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December 1, 2014

Administrator Gina McCarthy
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

RE: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units EPA Docket ID No. EPA-HQ-OAR-2013-0602

Dear Administrator McCarthy:

The American Lung Association welcomes the opportunity to comment on the U.S. Environmental Protection Agency's proposed Carbon Pollution Emission Guidelines for Existing Stationary Sources, commonly referred to as the Clean Power Plan. We support EPA's overall approach with the Clean Power Plan, but we believe the final plan needs to be stronger to provide essential protection to public health. Particularly in light of the President's recent commitment to the world to reduce carbon pollution, an enhanced Clean Power Plan could become one of the nation's strongest tools to reach that commitment.

Climate change poses grave threats to public health. To protect our communities and the public, the United States must significantly reduce carbon pollution from the largest source, which are existing power plants. However, EPA's current proposal misses opportunities to reduce carbon pollution that are readily available. A stronger proposal would have targets that can support actions across the nation to reduce carbon pollution, actions that can also reduce other life-threatening pollutants as well.

Climate change poses serious threats to lung health

The changing climate threatens the health of Americans alive now and in future generations. Growing evidence over the past few years has demonstrated the multiple, profound risks that imperil the lives and health of millions. Consequently, the nation has a short window to act to reduce those threats.

On November 2nd, the Intergovernmental Panel on Climate Change issued its most recent policy assessment of current observations and analyses about the changing climate. The IPCC found:

"Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood

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of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks.”¹

This is only the latest report to make clear the essential need to adopt and maintain the strongest possible measures to reduce carbon and other greenhouse gases that endanger the long-term health of all people.

The *United States Third National Climate Assessment* issued in May 2014 provided the most recent detailed summary of the research outlining these risks to the United States.² Many of these risks directly affect people with lung disease or other vulnerable people. The *Journal of the American Medical Association* provided information for medical providers to educate their patients about likely health risks from climate change in a recent clinical review communication in October, 2014.³

The discussion below summarizes some of the most critical threats to lung health.

Ground-level ozone is likely to be worse in some locations. Climate change brings the likely increase in temperature, which is a key precursor to the formation of ozone. Higher temperatures increase the likelihood that the precursor gases will react to form ground-level ozone, making it harder to protect people from this most widespread air pollutant. Researchers repeatedly found that the risk of premature death increased with higher levels of ozone.⁴ Ozone causes asthma attacks and respiratory distress, and may increase cardiovascular harm, risk of harm to the central nervous system and the risk of low birth weight in newborns.⁵

Studies have projected the increase in ozone under warming temperatures, assuming no reduction in other precursor emissions, to be much higher, with some models showing increases in premature deaths from summertime ozone as high as 2,500 annually by 2050.⁶ In 2009, EPA produced an interim report on the Agency’s analysis of the impacts of climate change on ozone in the U.S., examining multiple models conducted in cooperation with leading researchers and institutions. These models also assumed no reductions in other precursor emissions. EPA’s own assessment of the findings concluded that the average projected increase ranged between 2 to 8 parts per billion (ppb) for the maximum daily 8-hour average concentration. EPA’s own assessment also concluded that every region of the nation suffered impacts of increased ozone under at least one model.⁷

We have seen the impact of climate on ozone in the recent past as well. Ozone levels in the eastern states rose significantly during the hottest year on record in the United States in 2012.⁸ Clearly, the benefits of steps EPA has adopted to reduce the precursor emissions, such as the recently adopted Tier 3 standards, will help lessen the available chemical ingredients required for ozone formation. But even those remaining will be more likely to form ozone than they might otherwise, creating a climate penalty that must be overcome.⁹ The challenges of reducing ozone will become harder.

Wildfires and drought conditions give rise to smoke and dust storms spreading miles from their source. This past year has showcased the risks from wildfire smoke from blazes in the West. As of September, California had reported nearly 5,000 wildfires in 2014--1,000 *more than usual*—before fire season had even begun, as the *Los Angeles Times* noted.¹⁰ In one example, particulate matter in the

smoke from those fires covered Sacramento to Reno in a code purple particulate matter alert on September 21, 2014.¹¹

Drought-driven dust storms also produce high levels of particulate matter. The impact of dust storms in recent years, such as one in Oklahoma in 2012 that shut down Interstate 35, demonstrate their power to threaten health in multiple ways.¹²

Even short-term exposure to short-term increases in particle pollution have been linked to premature death from respiratory and cardiovascular causes, including strokes^{13, 14, 15, 16}; increased mortality in infants and young children¹⁷; increased numbers of heart attacks, especially among the elderly and in people with heart conditions;¹⁸ increased hospitalization for cardiovascular disease, including strokes and congestive heart failure^{19, 20, 21}; increased hospitalization for asthma among children;^{22, 23, 24} and increased severity of asthma attacks in children.²⁵

Wildfire smoke contains more toxic pollutants than just particulate matter; the smoke mixture includes carbon monoxide, nitrogen oxides, volatile organic compounds and carcinogens as well.²⁶

These examples show that these changes erect new hurdles to our ability to protect health from air pollution. As EPA noted in its 2009 report on the impacts of global climate change on ground-level ozone, modeling for future pollution levels shows the complexity of the problem, with one compelling outcome: climate change had “the potential to make U.S. air quality management more difficult.”²⁷

Extreme weather threatens respiratory health. Many cities across the U.S., such as Chicago and Milwaukee have experienced increased death rates from episodic heat waves in recent years.²⁸ Hotter temperatures can increase the risk of heat stroke and heat exhaustion and can increase the risk of hospitalization for cardiovascular and respiratory diseases.²⁹

Increased risk of dangerous hurricanes threatens not only damage and death from the wind, but disruption in communities that suffer hurricanes. As Hurricane Katrina and Sandy showed, such disruptions can last for years. Hospitals, clinics, medical care and public health services may be blocked from serving their patients and communities as resources are diverted to emergency response or too damaged to provide those services. Patients find themselves in emergency shelters or relocated to new homes far away from their previous medical caregivers.

According to the most recent assessments³⁰, the nation has experienced increased heavy rainfall and flooding since 1991. Flooding causes premature deaths, often through drowning, but the aftermath of flooding expands the burden. Water damage leaves behind lingering risks including dampness and mold, chemicals and sewage spread through flood waters, and contaminated debris in flooded homes, schools, hospitals and other community facilities.³¹

Allergens will increase. Warmer weather leads to shifting growing seasons that change flowering time and pollen development and can expand the habitat for allergen-rich plant species. Higher concentrations and longer growing seasons increase the exposure to allergens that trigger asthma and other respiratory and allergic responses.³²

Millions of Americans suffer greater vulnerability to these threats. Many people face greater risk or exposure, as documented in the large air pollution science assessments EPA has repeatedly analyzed. Children court special risks because their bodies are growing and because they are so active.³³ Older adults are more likely to die during high heat events and are at higher risk from increased air pollution.³⁴ People with chronic respiratory diseases like asthma and chronic obstructive pulmonary disease, people with cardiovascular diseases and people with diabetes also risk greater harm from increased pollution.³⁵

Poorer people and some racial and ethnic groups are among those who often confront higher exposure to pollutants and who may experience greater responses to such pollution. Many studies have explored the differences in harm from air pollution to racial or ethnic groups and people who are in a low socioeconomic position, have less education, or live nearer to major sources.³⁶

Poorer people, people of color, older people and disabled people will have a harder time responding to the threats, especially if electricity is lost or relocation or evacuation is required.³⁷ Hurricane Katrina demonstrated that many people in these groups had difficulty evacuating and relocating after a major weather event. Once they evacuated, they suffered from losing not only housing and jobs, but medical care and family connections.³⁸ Native American tribal communities may face threats to food supplies and difficulty relocating due to tribal land limitations.³⁹

Even healthy adults can be affected by increased air pollution especially if their work requires them to be outdoors, as the study of lifeguards in Galveston, Texas demonstrated.⁴⁰

Lifesaving benefits to public health can begin immediately. In addition to reducing the longer-term risks from climate change, steps to cut carbon pollution will cut other toxic emissions as well. Estimated reductions include: 54,000 to 56,000 tons of PM_{2.5}; 424,000 to 471,000 tons of sulfur dioxide; and 407,000 to 428,000 tons of nitrogen dioxide. Those pollutants directly form particulate matter and ozone that cause widespread harm and premature death as described earlier.⁴¹

Based on those reductions, EPA estimated that implementing the Clean Power Plan could avoid 2,700 to 6,600 premature deaths in 2030. In 2030, children would suffer 140,000 to 150,000 fewer asthma attacks. People with cardiovascular disease would have 340 to 3,300 fewer heart attacks. Hospital admissions for cardiovascular and respiratory conditions would drop, with 2,700 to 2,800 fewer admissions in 2030.⁴²

It is important to recognize that the modeling actually minimizes the real-world benefits of these reductions. The EPA's use of established BenMAP modeling is appropriate to make these estimates, but the predictions focus on findings from certain studies looking at specific outcomes. The BenMAP model cannot estimate the impact on other, also demonstrated, benefits. For example, although the World Health Organization has determined that particulate matter causes lung cancer, science currently lacks appropriate modeling to estimate how many fewer cases of lung cancer would occur in 2030 with the reductions in particulate matter.⁴³

A separate, major study confirms that co-benefits from reducing carbon pollution are real, but that doing too little may prove harmful. Strong limits on carbon pollution from existing power plants could improve air quality and prevent an estimated 3,500 (780 to 6,100, 95% CI) premature deaths in 2020

along with other significant benefits to human health, according to an analysis released in September by researchers from Harvard University, Syracuse University, and Boston University. That report, *Health Co-Benefits of Carbon Standards for Existing Power Plants*, evaluated alternative approaches for reducing carbon pollution from power plants, and showed that limits must be strong, flexible and enforceable to achieve the greatest health benefits for the American people.⁴⁴

The study compared “business as usual” conditions with three alternatives for limiting carbon from power plants. Results showed that a strong, enforceable and flexible approach to reducing carbon pollution would reduce emissions of sulfur dioxide and nitrogen oxides by about 775,000 tons each year. In addition to reducing premature deaths, the strongest options avoided 530 to 1500 hospital admissions for cardiovascular and respiratory diseases in 2020. As a result of lower emissions, all of the lower 48 U.S. states would experience cleaner air.⁴⁵

In another critical finding, this modeling showed that steps to do less to reduce carbon had significant limitations and, in fact, likely harmful consequences. The model that limited actions to improving the efficiency of existing plants, sometimes called the “inside the fence” option, did decrease the annual in CO₂ emissions slightly (by 2.2 percent) from the 2020 reference case. However, the likelihood that these more efficient plants would be dispatched more often resulted in an estimated annual 3 percent *increase* in sulfur dioxide emissions. This estimated sulfur dioxide increase actually led to the forecast of an increase in annual premature deaths and heart attacks, using this more limited approach.⁴⁶

EPA’s overall Clean Power Plan provides excellent approach.

The Clean Power Plan’s core flexibility encourages innovation and tailoring. We appreciate EPA’s commitment to allow the states to have flexibility to use multiple tools and to innovate in their approaches to cut carbon emissions. The Plan encourages innovation and the use of cleaner energy sources for electricity generation. The Plan encourages strategies to improve energy efficiency, which could decrease the need to burn fossil fuels. We will work with our state-based charters to support the states adopting plans and systems that will provide the greatest reduction in carbon emissions to protect public health.

Requirements for permanent, enforceable, measurable, verifiable emission reductions are crucial. We also appreciate the EPA’s commitment to require that the states demonstrate “that each emissions standard is quantifiable, non-duplicative, permanent, verifiable, and enforceable” (79 FR 34838). States will have difficulty assessing, without verifiable measures, whether the actions they took have the expected impact. Unless compliance measures can be measured and verified, the potential exists for them to be ineffective, costing time and resources that could be spent in more effective measures.

The EPA must be clear that the final standards must be enforceable not just by EPA, but by citizens, including by nonprofits and non-governmental organizations, as well as governments. To protect lung health, the American Lung Association has historically led legal actions to ensure that the Clean Air Act is defended and enforced. We support ensuring in the language that these measures are enforceable.



In particular, the plans need systems to ensure that the reductions occur in the overburdened communities that particularly need the co-benefits from reduced use of coal-fired power plants. Those communities must have the ability to protect themselves should the appropriate reductions not occur.

Greater reduction in carbon emissions are needed.

The United States emits more carbon pollution than any other single nation except China.⁴⁷ We need to show greater leadership to fight climate change, as the threats to the lives and health of our citizens will not end with the current generation or even in the current century without profound action. The Clean Power Plan contains excellent tools to tackle that challenge, but the goals are too limited to effectively respond to the problem.

The EPA should set more aggressive targets for the nation to meet. As proposed, the Clean Power Plan will only result in a 30 percent reduction of carbon dioxide emissions from 2005 levels. On November 11th, the President announced a commitment to reduce the nation's net greenhouse gas emissions up to 28 percent below 2005 levels by 2025. To accomplish that goal, this plan must require more reductions from the existing electric sector. The American Lung Association urges the EPA to set targets that will secure at least 35 percent to 40 percent reductions from the 2005 levels.

The EPA should set more aggressive compliance dates without reducing targets. States do need time to phase in some measures. However, the EPA proposal offers an excessively long period for phase in compared to other similar major rules. We urge EPA to shorten the time for putting these measures in place, but *without* reducing the required reductions as the EPA suggested as an option.

All state plans must be complete by 2018, so the states would have twelve years to meet their goals in 2030. Five years would be reasonable and provide more time to implement than other large measures adopted by the EPA in the past, including the NOx SIP call and the Mercury and Air Toxics Standards. However, the EPA should not weaken the standards to accommodate that shorter timeframe. The EPA should revise the compliance schedule to ensure states start reducing emissions as soon as possible, and move the completion date to no later than 2025 without reducing the targets. The EPA must also require regular review of the implementation and these guidelines no less frequently than once every 8 years.

The targets need to recognize that states can and should do more to reduce carbon emissions. The EPA based the reductions on the agency's calculations of what each state could do. However, some states report that they are already doing more in some categories than EPA has proposed as a target. The EPA need to set standards that push states to do more.

The EPA's calculations on the states' best system of emission reductions need to account appropriately for the ongoing changes in state energy sources. The EPA should ensure, for example, that it fully accounts for the on-going retirement and reduced demand for coal-fired power generation created through growth in renewable energy sources.

Recognize that some alternative energy sources have serious impacts on health as well. The Lung Association remains greatly concerned about promoting expanding biomass combustion as an acceptable alternative energy source. Biomass combustion currently uses feed stocks that have proven

human harm to human health: wood products, agricultural residues or forest wastes, and potentially highly toxic feed stocks, such as construction and demolition waste. These facilities are too frequently located in communities of color and low income communities, so the impacts often attack those who are most vulnerable to the emissions. If biomass is combusted, state-of-the-art pollution controls must be required. EPA must not assume that the impacts to health from the emissions will be adequately addressed through other regulatory processes particularly since those impacts likely threaten neighboring communities, including low income communities and communities of color. For example, the volume of traffic delivering fuel to these facilities and removing wastes add to the real-world burden of these plants. This added traffic pollution is not addressed in regulations reviewing boilers and energy generation facilities.

Strengthen protections for disproportionately burdened communities. The EPA acknowledges that many minority and low income communities face higher risks from climate change, but also risk being disproportionately burdened after the states adopt their own Clean Power Plans. The EPA recognized that the decisions states make about cleaning up and dispatching power plants located near these communities can easily increase local and regional emissions of nitrogen oxides and other non-carbon pollutants. The EPA must ensure that states must reach out to these communities specifically to engage them in the process. The EPA must require the states to specifically determine ways to reduce ongoing burden to these communities and prevent increased exposure to emissions from steps taken in the plan. The EPA discusses steps that states can do to monitor and address higher emissions that occur, but preventing exposure remains a much better approach.

Conclusion

The American Lung Association recognizes that climate change poses a major threat to the health of our patients and to the public. We are pleased that the Obama Administration has begun to take these critical steps to move the nation toward long-needed steps to reduce those threats. We appreciate the abundant opportunity to provide comment and weigh in on these issues.

The American Lung Association urges the EPA to provide the greater protection that is needed with an even stronger Clean Power Plan.

Sincerely,



Harold P. Wimmer
National President and CEO



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