue. Development, and implementation and enforcement of new control programs take resources, and the cost of these resources is minimal compared to the value of the benefit of clean air.

We have worked through the Environmental Council of States (ECOS) and other organizations to try to reverse these damaging budget cuts. In a June 2006 letter to EPA, ECOS included “State and Local Air Quality Management” categorical grants among a limited number of “Higher Priority Programs.”²⁵ Despite this explicit recommendation, EPA’s FY 2008 budget included additional cuts to our air grant funding. These cuts follow several years of damaging budget cuts and occur at a time when the workload on states to meet tighter NAAQS has increased. Overall, State and Tribal Assistance Grants comprised nearly half of EPA’s overall

²⁵ Hallock, Stephanie, Environmental Council of States President and Director of Oregon DEQ, Letter to Lyons Gray, EPA Chief Financial Officer, June 20, 2006.
http://www.ecos.org/files/2177_file_Letter_to_Lyons_Gray_on_2008_STAG_Budget_Priorities.pdf

budget (94 percent in 2004), but have received 94 and 100 percent of the cuts in 2005 and 2006, respectively.²⁶ Clearly, these cuts are disproportionate, and we believe should be reversed. States continue to implement the nation's core environmental programs. These cuts have hit home hard in Delaware: our air quality management grants from EPA have been cut ten percent for three years - every year since 2004 (FY 2007 grants has not yet been determined). These compounded cuts have caused an overall 15 percent reduction in our federal air quality management funding from EPA since 2004 (assuming three percent inflation).

States in fact conduct most of the permitting, enforcement, inspections, monitoring and data collection required by federal law. All of this work is performed through funding Congress provides to states through EPA's budget. Without adequate funding meeting existing NAAQS, much less revised NAAQS will be more difficult a concern voiced articulately by Michigan Governor Granholm; "If you truly want Clean Air to be more than just a good idea...you will restore the FY2007 funding cuts and fully invest in state air offices."²⁷

Contrary to EPA's verbal commitments to continued partnership, EPA's recent rescission package included a shift from air quality to underground storage tanks funding. We recognize the need to provide funding to address this unfunded federal mandate or increase inspection frequency as mandated by the Energy Policy Act, but we do not agree that this funding should be provided at the expense of another critical state program grant.

4. Air Pollution Costs and Benefits: Déjà vu All Over Again

Recent reports²⁸ of the costs, technical challenges and complexity of meeting Clean Air Act attainment deadlines remind me of the observation of baseball great and philosopher, Yogi Berra, "It's Deja Vu all over again." Regrettably, much of the analysis behind these claims has not been subject to the normal peer review process for publication in a scientific journal. More substantively, it fails entirely to consider the substantial benefits of emission reductions and examines only the projected costs. Finally, the complexity of the Clean Air Act is nothing new to those of us who live in this world of air pollution control. We are more sympathetic than most to the desire for simplification. The essential management metric for evaluating the performance of any proposal is the impact on air quality. And by this measure, we cannot support trading off paperwork simplification for dirtier air in the real world. We urge the Committee not to confuse "harmonizing" dates with merely "kicking the can down the road" on improving the air quality and achieving the sustainable health benefits known to be possible.

²⁶ Environmental Council of States, "The States' Proposal to Congress for EPA's 2008 STAG Budget (State and Tribal Assistance Grants Budget); An Alternative to US EPA's 2008 Budget proposal Supported by the States' Environmental Agencies", February 2008.

²⁷ Granholm, Jennifer (Governor of Michigan), Letter to EPA Administrator Stephen Johnson, April 10, 2007 [restore the FY2007 funding cuts and invest in state air offices]

²⁸ For example, NERA Economic Consulting for the American Petroleum Institute, *Economic Impact of 8-Hour Ozone Attainment Deadlines on Philadelphia Region*, September 2005 (released November 7, 2005).

These “cost-only” studies also have had a strong track record of overstating the eventual costs, whether it was the original acid rain studies or the more recent estimates of New Source Review (NSR) compliance. And on this matter we must also disagree: we do not agree that American engineers lack the skill and creativity to develop innovative technologies and methods for achieving air pollution reductions more cost-effectively than merely extrapolating from current trends. We also stand ready to continue to pursue regulatory streamlining that reduces compliance costs (e.g., paperwork and permitting value stream mapping). In short, we are very bullish on American ingenuity, and have been richly rewarded for our confidence in the past.

We are not insensitive to costs. We live in the communities where our neighbors’ jobs are on the line. We cannot, however, ignore the substantial and subsequent savings derived from health-related costs from air pollution. So, the question is not whether there are costs, but rather “who bears the costs?” There are clear, though less quantifiable, costs to public health that result from failing to address air pollution problems. In conjunction with our state Division of Public Health, Delaware recently released a report on “the Asthma Burden”,²⁹ which showed a continuing increase in the number of asthma cases. We realize these asthma cases cannot be attributed solely to air pollution. However, this report provides local data supporting hundreds of other studies finding a rising tide of asthma that represents a terrible burden on individuals, families, communities, employers and the economy. So, when you hear calls to adjust current schedules for compliance, we urge you to consider the other side of the cost formula; the health benefits and subsequent savings derived from controlling air pollution promptly.

We realize there are those who argue that health standards should be subject to strict cost-benefit analysis. We respectfully disagree with this view. Fortunately, this is not a question we need before us, because of both the science and the law. Over the years, every major, peer-reviewed study has found substantially greater benefits than costs from controlling air pollution, and found greater benefits from air pollution control than virtually any other environmental programs (e.g., oil spill cleanup). Among the most prominent studies was EPA’s “unfinished business report, release in 1987, which found air pollution to be among the highest benefit program in EPA.³⁰ A few years later, under President George H.W. Bush, EPA’s Science Advisory Board reviewed this assessment more rigorously and found uncertainty in the estimates for many areas, except air pollution control.³¹ Criteria Air pollutants were ranked as a high risk by the unfinished Business report in the 1980s. In 1990 the Science Advisory Board report on Reducing Risk “...considered to be supported more firmly by the available data than were the rankings for the others.” More recently, in 2003, the White House Office of Management and Budget, Office of Information and Regulatory Affairs, under John Graham, found air pollution control to be one of the clearest examples of an environmental program producing benefits outweighing costs.

We fully realize there is a substantial cost to complying with the air pollution control requirements necessary to meet these new standards. We also realize there is a cost to not

²⁹ *The Burden of Asthma in Delaware*, Delaware Health & Social Services Division of Public Health, and Department of Natural Resources and Environmental Control, August 2005

²⁹ EPA, *Unfinished Business: A Comparative Assessment of Environmental Problems*, 1987

³¹ EPA, *Reducing Risk: Setting Priorities and Strategies for Environmental Protection*, SAB-EC—21, September 1990. and Stevens, William K., “What Really Threatens the Environment”, *New York Times*, January 29, 1991.

complying with these standards. These costs are the often ignored benefits of attaining healthful air quality. We realize the real benefits of controlling PM_{2.5} pollution is difficult to quantify and that estimates vary significantly from local epidemiological estimates on one end of the spectrum to the John Locke institute on the other end. We refer you to EPA's estimate of the health benefits, described in the recent implementation rule for fine particulates³², which, of course could not have been published without approval by the White House Office of Management and Budget's Office of Information and Regulatory Affairs. And the evidence of serious health problems from particulates continues to mount a recent survey of data from 90 urban areas.³³ Again, we do not suggest cost be ignored, but strongly urge that the benefits be weighed as well.

C. Collective Effort by States, EPA and Industry Has Yielded Real Progress in Air Quality

All states, in cooperation with the EPA and industry, have made significant strides in improving the quality of the air in recent decades. We have also advanced our collective understanding of what forms of control offer the most effective path to success, both from ease of implementation and from an economic view. We have managed to improve air quality by reducing emissions while enjoying increases in GDP and experiencing significant growth in vehicle miles traveled. Since 1970, we have cut emissions that cause soot, smog and acid rain by more than half, even while our nation's economy has grown by 187% - clear evidence that a growing economy and environmental results can, in fact, go hand-in-hand.³⁴

The CAA established a clear path to ameliorate these problems, and it has worked. The Act provides the states with the mechanism to accomplish this task by identifying the culprit areas and identifying sources within the areas most likely to be causing the problem. Areas designated nonattainment have three years to develop State Implementation Plans (SIPs), the most recent of which was recently submitted to EPA to meet our June 2007 8-hour ozone SIP deadline. The preparation and adoption of past SIPs by each State containing a nonattainment area are grueling tasks, but with very limited exceptions, and only in extraordinary circumstances, have these SIPs not been submitted by the appointed date. A combination of detailed information on the amount of air pollution entering the state, plus information on the amount of pollution generated internally, constitute the cornerstone of the SIP preparation. Knowing how serious the pollution problem is, and what is causing the problem, states can perform complex modeling to determine how much reductions in emissions are necessary to result in an attainment condition. Determining the necessary control measures to achieve that reduction in emissions, whether locally or regionally, is the final major step in the process. When regional emissions are the

³² *Proposed Rule To Implement the Fine Particle National Ambient Air Quality Standards; Proposed Rule 70 Fed. Reg.* (210) 65984-66067, November 1, 2005.

³³ JAMA study Pope CA 3rd, Burnett RT, Thun MJ, et al., "Lung cancer, cardiopulmonary mortality, and long-term exposure to fine particulate air pollution," *Journal of the American Medical Association (JAMA)*, 2002;287:1132-1141; Brook RD, Brook JR, Urch B, et al. Inhalation of fine particulate air pollution and ozone causes acute arterial vasoconstriction in healthy adults. *Circulation*. 2002;105:1534-1536; and Ozone and Short-term Mortality in 95 U.S. Urban Communities Bell, M.L., et al. (2004). *JAMA* 292, p. 2372-2378.

³⁴ EPA Administrator Stephen Johnson speech at Adirondack Council 30th Anniversary, Essex, NY, August 4, 2005.

major contributor, regional solutions must be developed. One example of this activity is the exemplary work accomplished by the Northeast Ozone Transport Commission (OTC), including all states from Maine to Virginia, working together for a common cause. Using the mechanisms of MOUs and Resolutions, members of the OTC work together to develop control measures that benefit wide areas and not strictly one state.

It is EPA's responsibility and authority to require the preparation of SIPs as expeditiously as possible, and provide adequate support by developing guidance documents, in a timely manner, which states can use to move forward with their work on the SIPs. This mandate, as clearly defined in the Clean Air Act, forms the backbone for the important relationship between the federal, state and local governments, and allows the entire process to move forward effectively and efficiently. For example, under the ozone and fine particle standard implementation rule, it is the clear responsibility for the federal government to promulgate rules on utilities and other large sources, mobile sources, ports, rail operations and others, that produce a universally positive impact on reducing emissions. Subsequent to that activity, and depending on how severe a nonattainment condition remains, state and local areas must fill in the gap with more localized measures that are not pre-empted by federal authority.

Thanks largely to the tools provided in the 1990 Clean Air Act Amendments, the number of days when air quality exceeded the ozone NAAQS has dropped significantly since 1990. On this hot day in July, which is typically a time of year when ozone pollution is at it worse, we need to be aware of the effect of the combination of high temperatures, abundant sunshine and extra ozone precursors (NO_x and VOCs) emitted from coal- and oil-fired power plants supplying power to the grid, which create a recipe for high ozone levels. The good news is that for several years, the average peak concentrations of ozone have declined based on data from Maryland, which is fairly typical for an eastern state. So, while today's air quality is a "Code Orange" (Unhealthy for Sensitive Groups) here in Washington and other eastern metropolitan areas, there is better chance of healthful air quality than ten years ago, thanks to a variety of controls. For example, more than 170 Selective Catalytic Reduction (SCR) NO_x control units have been installed from 2001 to 2005, and more than 50 percent of the coal fired capacity in five important states (IN, OH, KY, TN, and WV) have SCR. What is amazing is the current projection that many of us thought would be impossible only a few years ago: all of the major metropolitan areas in the OTC are now projected to meet 8-hour ozone standard --Washington, DC, Boston, Philadelphia, Baltimore, and, hopefully, New York/ Connecticut.³⁵

This forum does not allow for a full description of the various controls that have contributed to this improvement in air quality, but I would like to list just some of the measures Delaware has adopted or are in the process of adopting, in coordination with other OTC states, most of which are not specifically identified in the CAA:

1. Architectural and Industrial Maintenance (AIM) Coatings: reduced VOC content of numerous coatings beyond federal requirements.

³⁵ Aburn, George (Tad), Maryland Department of the Environment, Air Director, (Ozone Transport Commission Summary), *Improving Air Quality Through Regional Action*: Presentation to OTC Annual Meeting, June 2007. Available at <http://www.otcair.org/document.asp?Fview=meeting#>

2. Mobile Equipment: established coating equipment standards to reduce VOC emissions.
3. Gas Cans: required gas cans meet certain performance and permeability standards to reduce VOC emissions.
4. Degreasing: reduced degreaser vapor pressure and instated equipment standards and work practices to reduce VOC emissions.
5. Control of NO_x Emissions from Large Boilers: reduced NO_x emissions from boilers larger than 100 mmbtu/hr that weren't well controlled through other programs.
6. Anti-Idling: reduced VOC, NO_x, SO_x, and DPM emissions from heavy duty vehicles by reducing allowable idling time.
7. Open Burning: instated strict open burning ban during the ozone season.
8. Minor NSR: reduced criteria pollutant and air toxic emissions by subjecting new minor stationary sources to top-down BACT requirements.
9. OTC NO_x Budget Program: participated in a regional NO_x Cap and Trade program to reduce NO_x emissions from power plants (program later replaced by the NO_x SIP Call).
10. Adopted several regulations to reinforce EPA-adopted heavy-duty diesel rules.
11. Stationary Generator Regulation: will reduce criteria pollutant and carbon dioxide emissions from stationary generators.
12. Peaking Units: will reduce peak ozone day NO_x emissions from combustion turbines used as electrical peaking units.
13. Refinery Boilers: will reduce NO_x emissions from large refinery boilers.
14. Non-Refinery Boilers: will reduce NO_x emissions from large non-refinery boilers.
15. Utilities Multi-P: will reduce NO_x, SO_x, and Hg emissions from Delaware's coal and residual oil fired electric utilities.
16. Lightering: will reduce VOC emissions from crude oil lightering operations in the Delaware Bay.

The point is that there is no "silver bullet" solution, but a variety of individual actions that yield success. We weigh each of these control measures carefully to seek the most cost effective measures to meet our air quality goals in a way that makes sense for our state. This is where the various cost-effectiveness issues are appropriately considered, not in setting the NAAQS.

D. More Work is Needed to Meet Air Quality Goals

Notwithstanding this progress, largely through state efforts, air pollution control cries out for a complementary strong federal role over interstate activity. The primary EPA response to this need for a stronger federal role is the Clean Air Interstate Rule (CAIR)³⁶, which was an important step toward addressing the age-old problem long known to those of us in the dismal science of air pollution: the wind obeys no state boundaries.

We have worked with other Ozone Transport Commission (OTC) states to evaluate CAIR and found it does not adequately reduce emissions to levels needed to reach attainment of lower ozone and PM standards in the northeast and mid-Atlantic states. EPA acknowledged that there

³⁶ 70 *Fed. Reg.* 25162 (May 12, 2005); 40 CFR 51.

would be “residual” non-attainment areas after full implementation of CAIR, but detailed modeling suggests strongly that the difference between EPA’s coarse scale modeling and that which was done by the OTC shows there was a larger gap to fill. Relative to the current ozone and fine particulate matter standards we believe we have bridged this gap left by the CAIR rule. However, a gap between the where we are now, and the new ozone and fine particulate matter standards still exists. The kinds of improvements on the original CAIR framework include nonroad emission control and fuel requirements, and the tightening of the existing controls on stationary sources. Another example of measures directed to improve upon the CAIR framework are being accomplished under the auspices of other regional organizations in the Midwest and the Southeast.

EPA’s adoption of the CAIR rule is clearly a universally effective first step, but it only a first step. While EPA has taken an important first step to address transport, we are still concerned that the agency has not done enough, and more must be done to address these new, more stringent health based standards. Additionally, we are troubled by EPA effort to weaken an important regulatory tool under Section 126 of the Clean Air Act for addressing interstate transport, and actions such as preemption of state authority on small engine controls, accomplished by legislated activity and prevention of state’s ability to adopt mobile source rules identical to those of California, severely hamper a state’s ability to do its job. Very simply put, if a state is able to pass muster through its normal adoption process, which is both very open and rigorous, there is no reason to prevent a state from doing so.

Delaware has been working for more than 30 years to reduce ozone concentrations. We have controlled all large sources of emissions that contribute to the ozone problem far beyond the minimum federal requirements. We have controlled all our major VOC and NOX sources with reasonably available control technology (RACT). We have gone beyond RACT, and further controlled Delaware-unique sources like Lightering; sources that are large on a regional and national basis like consumer products and paints; and sources where the EPA did not go far enough, like regulations covering power plants.

We have done a lot to reduce ozone concentrations, and it shows in our air quality. Delaware has attained compliance with the previous 1-hour ozone NAAQS, and have recently demonstrated that we will attain compliance with the current 8-hour NAAQS by 2010. We know what it takes to reduce ozone concentrations, and we will do more, however we also know that we, ourselves, cannot reduce ozone concentrations much more. The implementation process associated with any new, tighter ozone NAAQS must recognize this, and a key to that recognition is how non-attainment area boundaries are established. It is this area that we need EPA and legislative support.

In the past the EPA has concentrated on Metropolitan Statistical Area or Consolidated Metropolitan Statistical Area (C/MSA) associations as the presumptive NAAQS non-attainment area boundary. Delaware believes that continuing this practice will not be successful under a tighter ozone NAAQS. Reasons for this belief include:

- The C/MSA approach is based on census data rather than airshed analysis data. Census data, in comparison to airshed analysis data, represents a poor surrogate for determining non-attainment boundaries.
- Detailed regional airshed studies have been completed, such as the Regional Oxidant Modeling (ROM) project covering most of the Ozone Transport Region (OTR) states, the Ozone Transport Assessment Group (OTAG) project and the NOX SIP Call analysis covering most of the Eastern U.S. These studies have demonstrated that the ozone problem is transport-driven and regional in scope, rather than localized or confined to relatively small C/MSA's. These studies have further demonstrated that individual C/MSA's have minimal control over their ability to demonstrate or achieve attainment. Delaware believes that this conclusion should become the cornerstone of good air quality planning and policy, starting with the crucial boundary determinations.
- In many areas, including Delaware, the air coming into a county is often with ozone concentration greater than the current 85 ppb ozone NAAQS, so under the C/MSA approach such an area may be required to solve a problem that is not possible to solve under its own authority. This will likely be more of a factor under a tighter ozone NAAQS. Should the EPA continue to fail to address transport completely and in a timely manner, this could lead to a need to install ineffective and costly controls, sanctions under the CAA, and likely delay protecting public health in those areas.
- The C/MSA-based approach has had, at best, minimal success toward achieving attainment of the prior 1-hour and the current 8-hour NAAQS. From Delaware's experience, most of the success on the east coast to date is attributable to national measures taken by the EPA, and regional measures developed and adopted by the Ozone Transport Commission (OTC) member states. Given that 8-hour non-attainment under any new, tighter NAAQS would be more regional in nature than the current 8-hour non-attainment, a C/MSA-based approach is not appropriate.

Delaware believes that the EPA must designate non-attainment area boundaries consistent with the regional nature of the problem. Delaware believes that one way of doing this is by designating as a single non-attainment area, within an area that is as regional as possible, all counties that are "non-attainment" with the 8-hour ozone NAAQS. Practically speaking, this recommendation would likely establish a single non-attainment area that encompasses all counties that are monitoring non-attainment, or that are part of a non-attainment C/MSA, within the NOX SIP Call domain.

Delaware believes that a regional approach would:

- Include in the non-attainment area all or most of the counties necessary to solve this regional problem. It will give all involved a vested interest in solving this regional problem. It will also foster cooperative development and implementation of control strategies that will best serve the designated areas.
- Remove political barriers, and level the playing field by setting the consistent, proven baseline control requirements of Subpart 2 of Title I, Part D of the CAA within the region, which include New Source Review (NSR), vehicle Inspection and Maintenance, and Reasonably Available Control Technology (RACT) requirements.

- Compliment national and regional rules that address regional transport.
- Recognize that ozone non-attainment is a “regional problem” and not a “local problem with a transport component,” and that it is necessary to go beyond the C/MSA approach that has largely failed for nearly three decades under the 1-hour ozone NAAQS.
- Simplify and provide equity to the process of implementing the 8-hour NAAQS. In short, demonstrate that we have learned that a continuation of the existing process does not work.

Delaware fully acknowledges that the progress we have made to date in the control of ozone has only been possible because of the collaborative process between EPA and the states. EPA’s continuing efforts to establish stringent federal mobile source emission standards, develop improved modeling and other analytical techniques, and develop policies that facilitate the development and implementation of large-scale attainment strategies are greatly appreciated. An intensified level of effort will be imperative to our continued success. I hope that EPA will be open to policy changes that will support the technically sound and equitable ozone attainment process being recommended here by Delaware.

In addition to continued near-term implementation of these measures, a whole new set of air pollution controls will likely be required in the long term. Beyond using “end-of-the pipe” controls, and “command and control systems,” we know that fundamentally different approaches will be needed if we are to meet our long-term air quality goals. For example, much more investment into energy efficiency is needed. Also, a much stronger and serious coordination on land use goals to help prevent suburban sprawl, which leaves generations of citizens with no realistic option but the use of their private automobiles for transportation. After decades of unbridled sprawl, it is virtually impossible to superimpose a mass-transit system on top of land-use patterns designed for cars, much less encourage more walkable and livable communities among car-friendly development patterns. I was proud to attend the recent celebration of the completion of the Wilmington and Western Railroad in Hockessin, Delaware, and hear our home state Senator Tom Carper speak. He used the opportunity to make the point that trains are not merely part of the past, but will be part of our future as well; and that we must meet the challenge of reducing our oil dependency, which results in sending money overseas to a part of the world where people want to harm us. My ten-year old son, said, “Dad, he sounds like you.” I told him, “No, Nicolai; maybe I sound like him.” I greatly appreciate your leadership on these issues, Mr. Chairman.

Thank you for the opportunity to present these views. I would be happy to answer your questions.