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MAKING IMPLEMENTATION OF THE NATIONAL AMBIENT AIR QUALITY
STANDARDS FOR GROUND-LEVEL OZONE ATTAINABLE: LEGISLATIVE
HEARING ON S.263 AND S.452

TUESDAY, MAY 23, 2017

U.S. SENATE

Committee on Environment and Public Works

Subcommittee on Clean Air and Nuclear Safety

Washington, D.C.

The subcommittee met, pursuant to notice, at 2:31 p.m. in room 406, Dirksen Senate Building, the Honorable Shelley Moore Capito [chairwoman of the subcommittee] presiding.

Present: Senators Capito, Inhofe, Fischer, Ernst, Carper, Whitehouse, Merkley, Gillibrand, Duckworth, Booker, and Carper.

STATEMENT OF THE HONORABLE SHELLEY MOORE CAPITO, A UNITED STATES
SENATOR FROM THE STATE OF WEST VIRGINIA

Senator Capito. The hearing will come to order.

I would like to welcome everybody to the EPW Subcommittee on Clean Air and Nuclear Safety.

I would like to welcome the witnesses. Our first witness is someone we know very well. We will do our opening statements and then I will recognize you, Senator Flake. As we know, he is our colleague from Arizona, Senator Jeff Flake, a sponsor of S. 452, the ORDEAL Act. We are glad to have him here.

With that, I will proceed with my opening statement.

Today's hearing in the Subcommittee on Clean Air and Nuclear Safety will focus on the challenges posed by the implementation of the National Ambient Air Quality Standards, the NAAQS, for ground level ozone.

I will begin by recognizing myself for an opening statement and then move to Ranking Member Whitehouse for his statement.

Roughly a year has passed since the subcommittee last had a hearing on the Ozone NAAQS and legislation seeking to address the uncertainty regarding implementation of the new standards. A year later, no legislative fix has been enacted and so that uncertainty continues.

The EPA took seven years to finalize implementing regulations of its 2008 standards. Nearly contemporaneously, it

announced a revision, EPA did, of the standards to 70 ppb.

Now State and local governments and private industry are faced with potentially abiding by two different standards at the same time.

To that end, I request unanimous consent to submit for the record two letters: one signed by more than 200 trade associations from around the Country to congressional leadership in support of last year's version of S. 263, and a letter sent yesterday by the Association of Air Pollution Control Agencies to this subcommittee expressing concerns over the NAAQS review and implementation process.

Is there objection?

[No audible response.]

Senator Capito. Hearing none, so submitted.

[The referenced information follows:]

Senator Capito. This is a multibillion dollar issue, as there are severe constraints on economic development in areas designated as in "nonattainment." Perversely, in nonattainment areas it may be more profitable for a company to close a factory and kill jobs to create ozone offset credits to sell, than it would be to reinvest in or expand that facility.

Furthermore, while this committee is improving our Nation's infrastructure, nonattainment status delays affected-area access to federal support for transportation projects. I think one of our witnesses will address that issue.

The bills before us today are meant to end the regulatory uncertainty and its impacts on the livelihood of Americans.

S. 263, the Ozone Standards Implementation Act, which I introduced with Senators Cornyn, Fischer, Flake, Inhofe, and Manchin, would make needed reforms to the implementation of the standards, including requiring that the EPA promulgate implementing regulations at the time it finalizes the standards, not eight years later.

Where there is a range of levels that would protect public health, it would also require the EPA to consider whether the selected standard is technically feasible.

S. 452, the Ozone Regulatory Delay and Extension of Assessment Length, the ORDEAL Act, introduced by Senator Flake with myself as a co-sponsor, and Senators Cotton, McCain, and

Wicker, would, like my bill, move the EPA from a five-year schedule of reviewing the standards to a ten-year schedule, affording enough time for compliance.

The EPA has repeatedly failed to comply with the existing five-year schedule and, as the standards have gradually tightened, compliance has become costlier and more complicated. The longer schedule will give much needed time to comply.

Different States and regions have unique challenges in meeting the ozone standards. Elevation, weather patterns, natural phenomena, traffic, varying levels and types of industrial activity, and interstate and international transport of ozone and its precursors all impact ozone levels and vary significantly by jurisdiction.

With all of those variables in mind, modeling is extremely complicated and is largely left up to the States and municipalities, at great cost. Western and mountain States are particularly burdened by elevated background levels of ozone.

To achieve compliance, governments and industry need a clear, certain timeline for implementation of standards and a willing partner in the EPA. Up to now, we have not had that support in Washington.

The EPA repeatedly misses the deadlines for finalization, 2008 was not an outlier. One of these delays was 14 years. Implementation almost always takes longer than the five years

required by statute.

Now, just as the 2008 standards are being implemented, implementation regulations for 2015 are being drawn up. Areas that have just reached attainment status may once again be thrown into nonattainment, even as ozone levels nationally are trending downwards.

Based on data collected between 2013 and 2015, the number of counties in nonattainment will increase from 197 to 214 across 20 States and the District of Columbia. More than one-third of the US population would live in areas facing regulatory sanctions for nonattainment.

EPA has estimated the cost to comply with this new standard will be \$1.4 billion annually for 49 States and \$800 million annually for California, which would have until the 2030s to come into attainment.

Ground-level ozone is already declining nationwide due to emissions controls. There is no need to rush into implementation of new standards when the trend lines are positive and the late implementation of 2008 has not allowed the compliance process to play out.

Even a State like West Virginia, which is projected to be in attainment under both the 2008 and, narrowly, the 2015 standards have raised opposition with the EPA over the tightening of the standards over the uncertainty and costs the

standards generate on those grounds.

The West Virginia Department of Environmental Protection has noted in communications to the EPA that "the costs of achieving lower ozone concentrations increase exponentially as the standard is lowered, a policy decision as to the level at which the NAAQS should be set should not require the expenditure of billions of dollars to achieve health benefits that are not real, or at least extremely dubious under the science."

I request unanimous consent that this letter be entered into the record.

[The referenced information follows:]

Senator Capito. Our panel has a unique perspective. I welcome them. I look forward to the debate and hearing from our witnesses.

I yield to Ranking Member Whitehouse for a five-minute opening statement.

[The prepared statement of Senator Capito follows:]

STATEMENT OF THE HONORABLE SHELDON WHITEHOUSE, A UNITED STATES
SENATOR FROM THE STATE OF RHODE ISLAND

Senator Whitehouse. Let me thank Chairman Capito and other members of the subcommittee and our witnesses for being here today to discuss the EPA's 2015 National Ambient Air Quality Standards for ozone, colloquially known as NAAQS and two related legislative proposals.

Ironically, this hearing comes the week that the American Thoracic Society, 16,000 strong, is here in Washington urging action to protect American lungs from climate change and pollution.

In March, President Trump unveiled an Executive Order instructing agencies to review regulations that affect domestic energy production, which includes EPA's 2015 ozone standard. A few weeks later, EPA attorneys were granted a delay in the ozone standard's case now before the U.S. Court of Appeals for the D.C. Circuit.

EPA stated it needed time as "EPA officials in the new Administration will be closely scrutinizing the 2015 rule to determine whether the standard should be maintained, modified or otherwise reconsidered."

Despite all this administrative activity, we are here today talking about bills to delay implementation and formation of health standards for ozone and other pollutants. Why is that?

The answer, I am afraid, is that there is neither the law nor the science to dismantle the ozone standard quickly through administrative action, so the fossil fuel industry is calling as usual on politics.

The Clean Air Act mandates that NAAQS be set solely based on what is necessary to protect public health, specifically not on how it affects domestic energy production. The 2015 ozone standard was based on sound peer-reviewed science and the 70 ppb standard was the high bound of the proposed 60 ppb to 70 ppb range.

EPA's independent science advisors, leading medical groups like the American Medical Association, the American Academy of Pediatrics, the American Thoracic Society, the American Lung Association and the American Heart Association, and public interest groups such as the NAACP, had all called for a stricter standard, closer to 60 ppb. Winning with 70 ppb was not enough for the fossil fuel industry.

State compliance dates are linked to the severity of their pollution. Some States have upwards of 20 years to comply. The Congressional Research Service compiled a preliminary list of nonattainment areas based on State recommendations.

As you can see from this chart, West Virginia, Arkansas, Oklahoma, Nebraska, Iowa, Kansas, Mississippi and Alabama, the States represented by the Republicans on the subcommittee, all

believe they are already in attainment of the 2015 standard. Why then delay ozone compliance for these States that are already in attainment?

I would ask unanimous consent to enter the CRS material into the record, Madam Chair.

Senator Capito. Without objection.

[The referenced information follows:]

Senator Whitehouse. Polluters never want to reduce their pollution and regularly attack the Clean Air Act based on overblown costs that always ignore the other side of the ledger, the public health and other benefits of reducing pollution.

My State is on the other side of that ledger. We are downwind of the polluters. For years, tall, upwind, out-of-State smokestacks have been launching ozone-forming pollution into the prevailing winds that carry it to the playgrounds and backyards of Rhode Island.

Rhode Island parents should not have to tell their children they cannot play outside on what looks like a perfect summer day because it is a bad air day caused by out-of-State, upwind pollution.

In evaluating proposed ozone legislation, I encourage members of the subcommittee to take both sides of the ledger into account, including the substantial public health benefits of reducing pollution.

Madam Chair, I would like to ask unanimous consent that a letter from my Director of Environmental Management, Janet Coit, and four other northeastern States, be entered into the record in opposition to the proposed legislation.

Senator Capito. Without objection.

[The referenced information follows:]

Senator Whitehouse. I have another opposition letter from 22 public interest groups including the Appalachian Mountain Club, the National Parks Conservation Association, the Nebraska Wildlife Federation and the Wilderness Society be put into the record.

Senator Capito. Without objection.

[The referenced information follows:]

Senator Whitehouse. I have an opposition letter from 15 State Attorneys General, the District of Columbia Attorney General, and the Acting Secretary of the Pennsylvania Department of Environmental Protection be put into the record.

Senator Capito. Without objection.

[The referenced information follows:]

Senator Whitehouse. Finally, I have an opposition letter from 14 health and medical groups including the American Lung Association, the American Thoracic Society, the American Public Health Association and the Asthma and Allergy Foundation of America be put into the record.

Senator Capito. Without objection.

[The referenced information follows:]

Senator Whitehouse. Thank you, Madam Chair.

Senator Capito. Before we proceed to Senator Flake, Senator Carper, the Ranking Member of the full committee, is going to introduce a member of the next panel. He asked if he could make a four-minute statement which I granted him the right to do but if you would do your introduction at the same time, I would appreciate that.

STATEMENT OF THE HONORABLE TOM CARPER, A UNITED STATES SENATOR
FROM THE STATE OF DELAWARE

Senator Carper. I am happy to do that.

In 2015, the EPA finished its congressionally mandated review of the 2008 ozone health standard. After reviewing more than a thousand scientific studies, the EPA concluded that the 2008 ozone health standard was too weak and no longer adequately protected public health.

The EPA's rule is essentially a statement of fact, in order to protect the 6.3 million children with asthma, we need less ozone pollution in our air.

Fortunately, many of today's biggest emitters of ozone pollution, such as old coal plants, are already scheduled to be cleaned up. This means the costs of compliance are not as high as they might have been two, four or six years ago.

If Administrator Scott Pruitt and Congress keep the clean air protections on the books today intact, only fourteen counties outside of California will not meet the new ozone standard by 2025.

I have a friend when you ask him how he is doing, he always says compared to what. How many counties are there outside of California in the United States. There are 2,949. The path that we are on, only 14 of those 2,949 will be out of compliance for ozone by 2025.

However, instead of working together to help the remaining communities meet the new ozone health standard, this Administration, unfortunately, is doing the opposite. Not only is the Administrator working on rolling back federal clean air protections that will put more communities at risk, the Administration's fiscal year 2018 budget, which was released today, slashes critical clean air resources to States and local governments.

Congress is not doing much more to be helpful. The bills that are the subject of today's hearing direct EPA and the States to ignore the health science for ten years before having to think about cleaning up.

It is little like taking your children to the doctor to see if they are sick and the doctor waiting ten years to call you back with the test results. Not acceptable to me, probably not acceptable to most of us. I think it is also unacceptable when EPA is doing it.

These delays only serve to harm the 6.3 million children in this Country who have asthma today, many of them living in downwind States in the Eastern U.S. at the end of what many of us call America's tailpipe.

I have one chart I want to refer to very briefly. The blue line up here, growth in gross domestic product, is almost 150 percent. The bottom line is aggregate emissions, the six most

common pollutants, during the same period of time since 1980, down by 63 percent. Those are pretty good trajectories for both of those.

Our Nation's clean air protections have allowed our Country to make remarkable progress. We need to make some more of that. We still have some ways to go. As Robert Frost used to say, "We have miles to go before we sleep."

Before I introduce Shawn Garvin, the Secretary of the Department of Natural Resources and Environmental Control, I want to point out sitting right behind him is Ali Mirzakhaili. When Shawn testifies, you will see Ali move his lips. He has been our air guy forever.

Shawn Garvin was just confirmed for the position of Secretary of the Department of Natural Resources and Environmental Control by our State Senate in March of this year. This agency is tasked with protecting and managing the State's natural resources and protecting public health and the environment.

Shawn has years of experience serving the people of the first State and addressing clean air issues, especially the unique challenges that face downwind States like Delaware.

I have more to say here but you have been very generous already with giving my opening statement. I would ask unanimous consent to enter the rest of my statement and my introduction of

Shawn for the record.

Thank you.

Senator Capito. Without objection.

[The prepared statement of Senator Carper follows:]

Senator Carper. Shawn, welcome.

Senator Capito. Thank you.

On our first panel is our colleague from Arizona, Senator Flake. Senator Flake, you are recognized for five minutes.

STATEMENT OF THE HONORABLE JEFF FLAKE, A UNITED STATES SENATOR
FROM THE STATE OF ARIZONA

Senator Flake. Thank you, Chairwoman Capito and Ranking Member Whitehouse. I appreciate you allowing me to speak in support of the Ozone Standards Implementation Act of 2017 which I am pleased to join the Chairwoman in co-sponsoring. I believe it is a sensible piece of legislation.

I also want to thank Chairwoman Capito and Ranking Member Whitehouse and the rest of the panel for allowing my legislation, the Ozone Regulatory Delay and Extension of Assessment Length, the ORDEAL Act. It is an ordeal just to get through that acronym I know.

We all want clean air and as a Nation, we have come a long way since the Clean Air Act and its subsequent amendments. However, we all ought to be concerned about regulation that creates burdensome red tape for little or no appreciable benefit.

I am happy to see Director Cabrera representing the Arizona Department of Environmental Quality on the witness panel today and providing the perspective of Arizona environmental regulators who have to implement these standards.

I am also glad that Dr. Monica Kraft from Arizona is here to share her perspective as well.

This issue is very important to my home State of Arizona.

I have testified twice on the pressing need for ozone reform. In 2015, the EPA essentially changed the rules in the middle of the game and finalized its rules on the ozone emissions standard at 70 ppb.

After this rule came out, I heard from stakeholders throughout Arizona that it might be impossible for the State to meet this new standard. With costly compliance requirements, this onerous rule will burden counties and businesses already working in good faith to meet the previous standard.

In my opinion, the rule demonstrates complete tone deafness. It is particularly detrimental to Arizona where we greatly feel the impact of EPA's failed air regulatory regime. This rule comes with great cost and with little to no benefit.

In fact, Arizona's Attorney General joined other States in filing a lawsuit over the rule. I believe it is time for Congress to step in. That is why I was happy to work with Chairwoman Capito in introducing the Ozone Standards Implementation Act of 2017.

Among other provisions, this legislation phases-in the implementation of the 2008 and 2015 ozone standards, extending the compliance date for the 2015 standards to 2025. This bill also includes a provision from the bill I have introduced, the ORDEAL Act, that would change the mandatory review of national ambient air quality standards from five years to ten years.

This would make a big difference.

It is critical that States have the flexibility and time to implement their own innovative and proactive measures. That is why last year, I introduced a Congressional Resolution to halt implementation of EPA's 2015 rule on ozone. We have to have time to be able to comply. We cannot change the rules in the middle of the game.

I am pleased that Congress is focusing on legislative remedies and I will continue to support legislation and regulatory changes to lessen the impact of this devastating rule on Arizona communities.

Thank you, Madam Chair and members of the subcommittee.

[The prepared statement of Senator Flake follows:]

Senator Capito. Thank you, Senator Flake. I appreciate your testimony.

With that, I will ask the witnesses for the second panel to please join the table. Welcome to all of you. I am going to provide a brief introduction of all of you.

Mr. Garvin has been introduced. I will skip over him in the interest of time.

Our first panelist is Mr. Misael Cabrera, P.E., Director, Arizona Department of Environmental Quality. Thank you for coming. Next, we have Ahron Hakimi, welcome to you. He is the Executive Director, Kern Council of Governments in California. Next we have, Mr. Kyle Zeringue, Senior Vice President, Business Development, Baton Rouge Area Chamber in Louisiana. Lastly, we have Dr. Monica Kraft, MD, Past President of the American Thoracic Society, University of Arizona College of Medicine in Tucson.

Mr. Cabrera, you have five minutes.

STATEMENT OF MISAEEL CABRERA, P.E., DIRECTOR, ARIZONA DEPARTMENT
OF ENVIRONMENTAL QUALITY

Mr. Cabrera. Madam Chairman and members of the committee, my name is Misael Cabrera. I am the Director of the Arizona of Environmental Quality. I greatly appreciate the opportunity to offer testimony today.

It is important to know that because ozone creating compounds can travel hundreds, if not thousands of miles, the new ozone rule punishes the victims of pollution, not just the polluters.

Because of that, we appreciate the ORDEAL Act and the Ozone Standards Implementation Act of 2017 because they provide immediate relief to all States and some of Arizona's industrialized areas, allowing enough time for measures required by the 2008 ozone standard to fully take effect and air quality to improve.

Irrespective of the implementation timeframe, however, the standard itself remains a challenge for Arizona. That is why we are the lead State challenging the standard in court. The Clean Air Act has five mechanisms to bring nonattainment areas into compliance or provide relief. All of them are inadequate for rural Arizona and likely other western States, again punishing the victims of pollution, not just the polluters.

These mechanisms include State regulation, designation of

rural transport areas, designation of interstate or international transport areas, and demonstrating exceptional events. I will discuss each mechanism and its shortcomings in the context of a small county in rural Arizona.

Yuma County is located in the southwest corner of Arizona bordered by both California and Mexico. The county contains a few small towns and the City of Yuma and has the highest unemployment rate of any metropolitan area in the U.S. as of July 2016 according to Bureau of Labor statistics.

Yuma is predominantly an agricultural community and despite its lack of industrialization, Yuma County exceeds the 2015 ozone standard. As you may know, volatile organic compounds and oxides of nitrogen react in the presence of sunlight to produce ozone.

According to the U.S. EPA's 2014 National Emission Inventory, industrial sources account for only 2 percent of total volatile organic compound emissions and only 5 percent of NOx emissions within the county.

All other sources are either naturally occurring or not regulated by the State of Arizona. Simply put, there are not enough emission sources that Arizona can regulate to achieve compliance with the new standard.

In addition, Yuma County would not qualify for the rural transport mechanism because the Clean Air Act states that a

rural area seeking relief cannot be adjacent to or include any part of a metropolitan statistical area.

The cross-State air pollution rule does not apply to Yuma County. Although 20 percent of ozone concentrations in Yuma County emanate from California manmade sources, the rule only helps downwind nonattainment areas receive emissions reductions from upwind attainment areas. California has no emissions reductions to contribute downwind.

Further, the exceptional events rule is of dubious value to Yuma County, if not the whole Country. Although Arizona has been a national leader in development of an exceptional event documentation for dust events, the process for documenting and receiving EPA approval for ozone exceptional events has not been explained, will be resource intensive and is difficult to predict.

The best case scenario for Yuma is that our agency can make an international transport demonstration given that EPA's own modeling shows that international sources are responsible for up to 68 percent of ozone emissions affecting Yuma.

Unfortunately, that demonstration can only occur after the three-year marginal attainment deadline is exceeded. Yuma would still have to comply with higher, nonattainment classification requirements, effectively limiting economic growth in a high unemployment area in perpetuity as a consequence of emission

sources that originate primarily outside of Arizona or outside of Arizona's jurisdiction to control.

To further exacerbate the issue of international transport demonstrations, the EPA's proposed implementation rule requires an area to implement reasonable, available control measures before EPA will review the demonstration. In short, the current ozone rules punish the victims of the pollution, not the polluters.

For all these reasons, Arizona is challenging the 2015 ozone standard in court and favors longer implementation timeframes. We also request that consideration be given to legislation that would allow rural and international transport demonstrations before areas are classified as nonattainment and before unnecessary regulation is initiated.

Thank you. I am happy to answer any questions.

[The prepared statement of Mr. Cabrera follows:]

Senator Capito. Thank you.

Mr. Hakimi.

STATEMENT OF AHRON HAKIMI, EXECUTIVE DIRECTOR, KERN COUNCIL OF GOVERNMENTS

Mr. Hakimi. Madam Chairman Capito, Ranking Member Whitehouse and esteemed Senators, and fellow veterans, my name is Ahron Hakimi. I am the Executive Director for Kern Council of Governments, a metropolitan planning organization in California's San Joaquin Valley.

As a colonel in the Army Reserve's Logistics Corp, it is my honor and privilege to sit before you today offering testimony and answering your questions.

For more than 30 years, I have worked as an engineer and manager in the transportation industry, including 25 years with the California Department of Transportation and 31 years in the Army Reserve.

To begin, thank you for the opportunity to consider the federal mandates under the Clean Air Act and potential improvements that may be warranted. What follows is an appended version of my full testimony which have provided to the committee staff.

The Joaquin Valley encompasses eight counties and 25,000 square miles, an area larger than 20 percent of the 50 States with a population greater than half the States at 4.1 million and poverty levels that meet or exceed the Appalachian region.

Due to geography, topography and weather conditions that

trap air pollutants, we continue to exceed the latest federal ambient air quality standards for ozone and particulate matter of PM 2.5. This is even after imposing some of the toughest air regulations in the Nation and having reduced emissions by over 80 percent, costing Valley businesses roughly \$40 billion.

Since the 1970s, EPA has established numerous ambient air quality standards for individual pollutants. The San Joaquin Valley air basin is subject to no less than four standards each for ozone and PM 2.5. Each of these standards requires a separate attainment plan that leads to multiple, overlapping requirements and deadlines.

The pollution that industry, agricultural operations, cars and trucks release is at historic loads. Our residents' exposure to high smog levels has been reduced by over 90 percent. Unfortunately, after all this investment and sacrifice, we have reached a point where we cannot attain the federal standards even if we eliminated all Valley businesses, all agricultural operations or all the trucks traveling through our valley.

Federal law specifically prohibits local jurisdictions from imposing tailpipe emission standards on mobile sources. The San Joaquin Valley cannot attain the federal standards without significant emission reductions from these sources.

Trans-boundary transport is another source over which we

have no local control. It is delivered onshore in the spring and summer from prevailing tropospheric winds across the Pacific Ocean all the way from Asia.

We believe that common sense and fairness dictate that federal law include an overriding provision to prohibit sanctions on local regions and States where the inability to attain federal standards is due to pollution from outside their regulatory authority.

Right now, the Valley is in nonattainment for three ozone standards and three PM 2.5 standards. Each of these requires a separate air quality plan which leads to multiple requirements and deadlines.

There are 51 different air quality tests each of the eight transportation planning agencies must pass. As a Valley, we could deliver more than \$40 billion in transportation projects over the next two decades if we are not tripped up through a labyrinth of air quality tests requiring massive coordination among numerous regional, State and federal agencies.

These projects put people to work, move agricultural goods to market, move freight from northern to southern California, and help our citizens be mobile.

In closing, we support a strong Clean Air Act with commonsense revisions that actually result in improved air quality. We need a way to significantly reduce the almost

biennial updates with 51 tests that place our transportation funding constantly at risk.

Commonsense amendments to the Clean Air Act will benefit the San Joaquin Valley and the Nation as a whole.

Thank you. It has been my honor and privilege to address your subcommittee this afternoon. I will be happy to answer any questions I can.

[The prepared statement of Mr. Hakimi follows:]

Senator Capito. Thank you very much. Thank you for your service to our Country in the military.

Mr. Zeringue.

STATEMENT OF KYLE ZERINGUE, SENIOR VICE PRESIDENT, BUSINESS
DEVELOPMENT, BATON ROUGE AREA CHAMBER

Mr. Zeringue. Thank you, Chairman, Ranking Member and members of this subcommittee. It is an honor to testify before you today.

My name is Kyle Zeringue, Senior Vice President of Business Development for the Baton Rouge Area Chamber, BRAC. BRAC is the regional economic development organization over a nine-parish region in southern Louisiana, representing over 825,000 residents.

I stand before you today to express BRAC's support of the proposed Ozone Standards Implementation Act of 2017 and the ORDEAL Act of 2017 based on three points.

One, the unimplemented standards have already cost our region tens of thousands of jobs and billions of dollars in capital investment and salaries. Second, the standards would impose hardships to many of the top performing metropolitan economies due to nonattainment status. Third, the vast majority of U.S. counties are on track to attain the EPA's 2015 standards by 2025 with practices already in place.

Foremost, BRAC fully supports cleaner air and environmental stewardship. For over 12 years, BRAC has played an active role in the Baton Rouge Clean Air Coalition. Thanks in large part to the Coalition's efforts in April 2014, the Baton Rouge Area

attained the 2008 ozone standard of 75 ppb.

Since then, the region has continued to decrease ground-level ozone and improve air quality and health for its residents. Our commitment and success is proven by the EPA's re-designation of the Baton Rouge Area to attainment for the 2008 standard in January 2016.

Despite our efforts, the unimplemented 2015 standards have caused our region incalculable economic loss. Since 2014, BRAC has worked with a number of manufacturers seeking to make significant investments in the region.

When the EPA first proposed lowering the ozone NOx in November 2014, numerous companies indicated that the proposed new standards, as they created market uncertainty and limited available emission reduction credits, influenced them to proceed elsewhere or to cancel their projects altogether.

To quantify, the unimplemented standards have cost our region at least 3,570 direct jobs, \$439.5 million in annual payroll and more than \$33.9 billion in capital investment. Economic modeling completed by BRAC shows these projects would have brought in significant, indirect value as well, making the total loss of opportunity exceed 18,000 total jobs, \$1.2 billion in payroll and \$46.2 billion in capital investment. This does not include opportunity cost.

Should these bills fail to pass, the Baton Rouge area, in

all likelihood, will once again be thrust into nonattainment status, thus eliminated from consideration on additional major investments.

While I represent the Baton Rouge area, our region would not be alone in suffering economically. If the EPA were to implement the lower ozone standard at 70 ppb at the normal schedule, eight of the Nation's top 15 metropolitan area economies, as ranked by the Brookings Institution, would be relegated to nonattainment status.

The cost associated with nonattainment creates significant risk to new investments and places additional burden on existing companies. The unrealistic schedule to implement the standards will continue to stifle growth and development in the top U.S. metro areas.

While the EPA enacted stricter ozone standards seven years ago, the agency effectively suspended implementation of their standards from 2010 to 2012. Because of this delay, States are behind in putting the current standards into effect, meaning we have yet to see the full impact of the last standard decrease.

In fact, the EPA provided a map in a December 2014 webinar concerning the standards which showed that all but 14 U.S. counties will meet the new standard by 2025 with the rules and programs being successfully executed.

Implementing this standard now when the EPA has itself

identified that 241 counties would be in nonattainment is needlessly punitive and puts the U.S. economic health at risk.

Madam Chairman, Ranking Member and members of the subcommittee, the Baton Rouge area's commitment to clean air proves that economic development and environmental stewardship does not have to be mutually exclusive.

Policies that have significant adverse effect on local economies, as the impending NOx implementation schedule does, should be enacted with broader consideration. Therefore, BRAC strongly recommends these bills, which extend implementation to a realistically achievable timeframe, be passed to prevent additional loss of existing and future economic opportunity for the Baton Rouge area, as we as other top metro economies in the U.S. and to provide local and regional economies with a realistic timeline for attainment with the 2015 standards utilizing the successful practices already in place.

This concludes my prepared statement. I thank you for your time. I will be pleased to answer any questions.

[The prepared statement of Mr. Zeringue follows.]

Senator Capito. Thank you.

Mr. Garvin.

STATEMENT OF SHAWN GARVIN, SECRETARY, DELAWARE DEPARTMENT OF
NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

Mr. Garvin. Chairman Capito, Ranking Member Whitehouse, Senator Carper, and members of the subcommittee, I am Shawn Garvin. I serve as Delaware's Secretary of the Department of Natural Resource and Environmental Control.

Thank you for the opportunity to testify on Making Implementation of the National Ambient Air Quality Standards for Ground Level Ozone Attainable: Legislative Hearing on S. 263 and S. 452.

Since the Clean Air Act was last amended 27 years ago, it has prevented literally hundreds of thousands of premature deaths, as well as averted millions of instances of morbidity, including, for example, heart disease, chronic bronchitis and asthma.

The health benefits associated with this landmark legislation have far outweighed the cost of reducing pollution by more than 30 to 1. Moreover, we secured these health benefits over the same period that our Nation's gross domestic product has grown.

I think everyone can agree the Clean Air Act is one of the Nation's most effective environmental statutes. Simply put, the Clean Air Act works.

Accordingly, it is crucial that any comprehensive

amendments to the Act be deliberative and thoughtful and ensures that the basic, important tenets of the legislation, protection of public health and welfare, remain intact.

Unfortunately, after reviewing S. 263 and S. 452, I concluded these bills significantly weaken the existing Clean Air Act by delaying important deadlines and substantially altering the process for settling air-based, air quality standards.

This results in undermining the health protection afforded by the Clean Air Act to our citizens, our environment and our future. Delawareans continue to struggle to bring healthy air to our citizens because we are downwind and subject to air pollution transport from facilities in other parts of the Country.

The Clean Air Act requires States to obtain their ozone National Ambient Air Quality Standards, NAAQS, as expeditiously as practicable, a responsibility that would be unduly impacted by these bills.

Because the NAAQS are set to protect public health with adequate margin of safety and are based on the best available science, any delay in implementing NAAQS would prolong exposure by the public to unhealthy air.

EPA's 2015 ozone NAAQS is expected to provide ample public health benefits across the United States, including preventing

230,000 asthma attacks in children, 630 asthma-related emergency room visits, and 320 to 660 premature deaths annually by 2025, excluding California.

Arbitrarily delaying implementation of the 2015 ozone NAAQS to 2025 would leave the 2008 standard which has been found to be outdated and insufficiently protective of public health as a prolonged, inadequate target for protecting health.

This unnecessarily puts our citizens in great peril for suffering from pollution's adverse health and welfare impacts, including premature mortality.

In addition, it does not accurately inform the public of the true quality of the air. The bill's provision to extend the review cycle for all NAAQS from five years to ten years further exacerbates this problem.

Experience has shown that NAAQS reviews rarely occur within the current statutory five-year cycle. An extension to ten years with additional analysis will likely result in a much longer review time and additional work by EPA that will extend well beyond ten years.

Thus, our State's ability to provide clean, healthy air as expeditiously as practicable becomes an unattainable goal. Indeed, the cumulative effect of delayed implementation and longer review cycles means that by the time EPA reviews the ozone standard again, the underlying science for the existing

standard will be 20 years old. This is what Congress wanted to avoid when the Clean Air Act was amended.

Allowing technological feasibility to be considered when setting NAAQS runs counter to the original core principles of the Clean Air Act. NAAQS should be set solely on the basis of health. This is now well settled law, including a unanimous opinion from the Supreme Court in the *Whitman v. American Trucking Associations* case.

Once health-based standards are established, the Clean Air Act appropriately allows States to consider other factors such as cost and technological feasibility as they develop strategies to attain the standards.

Allowing the consideration of technological feasibility when setting NAAQS will defeat the critical purpose of a health-based standard. The adverse harm from polluted air is a matter of science and has nothing to do with controlled technology costs.

Furthermore, historical experience has shown that current considerations of technological feasibility are poor predictors of future innovation breakthroughs created by the technologically-forcing nature of the Clean Air Act.

The bill's provision regarding permitting also impairs the health of our citizens. Allowing air pollution sources to obtain permits under an outdated standard, whether because of an

arbitrary delay as proposed for the 2015 ozone NAAQS, or because EPA has not issued rules or guidance imprudently punishes people who reside and work in areas with poor air quality and prolongs the inequity that exists between upwind and downwind States.

If Congress is truly concerned about the timeliness of EPA rules, it should ensure that EPA has adequate resources to carry out its responsibilities.

The bills also inappropriately address exceptional events by expanding the exceptional events criteria to include conditions occurring on days during which the highest pollution episodes actually occur.

This makes setting a health-based ozone NAAQS a meaningless exercise by absolving EPA and the States from taking efforts to achieve it under the prevalent conditions leading to the worse air quality days.

The intent of exceptional event criteria is to allow a State to discount NAAQS exceedances that result from one time, unpredictable and uncontrollable events, for example, a volcanic eruption or a wild fire.

This short-sightedness would result in continuation of harmful exposure to polluted air while ignoring that a repeatable, predictable and preventable high pollution day occurred.

Other provisions of the Act already address the issues that

appear to be motivating this legislation. The Act's nonattainment area classification provides areas with more ozone pollution problems more time to comply.

Other mechanisms allow States the flexibility to adjust the minimum pollution reduction requirements based on showing of the need, success in lowering ozone levels and the adoption of certain other measures.

In addition, the Act's good neighbor provision requires States with emissions that contribute significantly to other States' ozone attainment to take action to reduce that contribution.

Even with all the in-State emission improvements, we continue to struggle to meet the ozone standard. The answer to solving our ozone problem lies outside our boundaries and we need emission reductions upwind.

We have lodged four separate petitions with the EPA requesting controls to be installed at power plants or for EPA to compel the power plants to operate their installation pollution control equipment.

We have tried to prompt our upwind neighbors through the State Collaborative on Ozone Transport to reduce emissions but to no avail.

In conclusion, the proposed legislation under cuts requirements of the Clean Air Act that are crucial to obtaining

healthy air quality as expeditiously as practicable. Further, the proposed amendments change the intent of the Clean Air Act which is the swift protection of public health to one of delay and deprivation of public health protection.

Delaware supports efficient and expeditious implementation of the National Ambient Air Quality Standard but opposes bills which would weaken public health protection. Revisions to the Clean Air Act may be warranted such as provisions to directly address climate change or strengthen the good neighbor provision to deal with air pollution transport, but changes in S. 263 and S. 452 are problematic because they take us backwards in the protection of our citizens from public health and economic harms of air pollution.

Thank you for the opportunity to testify. I am happy to answer any questions.

[The prepared statement of Mr. Garvin follows:]

Senator Capito. Thank you, Mr. Garvin.

Dr. Kraft.

STATEMENT OF MONICA KRAFT, MD, PAST PRESIDENT OF THE AMERICAN
THORACIC SOCIETY, UNIVERSITY OF ARIZONA COLLEGE OF MEDICINE

Dr. Kraft. Chairman Capito, Ranking Member Whitehouse, Senator Carper and members of the committee, thank you so much for the opportunity to testify on behalf of the American Thoracic Society.

As a clinician who actively treats patients with lung disease such as asthma and COPD and an asthma researcher who spent the majority of my academic career investigating causes and treatments for asthma, there are a few key points I would like to make.

First, I think we would all agree that ozone is detrimental to the health of millions of patients with severe lung disease. As a lung disease specialist, I treat people with these severe respiratory diseases and with medications, trigger avoidance and other interventions. I work with patients to help them control their disease so they can feel in control of their lives. However, they cannot control the outdoor air quality.

Having taken care of patients in areas of Arizona with specific air quality problems, I know from experience that ozone impacts my patients' health. We know it can cause asthma attacks, COPD exacerbations that can lead to emergency department visits, hospitalizations and even premature death.

There are literally hundreds of high quality, peer review

research articles showing that ozone exposure is bad for patients with chronic diseases such as asthma and COPD, but also for those with cardiovascular disease.

Ozone is bad for healthy people too. That often gets lost in the discussion. We know that when young, healthy people are exposed to ozone, they also demonstrate declines in their lung function. It is not just the young, the ill and the frail that feel the detrimental effects of ozone; it is everyone.

In addition to delaying the ozone standard, the bill actually forces the EPA to update or to delay updating science-based initiatives for widespread and prevalent dangerous air pollutants. As the Clean Air Act has required for decades, the Nation needs to ensure that we set standards for our citizens, who are my patients every five years, which is what the law currently calls for.

The current request to delay to every ten years would force the Nation to set aside important new research that is currently identifying potential threats that air pollution presents to my patients and our citizens.

The dangerous levels of deadly air pollutants like lead, particulates, and carbon monoxide remain in the air longer, needlessly exposing our citizens to the toxic health effects.

The health impacts of the delay, in addition to what I have stated, are not trivial. In the ten-year review called for by

this bill, a child will grow from a new borne to age ten. We know that lung development substantially increases after birth and exposure, especially in early life, to ozone and other particulates can actually interact with allergens and other processes to create asthma, to actually cause it.

By delaying improvements in air quality, we are literally burdening our children with lifelong health issues.

Also, I think the legislation would affect the people of Arizona, which is where I live. The prevalence of asthma in Arizona is higher than it is nationally, which is ten percent. In Arizona, it is 15 percent and even higher in children.

According to the Arizona Hospital Discharge Database, there are between 30 to 35 emergency department and hospital visits for asthma every year, leading to about 130,000 hospitalizations at a cost of \$1 billion annually.

According to the 2000 State of the Air Report by the American Lung Association, Phoenix ranks number five of the 25 most polluted cities with regard to ozone and 21st out of 25 with regard to particulates.

I take care of patients all around the region, in Tucson, Phoenix and the southwest. We routinely have to talk about how they should curb their activities and change their lives based on the air quality. Despite my best efforts, these patients still experience asthma attacks and COPD exacerbations a day or

two after those high ozone days.

Lastly, I think the bill fundamentally rewrites the Clean Air Act by directing the EPA Administrator to consider factors unrelated to health when setting national ambient air quality standards. As the Clean Air Act clearly states, the EPA Administrator must set clean air standards to protect public health, irrespective of estimated costs or assumed technological feasibility to clean it up.

The Administrator does that following a very careful, scientific review. Even at 70 ppb, there still are health effects. Therefore, I think decreasing the standard from 75 ppb to 70 ppb actually is a meaningful difference.

Fortunately, the approach has worked well to clean up the Nation's air for decades. Ozone levels are decreasing, which is good. However, I would propose to you that there are still detrimental effects even at the current levels.

In fact, the measurements to create health-based standards have pushed the U.S. to develop new technologies, which also create jobs, save money and save lives. The current approach has been affirmed in the U.S. Supreme Court in the majority opinion written by the late Justice Scalia.

As a clinician, a scientist and a citizen, I urge you to reject this legislation. Thank you very much.

[The prepared statement of Dr. Kraft follows:]

Senator Capito. Thanks to all of you.

We will begin questioning. I will begin first.

Senator Capito. Mr. Cabrera and Mr. Hakimi, both of your States, Arizona and California, have some similarities in your testimony. You used Yuma County and San Joaquin Valley as your examples. You stated no matter what you do or short of taking everyone off the road and ceasing any kind of industrial activity, you are still not going to meet the standards. Did I hear your testimony correctly?

Mr. Cabrera. In Yuma County, the effects on vehicles, which only the Federal Government can enact, that has not been studied. We are sure that there is not enough industry in Yuma County in order to bring us back to attainment.

Senator Capito. Mr. Hakimi.

Mr. Hakimi. Madam Chair, yes, you are correct. We could move all the people out of the southern San Joaquin Valley and still not attain the current standard.

Senator Capito. In your discussions with the EPA, what sort of recommendations do they give you to try to meet the standards?

Mr. Hakimi. They do not have any recommendations.

Senator Capito. Mr. Cabrera, they do not work with you to try to figure out alternative methods, give you some kind of longer timeline, or anything of that nature?

Mr. Hakimi. We have the absolute longest timeline that is available to us but there is plenty of scientific evidence that background levels exceed the most current standards.

Mr. Cabrera. EPA's normal relief mechanisms, which I outlined in my testimony which include rural transport areas, exceptional events, or international transport, do not do the trick for Yuma County. Simply put, Yuma County could be punished for the pollutions that others create.

Senator Capito. Mr. Zeringue, you mentioned job losses and lost opportunities, lost tax dollars and so forth for not maybe making the next standard. What kind of punitive measures are out there?

My understanding is that your federal transportation tax dollars are tied to your attainment and nonattainment. Can you speak to that?

Mr. Cabrera. I do not have direct knowledge on what funding mechanisms are going to support the Louisiana Department of Environmental Quality in their implementation.

Senator Capito. Let me go to Mr. Hakimi.

Mr. Hakimi. I can comment on that, Madam Chairman. Former Congressman Bill Thomas is in the room. He was able to get our region in Kern County almost \$730 million. One of the consequences of not being in compliance or being a nonattainment area and having a lapse in attainment is our funds for

transportation projects that increase capacity and reduce congestion in many cases are taken away.

We are working on many projects in my county and in our valley which would reduce congestion. Yet, those are the types of projects, in many cases, that we would lose our federal funds for when we have a conformity lapse.

It is not if we have a conformity lapse in Kern County. If we maintain and stay on our current path, it is when we have a conformity lapse.

Senator Capito. In reference to the bills, in my opinion, it does not undermine the Clean Air Act; it does not throw out the 2008 or 2015 standards or otherwise erode those existing protections.

Mr. Garvin said that every five years this should be done and you have to make sure that EPA has the resources to do this. I would say that in the last eight years, the EPA has had more than enough resources and they could not even get their regulations out for eight years. You are already three years beyond the five-year window at which we were supposed to be.

Simply by pushing the timelines and making them tighter, hopefully making EPA responsive to the timeline, it is going to give you all the chance to react and react in a more reasonable way.

The last thing I will say, before I turn to my Ranking

Member, is this downwind issue we hear a lot on a lot of different pollutants. Not living in a downwind State but I guess I am living in an attainment State, as the Ranking Member reminded me, we have to find a way to help those downwind States really meet the challenges they have whether it is through certain allowances, I do not know. I hear this as a repeating theme that makes it impossible for compliance.

I think if we could all work together to find a way to help those States, work with either the surrounding States or the regulators to try to figure out a way to bring those numbers down, I think it would be useful for a lot of the panelists I have heard over the last several years.

Senator Whitehouse.

Senator Whitehouse. Senator Capito, I would be delighted to work with you on that. There is kind of a mismatch between upwind polluter States and downwind nonattainment States. Many of us have seen that requiring attainment closer to the source of the pollution has improved the quality of the air.

I think it is Director Garvin's testimony that shows very impressive results that have been achieved in many air pollution indices in the last decade as a result of this. As a result of that, Rhode Island is actually now in attainment, not because of anything that happened in our State but because of you all down in the Midwest. In the beautiful part of the Country, because

there were controls put on the emissions that landed on Rhode Island.

What worries me is when you have pockets where there is a problem area where you cannot generate attainment because of your own emissions not being the problem. Then the solution to that isn't to address the problem in the pocket area, but to take a whack across the board at the entire regulation that, overall, has produced the extraordinary results Director Garvin indicated.

Just to be clear, Mr. Cabrera, you said the problem with this regime for your county is that is punishing the victims of pollution and not the polluters. Who are your polluters?

Mr. Cabrera. California, Mexico and some China.

Senator Whitehouse. A wall would fix that pollution problem with Mexico, a big wall.

Mr. Cabrera. Not exactly, sir.

Senator Whitehouse. Am I correct in looking at this legislation, Director Garvin, that while there are these pocket problems, which we were in for a while in Rhode Island where there was nothing we could have done to come into attainment within our borders, nevertheless, having these rules apply across the Country did produce a level of cleanup that actually brought us into attainment.

Overall, it has worked for us. Rhode Island is now in

attainment. It is rare actually when you hear the bad air day warning as you are driving into work in the morning. It used to be fairly frequent. I am really glad to not be having to hear that any longer. It made me mad as hell that we had to have that happen.

In Delaware, you are another downwind State. Do you see it the same way?

Mr. Garvin. Absolutely. Other than ozone, we are attaining in all of the other areas. Ozone is one of those places that we cannot control it within our State. We need support.

Senator Whitehouse. The difference is it has worked for you because those national results have improved the conditions in the way that you described. It has not worked for the San Joaquin Valley and it has not worked for Yuma County, but it has worked for you?

Mr. Garvin. That is correct.

Senator Whitehouse. Dr. Kraft, first of all, thank you for your testimony. Thank you for your service as the head of the American Thoracic Society. You are in town now. I had the privilege of speaking at your gathering yesterday.

Dr. Kraft. I saw you on the program.

Senator Whitehouse. Here, we often see the industry coming in and saying, oh, boy, look how much it is going to cost us to

clean up and this is a terrible cost. They never look at the other side of the ledger. They usually ignore it entirely. When they do not, they tend to understate it, call the claims dubious and so forth.

Can you kind of lay out the case for what the health benefits side of the ledger looks like in air quality?

Dr. Kraft. Absolutely. I am certainly glad I am able to do that.

We are learning more and more about the effects of air quality in a number of arenas, especially with regard to lung disease, but also cardiovascular disease. I think that is a relatively newer finding. If you think about all of our citizens affected by one or both of those diseases, we are talking about a lot of people.

As I mentioned, it is also healthy people that can be affected as well. As a runner myself, I avoid high ozone days because of the health effects that I know to be apparent. I have actually experienced them and I do not have lung disease, for instance.

One of the worries I have on the air pollution side is take a case like asthma. Yes, we know that ozone can cause asthma attacks, COPD exacerbations, lead to hospitalizations and death, but I am worried that it can actually cause disease.

There is some more recent research suggesting that

especially in someone who has allergies, this interaction of poor air quality, the particulates, the ozone with the allergens at a young age can actually affect the immune system and lead to the presentation of the disease.

If we think about a ten year lag, that is worrisome to me because I think about those small children who are exposed at a very young age and have ten years' worth of time to evolve. Usually, asthma presents itself early in life but then really becomes established by about five to eight years of age.

I see a very detrimental situation there as well, certainly with the development of the disease. We are actually contributing to this increased asthma prevalence that we see.

Senator Whitehouse. Thank you, Doctor.

My time has expired.

Senator Capito. Thank you.

Senator Inhofe.

Senator Inhofe. Thank you, Madam Chair.

I was Mayor of Tulsa when we were out of attainment so I lived through that and it was pretty difficult. When things changed for the better, the misery lags on for a long period of time.

There are two pieces of legislation from Senator Capito and Senator Flake, I am on both, I think, and both have one thing in common. That is the ten-year cycle as opposed to the five year

cycle.

Mr. Cabrera, let us talk a bit about if you think that is a good idea and why do you think it is a good idea?

Mr. Cabrera. Madam Chair and members of the committee, the extension of time provides immediate relief to allow standards and controls that are already in place to, over time, reduce ozone concentrations. Having said that, an extension of time will not help Yuma County because they are not creating the pollution.

Senator Inhofe. Let us find somebody it would affect then. How about you, Mr. Hakimi?

Mr. Hakimi. Madam Chair and Senator, yes, it would. As I said in my testimony, there are over 51 plans with which the eight counties in the San Joaquin Valley have to comply that literally takes millions of dollars away from concrete and steel.

By having new standards every five years, for us, that means we have to come up with a brand-new plan. It does not stop us from coming up with plans for all the previous plans. Currently, we are in non-compliance for 3 PM, 2.5 and 3 ozones. If we come up with another plan in five years, we will likely not be in compliance with that. That is eight times three more plans that we have to do.

We spend literally millions of dollars and months, if not

years, demonstrating and doing computer modeling to try to show how we obtain these new standards.

Senator Inhofe. I have been here for a long time. I have chaired this committee for many years. Not a year goes by that there is not another idea and some of it might work. I think it was Senator Thune who last year was talking about until you take the 85 percent of those in nonattainment, you would not be able to have another standard. I do not know what happened to that except it never passed out of committee.

The EPA did not issue guidance to the States for the 2008 ozone standard until seven years later. I would kind of like to know what kind of challenge does that make for you in terms of not having the guidance until seven years after a standard is adopted? Do you have any comments about that, Mr. Zerinque?

Mr. Zerinque. I think the delay in the implementation guidelines certainly put us at a disadvantage. The proposed 2015 regulations and that lapse in time put undue burden, ambiguity and a certain level of risk on potential investment in our region. As a result, it cost us significant jobs and investment.

Senator Inhofe. I would think it would be very difficult. I do not know how you would do it without guidance. I cannot think of any justification for not doing the guidance right after that.

Mr. Zerinque, I would ask you the question because the EPA has indicated that counties in nonattainment will grow substantially under the 2015 ozone standard. The EPA modeling projects those counties would be in nonattainment only for a short period of time.

Even if it is for a short period of time, isn't that still a problem? Doesn't the problem linger on after that period of time?

Mr. Zerinque. I think the onset of those being in nonattainment presents a risk to companies that would look elsewhere for investment. I think the interesting thing is that the EPA, itself, identified in a webinar that they had completed in December 2014 that showed 14 of the U.S. counties would meet the new standard by 2025 with the rules and practices already in place.

Senator Inhofe. Yes, but if there is someone out there looking for relocation, they are going to look to see what the history is going to be because they would be moving into an area that could have the same problem we had in Sand Springs, Oklahoma when I was Mayor of Tulsa. The problems do not go away with it.

Mr. Zerinque. Correct.

Senator Inhofe. Thank you, Madam Chair.

Senator Capito. Thank you.

Senator Carper.

Senator Carper. Again, our thanks to each and every one of you. Thanks so much for joining us.

Dr. Kraft, I have a couple yes or no questions, if I could. Maybe we could review the basics.

In layman's terms, national ambient air quality standards, as I understand it, are health standards. The EPA reviews the latest health studies to determine what level of ozone in the air makes us sick. Is that correct or not?

Dr. Kraft. Yes.

Senator Carper. It is my understanding that EPA's own Scientific Review Board determined that 75 ppb, the 2008 ozone standard, was not strong enough to protect public health as early as 2007, is that correct?

Dr. Kraft. Yes.

Senator Carper. As a doctor and clinician, do you consider either treatment costs or efficacy before diagnosing a patient?

Dr. Kraft. I think of both. I think they both go into the thought process but certainly efficacy is the first order of business in order to effectively treat a patient. There is always the consideration of cost as the reality of the medical care we can provide but efficacy would be first.

Senator Carper. On similar ground, do you think it makes sense for the EPA to consider cost when establishing a health

standard?

Dr. Kraft. I think, first and foremost, is the health of our citizens and my patients, first. I think that cost can enter into it but I think the priority needs to be, first, the health. Detrimental health can actually lead to increased cost as well. There are actually two sides to the financial aspect of it.

Senator Carper. Do you think the public has a right to know the air pollution in the air might make them sick?

Dr. Kraft. Absolutely. I think it is our obligation to inform them.

Senator Carper. I just want to share something with my colleagues, you and the rest of the panel.

Last Wednesday, some of us like to work out and one of the things I do a couple days of the week is I run. I usually run at home in Delaware, catch a train in the morning and come on down here, like Joe Biden, who Shawn used to work for, who did the same thing.

Last Wednesday, I stayed here Tuesday night because of other obligations. I went out and ran on Wednesday morning. I like to run down to the Washington Monument and back. It is about five miles. You are a runner as I recall.

I did not feel good that day. I got back to the gym and somebody told me that one of our colleagues, Tom Tillis, had

been running in a race. They said he collapsed and had to have CPR, but it was not true. He had to stop running and basically stooped down until he felt better.

I told my wife about it that night. She was in Delaware, and I think last Wednesday and Thursday, was in nonattainment for ozone. I thought, boy, that is strange because I frankly do not often feel that way. It was not all that hot but I just did not feel good.

I spoke with Senator Tillis yesterday when we were on the Floor. I asked him about it. I sent him a text message to see how he was doing. I think he was running a 5K race. He is a good athlete and in good shape but he said his legs were stronger than his lungs. I found that kind of interesting. Could you tell us what might have been happening to our lungs that day?

Dr. Kraft. Absolutely. Ozone can interact with our cells, so we breathe in and obviously when we are running, our respiratory rate increases, we have a lot of air movement in and out. Usually we breathe in and out about 5 liters a minute; when we are running, it is more like 15 liters a minute, so it is almost double or triple.

What can happen if there is a high concentration of ozone and also particulates is it can interact directly with the cells that line our lungs. They are very protective of these elements

in the environment and can actually cause inflammation, redness and swelling, narrow the airways and also cause coughs, and sometimes wheeze.

As you saw, it can even occur when you do not have a history of lung disease. That can be very disconcerting, especially if you have never had this sensation before. The patients I take care of, unfortunately, have this happen a lot.

They have medications, but the medications do not always completely negate the effects. Yes, it can be a very significant reaction going on in the lungs.

Senator Carper. Thank you.

One of our witnesses, I think it was the Colonel, Navy salutes Army. Thanks for your service. He talked about basically if they shut down the economy, their State vehicles, plants, manufacturing, everything and still be out of compliance.

That reminds me a bit of where we were in Delaware a few years ago, doesn't it, Secretary Garvin?

Mr. Garvin. Yes.

Senator Carper. What did we do about it? We shut everything down, didn't we, and we were still out of compliance?

Mr. Garvin. We shut everything down. We made a lot of investments in power plants, the Indian River Power Plant and a number of other places, and focused on multi-pollutants and

counted on some of our surrounding States and nationally making investments as well.

As I said before, for ozone, it has been very beneficial but we still have the transport issue that we are not going to be able to address in our borders. One of the things we are talking about is if there is a reduction over kind of a broad range of areas, it is actually probably more beneficial to our State than having one facility which makes significant reductions.

We are looking to ensure that there is leadership throughout the Country to make sure everyone is doing what they need to do which will benefit our State.

Senator Carper. Thank you.

Senator Capito. Thank you.

Senator Merkley.

Senator Merkley. Thank you, Madam Chair.

Mr. Garvin, are the top two sources of ground level ozone transportation and power production?

Mr. Garvin. Yes.

Senator Merkley. As we see in the transportation world, people are driving higher mileage vehicles or plug-in vehicles. Are we seeing a reduction in the ozone generated?

Mr. Garvin. We have been, but in our State, we have also shown that even with a significant reduction in that area,

transport is still going to keep us from getting to where we need to go.

Senator Merkley. I am just trying to get a sense as we are seeing the auto industry evolve, whether that is helping us make this more achievable.

Mr. Garvin. Yes, absolutely.

Senator Merkley. Also in terms of burning, coal-fired power plants are being replaced in substantial amounts by gas-powered and also by renewable. Is that also reducing the amount of ozone being generated?

Mr. Garvin. Yes.

Senator Merkley. Those factors alone do not drive us to the point we need to get to. The existing trends do not drive us towards the goal being laid out by the EPA?

Mr. Garvin. That is correct.

Senator Merkley. Additionally, what would be the most cost effective things a community could look to, is it a faster reduction or change in power production, a change in the cars people drive, is it trucking or particular types of industries that generate a lot of the precursors that form ozone? What is the best bang for the buck to address this problem?

Mr. Garvin. I think it is across the board. I think there is some simple stuff that is available now that we are not taking advantage of. We have some facilities upwind of Delaware

which have control technologies on their plants but do not run them all the time which impacts us.

They run them at peak times and at various times but if they ran them consistently, things that already in place, that would have a big advantage to us.

Senator Merkley. That is one. Are there other most cost effective things that top the list? Counties and States are looking at what can we do and are concerned about the cost. I am trying to get a common sense of the things we really need to work on to make a difference.

Mr. Garvin. Clearly renewable energy, investments in renewables, investments in more efficient vehicles that are using renewable energy, focusing on light duty trucks and cars and reducing the emissions coming from them, having that come online faster and not being pushed off longer would be beneficial.

Senator Merkley. The EPA is looking at the question of changing the automobile efficiency standards and also possibly taking away the waiver for the California standards. Would that take us in the wrong direction in terms of ozone production?

Mr. Garvin. Absolutely.

Senator Merkley. Similarly, in terms of slowing down the transition to renewable energy?

Mr. Garvin. Yes.

Senator Merkley. Dr. Kraft, you are immersed in the medical side of this. Is there a point in terms of reducing the ground level ozone at which essentially the health benefits tend to flatten out as a curve? Where are we at that point? Are we still at a point where significant changes in ground level ozone creates significant health benefits and therefore, medical savings?

Dr. Kraft. Right now we are talking about a movement of 75 ppb to 70 ppb. The American Thoracic Society recommends consideration of 60 ppb. That really comes from the research being done from many of our own members, both in people as well as animal models and so forth to really understand how low do we need to go.

Even at 60 ppb, it is not perfect. I think there are still health effects even at 60 ppb because you can imagine a population, we are very heterogeneous, so those of us who have lung disease, very low concentrations of ozone are going to cause problems or particulates.

Therefore, it actually is difficult to give you a threshold. I think of some of my patients with more severe disease whereas others who are healthier may be able to tolerate higher levels. I would say we still have a way to go for the population as a whole.

Senator Merkley. Thank you.

Senator Capito. Senator Duckworth.

Senator Duckworth. Thank you.

As a mother, I believe that safeguarding communities against public health issues like smog and pollution must remain a top priority. I was actually participating in that run with Senator Tillis. I was in the wheelchair division. It was actually my Deputy Chief of Staff who called 911 and my staff watched while he received CPR.

It is frightening but there was another runner who collapsed during that run and also needed CPR. There were two people who needed CPR on what was a really beautiful day.

I am really concerned that efforts to reconsider regulations like the ozone standard could make it harder, not easier, for industry to do its job.

My concern is compounded by the fact that the current Administration's budget cuts 30 percent of the EPA's budget and that millions of Americans with preexisting conditions may face higher health care costs if Trump Care passed in the Senate.

This question is for Dr. Kraft. Can you please share with us the health benefits associated with the ozone standard and whether you consider asthma to be a preexisting condition?

Dr. Kraft. We know that any severe lung disease, it does not have to be severe, mild to moderate when we talk about asthma or COPD, is affected by ozone levels, especially the

levels we are talking about, 70 ppb, as we saw, 75 ppb, even 60 ppb.

As I mentioned, the lower we can go, obviously the better for health overall of the population. I think that certainly is a concern.

I spoke earlier about the concern I have about the development of disease, that air pollution and ozone in particular, can actually interact with allergens and actually cause asthma. That is a real concern for me.

I think many of us think of asthma as something that is mild and not a real problem. We probably all know someone with asthma, if we do not have it ourselves. There is actually a substantial fraction of the population which has pretty severe disease with morbidity and sometimes mortality.

I tend to take care of the more severe segment of that population and can tell you, it can be a very serious disease.

Senator Duckworth. It is. Indeed, it was very frightening to see and hear of someone like our colleague, who is incredibly fit, Senator Tillis, to be passed out on the ground receiving CPR. I saw the second runner who had also passed out on the ground and received CPR. It is deeply concerning.

Efforts to delay, weaken or eliminate the ozone standard are justified by supporters as necessary to save money. However, there are expenses associated with taking care of sick

kids. Dr. Kraft and Mr. Garvin, can you please share your thoughts on who would save money if the ozone standard is weakened and who would bear the cost of that profit? What are the costs of asthma to our economy?

Dr. Kraft. I can speak to the cost on the health care side. I gave an example for the State of Arizona where I live. There are about 30,000 to 35,000 emergency department acute visits every year for asthma. The prevalence is actually higher than in the rest of the U.S.

There are probably a couple reasons for that. Sometimes people with asthma come to Arizona because they think it will get better with the dry air but we have changed our environment actually quite a bit. I live in Tucson. We have a year-round blooming season now because we have all these plants.

In Phoenix, there is a serious air quality problem, both ozone and particulates. Phoenix is ranked in the top 25 of the worst cities for both those categories. I worry a lot about that and the dust. The cost to the State of Arizona alone is \$1 billion annually.

Senator Duckworth. Mr. Garvin.

Mr. Garvin. Yes, Senator. The cost goes to a lot throughout the economy. You have lost school days and lost work days. We are dealing with a close to \$400 million shortfall in the State of Delaware. One of the largest costs that we have is

health care costs in the State Government.

When you have a population that is facing pollution that causes health issues, there is a cost to not only government but to businesses, plus the other side of it which is the investments in addressing this pollution which actually helps to stimulate the economy.

If you look at a lot of the pollution control systems with air and water, they came out of setting standards on what was good for health. The private sector and academic institutions found the ways to meet those standards which was stimulated the economy.

There are benefits while you are protecting the health and also how it has a positive impact on the economy.

Senator Duckworth. Do you support the 30 percent to the EPA's budget? How would affect the ability of State and local entities to do their jobs?

Mr. Garvin. It will have a very significant impact. I speak on behalf of my State. I was actually handed something on my way in that showed me what the number was. We kind of heard what it might be. A lot of those are State implementation grants which help to support the States in discharging the delegation responsibilities we have from the Federal Government.

If the budget is passed the way it is, it could have dramatic impacts on our ability in the State of Delaware to

protect human health and the environment.

Senator Duckworth. Thank you.

I am out of time. I yield back.

Senator Capito. Thank you.

I want to thank all the witnesses for their testimony. I think that concludes our questions.

The record will remain open for two weeks for members to submit any follow-up questions to the witnesses. I would ask if you could reply in a timely manner.

This concludes our subcommittee hearing. Thank you.

[Whereupon, at 3:56 p.m., the subcommittee was adjourned.]