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S. 2995 The Clean Air Act Amendments of 2010

Testimony
of
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Before the
Committee on Environment and Public Works
and the
Subcommittee on Clean Air and Nuclear Safety

U.S. Senate

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Good morning and thank you for the opportunity to testify today. My name is Albert A. Rizzo and I am the Chief of the Pulmonary and Critical Care Medicine Section at Christiana Care Health Systems in Delaware and I have been caring for Delawareans with lung disease for over 25 years. I trained at Johns Hopkins University, Jefferson Medical College and Georgetown University and am board certified in Pulmonary, Critical Care and Sleep Medicine. I am a member of the American Thoracic Society, a Fellow of the American College of Chest Physicians and a Diplomate of the American Board of Sleep Medicine and most importantly today I am a volunteer member of the national Board of Directors of the American Lung Association. I began my volunteer years in Delaware and ultimately served as President of the American Lung Association of Delaware and have now been committed to the Lung Association and its mission for more than 25 years.

The American Lung Association is the nation's oldest voluntary health agency, founded in 1904 to combat tuberculosis. Today our mission has broadened to save lives by improving lung health and preventing lung disease. We fight for healthy air because healthy air saves lives. We work hard to help people stop smoking and prevent kids from starting to prevent the development of lung disease. We help people, like my patients, to understand, manage and cope with their lung cancer, asthma or Chronic Obstructive Pulmonary Disease (COPD) – a disease better known as emphysema and chronic bronchitis. We do this by funding cutting edge medical research, educating the lay and professional public and, as I am doing today, by advocating for policy change that benefits the health of society. Our hundreds of thousands of volunteers across the country support this vital mission.

The American Lung Association urges the Congress to pass S. 2995, the Clean Air Act Amendments of 2010. We are proud to support this bill because it will save lives. We want to thank Senators Carper and Alexander for their bi-partisan leadership along with Senators Klobuchar, Collins and Gillibrand and the other cosponsors.

We see a compelling and urgent need for Congress to strengthen the Clean Air Act and clean up air pollution from power plants. Pollution from these plants puts at risk the lives and health of millions of Americans.

Let me start by describing the health effects of this pollution. Power plants emit tons of sulfur dioxide, nitrogen oxides and mercury. Sulfur dioxide (SO_2) and nitrogen oxides (NO_x) are transformed into fine particles in the air. These tiny particles are less than one-tenth the diameter of a single human hair. They are so tiny that they bypass the body's natural defenses of the nose and upper airways and lodge deep within the lung, where they harm human health. Studies demonstrate that those who are most at risk from the effects of this fine particle pollution include infants and children, the elderly and especially those with asthma or other lung disease or heart disease.[1] The lungs of our infants and children are small and still developing. They breathe more

[1] Many studies show children, the elderly, and persons with respiratory and/or coronary disease as particularly vulnerable to PM. The following are a few of the more recent- Pope, C. Arden III. Mortality effects of longer term exposures to fine particulate air pollution: review of recent epidemiological evidence. *Inhalation Toxicology* 2007; 19 (Suppl. 1): 33-38. Pope CA III, Dockery DW. Health Effects of Fine Particulate Air Pollution: Lines that Connect. *J Air Waste Mange Assoc* 2006; 56:709-742. Pope, CA et al. (2009). Fine Particulate Air Pollution and Life Expectancy in the United States. N Engl J Med 2009; 360:376-386. Eftim SE, Samet JM, Janes H, McDermott A, Dominici F. Fine Particulate Matter and Mortality: A Comparison of the Six Cities and American Cancer Society Cohorts with a Medicare Cohort. *Epidemiology* 2008; 19:209-216. Laden F, Schwartz J, Speizer FE, Dockery DW. Reduction in Fine Particulate Air Pollution and Mortality: Extended Follow-up of the Harvard Six Cities Study. *Am J Respir Crit Care Med* 2006; 173: 667-672 U.S. EPA. Integrated Science Assessment for Particulate Matter (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-08/139F, 2009.

air per pound of body weight than adults and they are more likely to be active in the outdoors on high air pollution days.[2]

Because nitrogen oxides are a key ingredient in the formation of ozone, power plant pollution worsens ozone. Ground level ozone, or smog, that blankets much of the United States during the summer is a powerful respiratory irritant.[3] When inhaled, ozone damages the lung tissue much like the summer sun burns our skin. Ozone air pollution poses health risks for all who are exposed, be they infants, children, teenagers, seniors, and especially those with asthma and other lung diseases. Even healthy adults who work or play outdoors are at risk.

Both particulate matter and ozone cause the most egregious harm – premature death. California recently estimated that some 18,000 of their residents die from breathing particle pollution each year.[4] We know from research that breathing particulate matter shortens life, not by days, but by anywhere from months to years.[5] Studies have shown that ozone pollution at levels we have in the U.S. today also contributes to early death.[6]

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[2] American Academy of Pediatrics Committee on Environmental Health, Ambient Air Pollution: health hazards to children. *Pediatrics* 2004; 114: 1699-1707.

[3] U.S. EPA. Air Quality Criteria for Ozone and Related Photochemical Oxidants (2006 Final). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-05/004aF-cF, 2006.

[4] California Air Resources Board. Methodology for Estimating Premature Deaths Associated with Long-term Exposure to Fine Airborne Particulate Matter in California: Staff Report. October 24, 2008. Available at http://www.arb.ca.gov/research/health/pm-mort/pm-mort_final.pdf.

[5] Schwartz, Joel. Is There Harvesting in the Association of Airborne Particles with Daily Deaths and Hospital Admissions. Epidemiology, Vol. 12, No. 1, pp 56-61, January 2001; Brunekreef, Burt. Air Pollution and Life Expectancy: Is There a Relation? Occup Environ Med 1997 Nov; 54(11):781-4; Pope, C.A. III, Epidemiology of Fine Particulate Air Pollution and Human Health: Biological Mechanisms and Who's at Risk? Environ Health Perspect 108 (suppl 4):713-723 (2000).

[6] Bell ML, Dominici F, and Samet JM. A Meta-Analysis of Time-Series Studies of Ozone and Mortality with Comparison to the National Morbidity, Mortality, and Air Pollution Study. *Epidemiology* 2005; 16:436-445. Levy JI, Chermerynski SM, Sarnat JA. Ozone Exposure and Mortality: an empiric Bayes metaregression analysis. *Epidemiology* 2005; 16:458-468. Ito K, De Leon SF, Lippmann M. Associations Between Ozone and Daily Mortality: analysis and meta-analysis. *Epidemiology* 2005; 16:446-429. Bates DV. Ambient Ozone and Mortality. *Epidemiology* 2005; 16:427-429.

Death is not the only harm these pollutants produce. For hundreds of thousands of people, smog- and soot- polluted air means more breathing problems, aggravated asthma, fear-filled trips to the emergency room, and even admissions to the hospital and sometimes to the intensive care unit. These are the patients I, and physicians like me, see daily in the hospital and in our practices.

My patients already have reduced lung function from COPD, asthma, pulmonary fibrosis and other chronic lung diseases. Smog and soot exposure further impairs their breathing. I educate my patients to stay indoors or limit their activities, when possible, on "bad air" days. Despite this, we often see a rise in office and ER visits during these days. The impact on the quality of their lives, lost productivity and missed school days take a toll on all of us.

Mercury from power plants is a potent neurotoxin that inflicts permanent damage on the kidneys and the nervous system, and threatens children's neurological and brain development. Mercury leaves the smokestacks and settles into the rivers and lakes. It accumulates in fish making them increasingly toxic. Women of childbearing age and their children who eat these fish are the ones most at risk.[7]

My patients and tens of thousands more like them will benefit from S. 2995. Last year in response to Senator Carper's request, the Environmental Protection Agency analyzed the potential health benefits of several scenarios of NO_x and SO_2 reductions. One of the scenarios, #2, closely matches the bill as introduced, although the scenario sped up the 2018 SO_2 caps

[7] Agency for Toxic Substances and Disease Registry. Toxicological profile for mercury. 1999; National Research Council, Toxicological Effects of Methylmercury, 1999

proposed in this bill to 2015. Using that scenario, EPA estimated that the particulate matter pollution reductions resulting from the bill would prevent between 12,000 and 30,000 premature deaths each year by 2025.[8]

Fortunately, we do not have to wait 15 years to see benefits. In 2012, as power plants install the equipment that will clean up emissions, the EPA predicts that as many as 6,300 to 16,000 lives will be saved each year. Less pollution would prevent tens of thousands of asthma exacerbations, thousands of acute myocardial infarctions, or heart attacks, as well as avoid thousands of emergency room visits and hospital admissions. The ozone pollution reductions, resulting from the NO_x limits, will help reduce premature deaths and cut lost school days, ER and hospital admissions. The U.S. could save more than $1 billion in 2012 and $2.5 billion in 2025.[9] Although some of those benefits may come slightly later under the bill as introduced, these are still significant life-saving improvements in health. These improvements can benefit each of the states.

Each year the American Lung Association publishes the ***State of the Air*** report. In our 2009 report, we show that more than 186 million Americans – 60 percent of our population – live in counties that receive a failing grade for ozone or particulate matter.[10] This is a conservative estimate because our grades are based on the EPA standards that are currently in place – standards that we know are inadequate to protect public health.[11]

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[8] U.S. Environmental Protection Agency U.S. Environmental Protection Agency. *EPA Analysis of Alternative SO2 and NOx Caps for Senator Carper.* Washington DC: US EPA, July 31, 2009.

[9] U.S. Environmental Protection Agency U.S. Environmental Protection Agency. *EPA Analysis of Alternative SO2 and NOx Caps for Senator Carper.* Washington DC: US EPA, July 31, 2009. www.**epa**.gov/airmarkt/progsregs/cair/docs/CABriefing.ppt

[10] American Lung Association. State of the Air 2009 http://www.stateoftheair.org/

[11] In September 2009 EPA announced it would reconsider the existing ozone standards, set at 0.075 ppm in March 2008, EPA proposed revisions to the ozone standard in January, 2010: On February 24, 2009 A federal appeals court ruled that the

As Senator Carper knows, thousands of our neighbors in Delaware are at risk from air pollution. Our ***State of the Air*** report found that all three of Delaware's counties fail for ozone and New Castle, where I live, also fails for daily levels of particulate matter. In New Castle County more than 11,500 children with asthma are at risk from air pollution. Not only from the potential long term worsening of their disease but also from a potential trigger of a life-threatening asthma attack.[12]

Senator Alexander, the American Lung Association thanks you for your dogged commitment to clean air. Your home state has 15 counties that earned failing grades for air pollution. As you know well, Blount County, home to one of the great national treasures – Great Smoky Mountains National Park – bears a sizable burden of air pollution. Our report shows that Blount County suffered seventy-seven days with unhealthful levels of ozone from 2005 to 2007. Roughly 26,000 children and more than 17,000 seniors in Blount County are at risk from pollution. The Clean Air Act Amendments of 2010 will not only help reduce the public health burden of air pollution but also reduce the burden that acid rain, haze, ozone, particulate matter and toxic mercury place on our National Parks.[13]

Attached to my testimony are the summaries from our ***State of the Air*** report for the states of each member of the committee. The summaries show the county-by-county air quality grades and the numbers of your constituents at risk – particularly the most vulnerable, the young,

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particulate matter national ambient air quality standards was deficient and sent them back to the U.S. Environmental Protection Agency for corrective action. EPA is scheduled to announce a new proposal in November, 2010.

[12] American Lung Association. State of the Air 2009 http://www.stateoftheair.org/

[13] American Lung Association. State of the Air 2009 http://www.stateoftheair.org/

the old, those with lung disease like asthma, chronic bronchitis and emphysema as well as those with cardiovascular disease and diabetes. You will see several states, like Rhode Island, where every county with an air pollution monitor fails for ozone. Also appended are the lists of the 25 most polluted cities—with some rankings that may surprise you. As Chairman Boxer knows, despite your state's efforts, it is not a surprise that many California cities make the dirtiest lists. But what may be a surprise to some, is Lancaster, Pennsylvania is tied with New York for the 22nd worst city for annual particle pollution levels. The report shows that air pollution – the pollution that comes from power plants – is a national problem impacting citizens all across the country.[14]

The Carper-Alexander bill sets stringent caps for sulfur dioxide and nitrogen oxides, and ensures that toxic mercury levels will be cut. For sulfur dioxide, the bill caps emissions at 3.5 million tons in 2012, 2 million tons in 2015 and 1.5 million tons in 2018. For nitrogen oxides, the bill caps emissions in the eastern United States at 1.39 million tons in 2012 and 1.3 million tons in 2015. In the West, the cap limits emissions to 520,000 tons in 2012 and 320,000 tons in 2015. Importantly, EPA has the authority to set tighter limits if needed to protect public health or the environment. The mercury provision provides a critical backstop for the forthcoming mercury Maximum Achievable Control Technology or MACT rule. If EPA fails to implement the MACT or is blocked from implementing the rule, the bill will require the plants to cut mercury emissions by 90 percent by 2015.

This legislation builds upon and strengthens the existing Clean Air Act. Because the bill does not change or weaken the underlying Clean Air Act, EPA and states retain their critical

[14] American Lung Association. State of the Air 2009 http://www.stateoftheair.org/

tools and enforcement authorities. We support this bill, as introduced, precisely because it strengthens the ability to get additional pollution reductions without imposing weakening changes to the current law. We will not support – in fact, we will vigorously oppose—any changes that would undermine the enforcement of the New Source Review program or other provisions of the Clean Air Act.

We have heard from some who suggest that it would be better to wait for EPA to promulgate the Clean Air Interstate (CAIR) replacement rule and the MACT. We understand that the CAIR rule will be proposed next month and a utility MACT will be proposed next year. The American Lung Association urges both Congress and EPA to move forward. The American Lung Association will continue to support EPA's efforts to implement the Clean Air Act and we will urge EPA to maximize the reduction of these pollutants.

Congress needs to move forward on the Carper-Alexander bill, because it provides the needed health and environmental benefits. It sets enforceable reductions if litigation or another delay precludes EPA from moving forward on the mercury MACT. Our principal concern is getting the pollution out of the air. Delays have real and dramatic costs – a tragic human toll – paid in thousands of lives lost each year. The EPA and this committee have wrestled with these issues over the past decade. The public has waited too long for power plants to clean up. The Clean Air Act Amendments of 2010 demonstrate broad bi-partisan support for this goal. It is well past time to clean up the nation's power plants. Please pass this life-saving legislation. Thank you.