EXAMINING THE UNDERLYING SCIENCE AND IMPACTS OF GLIDER TRUCK REGULATIONS

JOINT HEARING

BEFORE THE

SUBCOMMITTEE ON ENVIRONMENT &
SUBCOMMITTEE ON OVERSIGHT

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

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EXAMINING THE UNDERLYING SCIENCE AND IMPACTS OF GLIDER TRUCK REGULATIONS

THURSDAY, SEPTEMBER 13, 2018

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENVIRONMENT AND
SUBCOMMITTEE ON OVERSIGHT,
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
Washington, D.C.

The Subcommittees met, pursuant to call, at 10:05 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Andy Biggs [Chairman of the Subcommittee on Environment] presiding.

LAMAR S. SMITH, Texas
CHAIRMAN

EDDIE BERNICE JOHNSON, Texas
RANKING MEMBER

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House of Representatives
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
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Examining the Underlying Science and Impacts of Glider Truck Regulations

Thursday, September 13, 2018
10:00 a.m.
2318 Rayburn House Office Building

Witnesses

Ms. Linda Tsang, Legislative Attorney, Congressional Research Service

Mr. Collin Long, Director of Government Affairs, Owner-Operator Independent Drivers Association

Dr. Paul J. Miller, Deputy Director & Chief Scientist, Northeast States for Coordinated Air Use Management

Dr. Richard B. Belzer, Independent Consultant in Regulation, Risk, Economics & Information Quality

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

HEARING CHARTER

September 13, 2018

TO: Members, Subcommittee on Environment, Subcommittee on Oversight

FROM: Majority Staff, Committee on Science, Space, and Technology

SUBJECT: Joint Subcommittee Hearing: *Examining the Underlying Science and Impacts of Glider Truck Regulations*

The Subcommittees on Environment and Oversight will hold a hearing titled ***Examining the Underlying Science and Impacts of Glider Truck Regulations***, on Thursday, September 13, 2018 at 10:00 a.m. in Room 2318 of the Rayburn House Office Building.

Hearing Purpose:

The purpose of the hearing is to review the EPA's work on glider trucks. Specifically, the Committee will examine the effects of regulatory proposals on the glider truck industry as well as the study of glider truck emissions conducted by EPA's National Vehicle and Fuel Emissions Laboratory in Ann Arbor, Michigan during 2017.

Witness List

- **Ms. Linda Tsang**, Legislative Attorney, Congressional Research Service
- **Mr. Collin Long**, Director of Government Affairs, Owner-Operator Independent Drivers Association
- **Dr. Paul J. Miller**, Deputy Director & Chief Scientist, Northeast States for Coordinated Air Use Management
- **Dr. Richard B. Belzer,** Independent Consultant in Regulation, Risk, Economics & Information Quality

Staff Contact

For questions related to the hearing, please contact Ben Traynham or Travis Voyles of the Majority Staff at 202-225-6371.

Chairman BIGGS. Good morning. Welcome to today's joint subcommittee hearing titled "Examining the Underlying Science and Impact of Glider Truck Regulations." Today, we will learn about glider trucks and the lack of sound science underlying the regulations in this industry.

For those who may not be familiar, a glider truck is a vehicle comprised of a newly constructed chassis, frame, and cab combined with a remanufactured engine and transmission system from an older vehicle, broadly speaking. In October 2016, Obama's EPA and the National Highway Traffic Safety Administration issued a rule requiring glider vehicles to meet the emissions standards for the year in which the vehicle is assembled, rather than the year in which the engine was manufactured.

Recognizing that this rule, which was slated to take full effect in January 2018, would have devastated the emerging glider kit industry, the Trump Administration wisely pursued corrective action. In August of 2017, then EPA Administrator Pruitt stated an intention to repeal the 2016 glider rule, which EPA officially proposed on November 16, 2017.

Four days later, on November 20, 2017, the National Vehicle and Fuel Emissions Laboratory (NVFEL) quietly published a study on gliders without notifying EPA leadership. It turns out that Volvo, which had previously supported efforts to increase glider regulations, began secretly working with the NVFEL in September of 2017 to conduct this study. This study itself surprised me that it was a very small-end study in that there were only two vehicles studied.

In July of this year, Members of this Committee sent a letter to Acting Administrator Andrew Wheeler asking for documents relating to this study. Materials obtained by the Committee clearly show that Volvo, a regulated entity, initiated conversations with EPA employees in the NVFEL in an apparent effort to shape the outcome of the study by specifying test articles to use and laying out the schedule on which the test program should be conducted.

The NVFEL only consulted with Volvo and failed to reach out to glider manufacturers for the study. Furthermore, the NVFEL based its results on a small and inadequate sample size, only testing two glider trucks that were provided indeed by Volvo. These facts call into question the integrity of the study.

The other disturbing fact about the NVFEL study is the timing and manner in which it was performed. Completing this study in November 2017, more than a year after the original rule became final and just two weeks before the public hearing on the proposed repeal of that 2016 rule, is highly suspect. Not informing anybody in EPA leadership about the study before, during, or after it was completed is also concerning. These circumstances demonstrate that there was no scientific foundation for the 2016 rule in the first place and indicates a clear intent to undermine the current Administration's policy.

Accordingly, it is clear that the 2016 glider rule was politically driven. It makes no sense to require that gliders comply with standards of the year these trucks are assembled. It only serves to hurt small business and help large truck manufacturers.

It also discourages the development of innovative technology that help small businesses compete. Gliders salvage older-model engines to create a truck that is affordable, reliable, and safe. Instead of throwing out older vehicle parts and creating more industrial waste, gliders allow old parts to be updated, recycled, and reused. To disregard the benefits of such innovation is an affront to hard-working Americans who rely on these trucks to make a living.

Now is not the time to prevent creativity that could help sustain the trucking industry and our economy. Gliders allow for such innovation. Gliders reduce maintenance expenses, have better fuel efficiency, and cost about 25 percent less than a new truck. These benefits and cost savings allow small companies to allocate funds elsewhere, such as increasing salaries and hiring more drivers.

The science that underlies our regulations and policy should be unbiased and should consider all applicable parameters. This means doing the research and hearing from those who understand the industry the best. If the 2016 rule is not repealed, then we are setting a precedent for issuing harmful regulations without any proper scientific foundation.

I look forward to hearing from our witnesses today to learn more about this important issue.

[The prepared statement of Chairman Biggs follows:]

COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY
Lamar Smith, Chairman

For Immediate Release
September 13, 2018

Media Contacts: Heather Vaughan, Bridget Dunn
(202) 225-6371

Statement by Chairman Andy Biggs (R-Ariz.)

Examining the Underlying Science and Impacts of Glider Truck Regulations

Chairman Biggs: Good morning and welcome to today's joint subcommittee hearing entitled "Examining the Underlying Science and Impacts of Glider Truck Regulations." Today, we will learn about glider trucks and the lack of sound science underlying the regulations in this industry.

For those who may not be familiar, a glider truck is a vehicle comprised of a newly constructed chassis, frame, and cab combined with a remanufactured engine and transmission system from an older vehicle. In October 2016, Obama's EPA and the National Highway Traffic Safety Administration issued a rule requiring glider vehicles to meet the emissions standards for the year in which the vehicle is assembled, rather than the year in which the engine was manufactured.

Recognizing that this rule, which was slated to take full effect in January 2018, would have devastated the emerging glider kit industry, the Trump administration wisely pursued corrective action. In August of 2017, then-EPA Administrator Pruitt stated an intention to repeal the 2016 glider rule, which EPA officially proposed on November 16, 2017.

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It also discourages the development of innovative technology that help small businesses compete. Gliders salvage older model engines to create a truck that is affordable, reliable, and safe. Instead of throwing out older vehicle parts and creating more industrial waste, gliders allow old parts to be updated, recycled, and reused. To disregard the benefits of such innovation is an affront to hard working Americans who rely on these trucks to make a living.

Now is not the time to prevent creativity that could help sustain the trucking industry and our economy. Gliders allow for such innovation. Gliders reduce maintenance expenses, have better fuel efficiency, and cost about 25% less than a new truck. These benefits and cost savings allow small companies to allocate funds elsewhere, such as increasing salaries and hiring more drivers.

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I look forward to hearing from our witnesses today to learn more about this important issue.

###

Chairman BIGGS. And I now recognize the Ranking Member of the Environment Subcommittee, Ms. Bonamici, for an opening statement.

Ms. BONAMICI. Thank you very much, Mr. Chairman, and thank you to our witnesses.

The negative effects of air pollution on respiratory health are well-documented. Exposure to criteria pollutants such as particulate matter and nitrogen oxides, or NOx, can lead to the exacerbation of respiratory diseases, including asthma, that can have devastating effects, especially on children and the elderly.

The Environmental Protection Agency has found that more than half of the NOx emissions inventory in the United States are from the transportation sector, which is why standards limiting criteria pollutant emissions from heavy-duty trucks is key to fulfilling the EPA's mission of protecting public health and the environment. Commonsense regulations like the phase 2 rule for greenhouse gas emissions standards for heavy-duty vehicles exemplify what happens when the Federal Government works collaboratively with regulated industries to create standards that are economically achievable, technically feasible, and protective of public health, something that some members of the Majority seem to suggest is impossible.

I expect that some of today's witnesses will argue that glider manufacturers have the right to petition the EPA to reopen the phase 2 rule provisions relating to gliders, which they do, but it should be noted that no glider manufacturer brought challenges in court following the publication of the final phase 2 rule in 2016. Instead, they waited to lobby an industry-friendly Administration to repeal the glider provisions to benefit their bottom line at the cost of public health.

Some glider manufacturers claim that using a rebuilt engine and a glider vehicle can save on the greenhouse emissions produced in the steelmaking process, but make no mistake, these one-time emissions savings are insignificant compared with the total lifetime emissions from glider engines without emission controls.

The EPA has estimated that restricting the use of high-polluting engines in 10,000 glider vehicles over the lifetime of those vehicles would prevent the emission of up to 400,000 tons of NOx and 6,800 tons of particulate matter and prevent up to 1,600 premature deaths. The fact that so much pollution and so many premature deaths can be traced directly to the manufacture and sale of glider trucks without modern-day emission controls is revealing. Allowing this level of unchecked pollution on our roadways undercuts the progress made in cleaning up diesel engines in the past and is quite frankly irresponsible, especially when we have a solution available to us: using engines that meet current emissions stand standards in glider trucks.

Also, we are nearly two years into this Administration and once again we find ourselves at a hearing that's attacking an existing EPA rule and study without a witness from the EPA to explain and defend it, but I submit that there is no reason to doubt the glider emissions study from the EPA's National Vehicle and Fuel Emissions Laboratory in Ann Arbor, Michigan. The Majority only seeks to highlight it because the results are at odds with the glider emis-

sions studies—study from Tennessee Tech University that was used to justify the proposed repeal of the glider rule.

It is very important to note that the Tennessee Tech study is currently undergoing an internal research misconduct investigation. In fact, the Principal Investigator of the Tennessee Tech study has not only removed his name from the study but also returned his portion of the funding he received from Fitzgerald Glider Kits to conduct it. It is unclear why the Majority has shown no interest in this study, although it may be because they know that they may not like what they find.

Colleagues, this hearing should not distract us from the main issue at hand. Repealing glider truck provisions based on one questionable industry-funded study would have severe consequences for public health. It is also important to note that the effects of repealing these provisions go beyond public health with many members of the trucking industry standing alongside environmental and public health groups in opposition to the proposed repeal.

There are many opportunities for legitimate oversight within the jurisdiction of this committee, yet my colleagues across the aisle seem determined to prop up special interest groups most often at the expense of public health. Today's hearing on glider truck regulations is another example. Even though Chairman Smith and some of his colleagues have made accusations of collusion between the EPA and Volvo, no representatives from either the EPA or Volvo were invited as witnesses today.

I also want to note that, when preparing for this hearing, Minority staff reached out to the EPA to receive a briefing on the agency's glider emissions study under discussion today. The EPA told the staff that the request would not be granted. We are being throttled from conducting legitimate oversight not only by the Majority but also by this Administration.

I look forward to hearing the testimony from Dr. Paul Miller, who can address legitimate concerns surrounding the proposed repeal of these glider provisions and describe the real-world consequences for States and the public if the production and sale of glider trucks without modern emissions controls are allowed to proliferate unchecked.

And with that, I yield back the balance of my time. Thank you, Mr. Chair.

[The prepared statement of Ms. Bonamici follows:]

OPENING STATEMENT
Ranking Member Suzanne Bonamici (D-OR)
of the Subcommittee on Environment

House Committee on Science, Space, and Technology
Subcommittee on Environment
Subcommittee on Oversight
"Examining the Underlying Science and Impacts of Glider Truck Regulations"
September 13, 2018

Thank you Mr. Chairman. The negative effects of air pollution on respiratory health are well documented. Exposure to criteria pollutants such as particulate matter and nitrogen oxides, or NO_X, can lead to the exacerbation of respiratory diseases, including asthma, that can have devastating effects on children and the elderly. The Environmental Protection Agency has found that more than half of the total NO_X emissions inventory in the U.S. are from the transportation sector, which is why standards limiting criteria pollutant emissions from heavy-duty trucks is key to fulfilling the EPA's mission of protecting public health and the environment.

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I expect that some of today's witnesses will argue that glider manufacturers have the right to petition the EPA to re-open the Phase 2 Rule provisions relating to gliders, which they do. But it should be noted that no glider manufacturers brought challenges in court following the publication of the final Phase 2 Rule in 2016. Instead, they waited to lobby an industry-friendly Administration to repeal the glider provisions to benefit their bottom line – at the cost of public health.

Some glider manufacturers claim that using a rebuilt engine in a glider vehicle can save on the greenhouse emissions produced in the steelmaking process. But make no mistake, these one-time emissions 'savings' are insignificant compared with the total lifetime emissions from glider engines without emissions controls. The EPA has estimated that restricting the use of high polluting engines in 10,000 glider vehicles over the lifetime of those vehicles would prevent the emissions of more than 400,000 tons of NO_X and 6,800 tons of particulate matter and prevent up to 1,600 premature deaths.

The fact that so much pollution and so many premature deaths can be traced directly to the manufacture and sale of glider trucks without modern-day emissions controls is revealing. Allowing this level of unchecked pollution on our roadways undercuts the progress made in cleaning up diesel engines in the past and is, quite frankly, irresponsible, especially when we have the solution available to us: using engines that meet current emissions standards in glider trucks.

Also, we are nearly two years into this Administration and once again we find ourselves at a hearing attacking an existing EPA rule and study without a witness from the EPA to explain and defend it. But I submit that there is no reason to doubt the glider emissions study from the EPA's National Vehicle and Fuel Emissions Laboratory in Ann Arbor, Michigan. The Majority only seeks to highlight it because the results are at odds with a glider emissions study from Tennessee Tech University that was used to justify the proposed repeal of the glider rule. It's important to note that the Tennessee Tech study is currently undergoing an internal research misconduct investigation. In fact, the Principal Investigator of the Tennessee Tech study has not only removed his name from the study, but also returned his portion of the funding he received from Fitzgerald Glider Kits to conduct it. It is unclear why the Majority has shown absolutely no interest in this study, although it may be because they know that they may not like what they find.

Colleagues; this hearing should not distract us from the main issue at hand: repealing glider truck provisions based on one questionable industry-funded study would have severe consequences for public health. It is also important to note that the effects of repealing these provisions go beyond public health, with many members of the trucking industry standing alongside environmental and public health groups in opposition to the proposed repeal.

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I look forward to hearing testimony from Dr. Paul Miller, who can address the legitimate concerns surrounding the proposed repeal of these glider provisions, and describe the real-world consequences for states and the public if the production and sale of glider trucks without modern emissions controls are allowed to proliferate unchecked. And with that I yield back the balance of my time.

Chairman BIGGS. Thank you.

I now recognize the Chair of the Oversight Subcommittee, Dr. Abraham, for an opening statement.

Mr. ABRAHAM. Thank you, Mr. Chair. And good morning, and welcome to today's hearing. The Chairman's already defined what a glider kit is, and it does cost 25 percent than a brand new rig.

So really the purpose of today's hearing is twofold. We will examine the economic effects of the Obama Administration's greenhouse gas emissions regulation which, among other things, proposed a cap production of glider trucks. We will also address the integrity of a study on glider truck emissions conducted by the EPA's National Vehicle and Fuel Emissions Laboratory (NVFEL) in Ann Arbor, Michigan. Documents provided through FOIA and committee requests raise serious questions about the impartiality of the 2017 EPA study.

Historically, the Science Committee has worked hard to ensure that when regulations are necessary, they are based on sound science. Under Chairman Smith, the Committee has also worked to level the playing field and ensure that the EPA treats all parties fairly. In the case of glider trucks, there are red flags surrounding the NVFEL study.

The Committee obtained emails showing that one particular manufacturer had an inside track to EPA and, in fact, provided the glider trucks—trucks they did not manufacture—to EPA for testing. And I'll get into the details of the EPA study with my questions further in the hearing. But from the outset the conflict of interest raises questions about the study's credibility.

Relying on a flawed study in this case is particularly alarming since the proposed regulation will have dire consequences for the glider truck industry. Thousands of independent truckers—all smart businesses—across America rely on glider trucks as an affordable option for their trucking operation. In my district alone there are 883 independent truckers, many of whom drive gliders. For me, this is a jobs issue. We should not allow the heavy hand of the Federal Government to come down and crush an entire industry, especially absent a rock-solid scientific reason for doing so, which appears to be lacking in this case. In addition to the individual truckers, the manufacturers of glider kits would be put out of business, killing even more jobs.

At the request of many of my colleagues, the EPA Inspector General has agreed to review the propriety of the study, and we look forward to the results of his review. We have joining us witnesses today that are experts on regulatory law. I look forward to hearing from that testimony.

And I want to briefly address the regulatory steps EPA has taken in this instance and assure everyone that, contrary to the picture painted by the media in the headlines such as, quote, "Scott Pruitt Gave Dirty Glider Trucks a Gift on his Last Day at EPA," unquote, or, quote, "Super Polluting Trucks Receive Loophole on Pruitt's Last Day," unquote, EPA does not appear to have done anything out of the ordinary in this case. According to the administration law experts, agencies routinely take the similar steps EPA took with regard to glider trucks. Agencies have broad discretion about which regulations to enforce.

What actually was out of the ordinary was the Obama Administration's failure to conduct a study on glider truck emissions prior to proposing the phase 2 greenhouse gas rule. More work needs to be done to understand the impact of gliders on the environment. Many experts argue that using remanufactured parts over the lifetime of the trucks actually has a positive environmental impact.

I look forward to hearing our witnesses' opinions on the environmental issue. More work is needed in this area. We cannot simply rely on EPA's studies in this instance.

[The prepared statement of Mr. Abraham follows:]

COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY
Lamar Smith, Chairman

For Immediate Release
September 13, 2018

Media Contacts: Heather Vaughan, Bridget Dunn
(202) 225-6371

Statement by Chairman Ralph Abraham (R-La.)

Examining the Underlying Science and Impacts of Glider Truck Regulations

Chairman Abraham: Good morning and welcome to today's joint Environment and Oversight Subcommittee hearing about glider trucks, also referred to as glider kits. A glider kit is a tractor chassis frame, front axle, cab, and brakes, assembled with a remanufactured engine, transmission, and rear axle. According to media reports and industry experts, gliders cost 25% less than a brand new rig.

The purpose of today's hearing is twofold. We will examine the economic effects of an Obama Administration greenhouse gas emissions regulation which, among other things, proposed to cap production of glider trucks. We will also address the integrity of a study on glider truck emissions conducted by the Environmental Protection Agency's (EPA) National Vehicle and Fuel Emissions Laboratory (NVFEL) in Ann Arbor, Michigan. Documents provided through FOIA and Committee requests raise serious questions about the impartiality of the 2017 EPA study.

Historically, the Science Committee has worked hard to ensure that when regulations are necessary, they are based on sound science. Under Chairman Smith, the Committee has also worked to level the playing field and ensure that EPA treats all parties fairly. In the case of glider trucks, there are red flags surrounding the NVFEL study.

The Committee obtained emails showing that one particular manufacturer had an inside track to EPA and, in fact, provided the glider trucks – trucks they did not manufacture – to EPA for testing. I will get into the details of the EPA study more during my questions, but from the outset this conflict of interest raises questions about the study's credibility.

Relying on a flawed study in this case is particularly alarming since the proposed regulation will have dire consequences for the glider truck industry. Thousands of independent truckers – all small businesses – across America rely on glider trucks as an affordable option for their trucking operation. In my district alone there are 883 independent truckers, many of whom drive gliders. For me, this is a jobs issue. We should not allow the heavy hand of the federal government to come down and crush an entire industry, especially absent a rock solid scientific reason for doing so, which appears to be lacking in this case.

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Thank you again to our witnesses and audience for being with us today. I yield back.

###

Mr. ABRAHAM. And I yield my remaining time to Mr. Posey.

Mr. POSEY. Thank you, Mr. Chairman.

In 2016, the Chinese-owned Volvo Trucks and its affiliates——

Chairman BIGGS. Your microphone, please?

Mr. POSEY. In 2016, the Chinese-owned Volvo Trucks and its affiliates lobbied the EPA to secure a cap and prohibition on glider trucks in the phase 2 rule. The previous Administration's EPA never tested or studied gliders before finalizing the rule. This would eliminate the business operations of several American-owned glider assemblies.

In 2017, the Administration sought to roll back this burdensome cap and prohibition regulation. After EPA put forth a notice of intent to revisit phase 2 rule regulated by glider trucks, Volvo contacted career employees at EPA's National Vehicle Fuel Emissions Laboratory to propose the idea of studying gliders.

Incredibly, foreign-owned Volvo told the National Vehicle Fuel Emissions Laboratory how and when they would like the testing performed against the American industry. It paid for and procured the gliders to be tested. They told the laboratory what was ideal from a testing perspective and wanted to create an emissions test that would show gliders to be super-polluting. For example, one of the trucks applied by Volvo had its engine check light illuminated and the other had an entire chamber full of oil in the harness.

Furthermore, the agency used a biodiesel fuel instead of the mandated ultralow sulfur diesel fuel according to the EPA. Ultralow sulfur diesel eliminates up to 95 percent of all emissions. This test was performed unbeknownst to the Administrator's knowledge.

Gliders serve America's small businesses, transportation fleets, family farms and ranches, and independent owner operations. Foreign-owned Volvo has put out a narrative that gliders are a threat——

Chairman BIGGS. The gentleman's time is expired.

Mr. POSEY. —to the environment. However, the hypocritical Volvo operates an entire plant in Sweden that remanufactures diesel truck engines. They even tout the environmental benefits of these engines. Volvo cannot have it both ways. They're either a threat to the environment——

Chairman BIGGS. The gentleman's——

Mr. POSEY. —or a net benefit.

Chairman BIGGS. —time is expired.

Mr. POSEY. Thank you, Mr. Chairman.

Chairman BIGGS. Sorry. Thank you.

The Chair recognizes the distinguished Chairman of the Oversight Subcommittee—or, excuse me, Ranking Member, sorry, Ranking Member—let's get that right—of the Oversight Subcommittee, Mr. Beyer, for an opening statement.

Mr. BEYER. Thank you, Mr. Chairman, very much. And thank you, Chairman Abraham. Thank you, Chairman Biggs.

You know, the Majority may portray this issue as one of big business versus small business since independent glider manufacturers constitute the main opposition to these glider regulations. I am a small-business person myself, so I'm sympathetic to the challenges that small businesses face.

But for the sake of transparency, Volvo Cars, I have been a Volvo dealer since 1974. We own three Volvo dealerships. It's a complete distinct entity from Volvo Group, which sells the trucks and the construction equipment. They split off in 1999, so I'm not involved at all.

By the way, Volvo Cars is owned by the Chinese. It was owned by Ford Motor Company for a number of years, which is why so many Fords look like Volvo chassis, but they sold Volvo Cars to the Chinese. The Volvo Trucks, not a Chinese company. It is a Swedish company. It is foreign-owned, but it's not Chinese.

By the way, they are made in Dublin, Virginia, so one of the major manufacturers in my State. Very few of them are imported. They're mostly made here in the United States.

Our clean air, the public health should not be jeopardized in order to protect any business, large or small. Glider trucks are new trucks powered by remanufactured heavily polluting engines that are not up to today's standards. And former EPA Administrator Pruitt's attempts to repeal the glider regulations would endanger the public health in significant and well-documented ways, and that's why the American Lung Association, the American Medical Association, many other health associations all oppose the Pruitt EPA attempts to repeal the glider regulations.

And though companies like Fitzgerald Glider Kits may describe themselves as a small business, they really have an outsized influence on this debate. They held a rally for candidate Donald Trump. They met with former EPA Administrator Pruitt. They generated multiple Congressional letters.

The Majority's chosen to focus solely on discrediting one glider emissions study performed at EPA's National Vehicle Fuel Emissions Laboratory, but as my colleague Ms. Bonamici has said, the Majority did not invite an EPA witness today, and the EPA even refused to brief the Minority staff when it was asked. So EPA's refusal leaves us in the dark about the very issues at the center of this proposed repeal, including a questionable Tennessee Tech University study that was funded by Fitzgerald Glider Kits, which Pruitt EPA relied on in its efforts to repeal the glider regulations. So you have essentially the fox guarding the hen house.

In January 2018, the study's Principal Investigator was so concerned about his integrity that he removed his name, he returned the $70,000 that Fitzgerald paid. In February 2018, the President of Tennessee Tech wrote to the EPA informing that the study was undergoing an internal scientific misconduct review and requesting that the EPA not use or even reference the study until the conclusion of that investigation.

In May of 2018, the EPA's Science Advisory Board authorized a review of the Pruitt glider rule, reporting that the supporting science lacks transparency regarding the source of and basis for data and failed to take into account its own study that demonstrated significantly higher vehicle emissions from gliders than from trucks. And the Office of Management and Budget has reportedly told the EPA that Pruitt's proposed glider repeal rule is incomplete because it lacks a regulatory impact analysis.

But today, the Majority's likely to focus on the rulemaking procedures as opposed to public health. Fortunately, we have Dr. Miller,

Deputy Director and Chief Scientist of the Northeast States for Coordinated Air Use Management is here today to help us understand the environmental and health consequences of unregulated glider production.

We hold this hearing as Hurricane Florence is bearing down on the Carolinas. In the past year we've seen extreme weather events from huge forest fires in California that we recognized on the House Floor yesterday, a massive hurricane in Puerto Rico, and devastated communities nationwide. And evidence shows overwhelmingly that climate change has intensified these extreme weather events, leading to evermore destruction, and I really hope that one day this committee can explore the scientific evidence behind such events rather than ignoring the facts.

I'm one of I believe six automobile dealers in the U.S. House I think. I'm the only certified automobile mechanic in the U.S. Congress. And as I've come to understand the glider rule, I wondered what if I took a new Volvo body or Subaru body or Mazda body and put an old pre-engine control engine into it? It would be a lot cheaper. It would be a lot more affordable for a lot of people, but the impact—what if every new car dealer and manufacturer just simply retrofit old pre-emissions controlled engines into the new bodies they had today? That's exactly what we're dealing with with the glider issue. It's a way of completely undercutting all the progress we've made in clean air from automobile emissions, and I hope that we will resist it.

Thank you, and I yield back.

[The prepared statement of Mr. Beyer follows:]

OPENING STATEMENT
Ranking Member Donald S. Beyer (D-VA)
of the Subcommittee on Oversight

House Committee on Science, Space, and Technology
Subcommittee on Environment
Subcommittee on Oversight
"Examining the Underlying Science and Impacts of Glider Truck Regulations"
September 13, 2018

Thank you, Chairman Abraham and Chairman Biggs.

The Majority may portray this issue as one of big business vs. small business, since independent glider manufacturers constitute the main opposition to glider regulations. I own a small family-run business myself, so I am sympathetic to the challenges that small businesses face. For the sake of transparency, Volvo Cars – of which my family owns a dealership – has been a distinct entity from the Volvo Group, which sells trucks and construction equipment, since 1999. My family's business is not involved with Volvo Group, or its trucks.

But our clean air, and the public health should not be jeopardized in order to protect *any* business, large or small. Glider trucks are new trucks powered by re-manufactured, heavily polluting engines that are not up to today's standards. Former EPA Administrator Pruitt's attempt to repeal the glider regulations would endanger the public health in significant and well-documented ways. That is exactly why the American Lung Association, American Medical Association, and other health organizations all opposed the Pruitt EPA attempts to repeal glider regulations.

Though companies like Fitzgerald Glider Kits, the largest manufacturer of glider trucks, may describe themselves as a small business, they have had outsized influence on this political debate. They held a rally for then-candidate Donald Trump, met with former EPA Administrator Pruitt, and have generated multiple Congressional letters.

The Majority has chosen to focus solely on discrediting one glider emissions study performed at the EPA's National Vehicle and Fuel Emissions Laboratory. However, the Majority has not invited an EPA witness today to address the allegations they have made about that study – and, the EPA refused to even brief Minority staff on it when asked.

EPA's refusal leaves us in the dark about issues at the very center of this proposed repeal, including:

- A questionable Tennessee Tech University study that was funded by Fitzgerald Glider Kits, which the Pruitt EPA has relied upon in its efforts to repeal the glider regulations. In January 2018, the study's Principal Investigator was so concerned about its integrity that he removed his name and returned his portion of the $70,000 that Fitzgerald paid. In February 2018, the President of Tennessee Tech wrote to EPA informing them that the

study was undergoing an internal scientific misconduct review, and requesting that EPA not use or even reference the study until conclusion of the investigation.

- In May 2018, the EPA's Science Advisory Board authorized a review of the Pruitt glider rule, writing that the supporting science "lacks transparency regarding the sources of and basis for data" and failed to take into account its own study that demonstrated significantly higher vehicle emissions from gliders than from new trucks.

- The Office of Management and Budget (OMB) has reportedly told the EPA that Pruitt's proposed glider repeal rule is incomplete because it lacks a Regulatory Impact Analysis.

Today, the Majority is likely to focus on these rulemaking procedures as opposed to public health. Fortunately, Dr. Paul Miller, Deputy Director and Chief Scientist of the Northeast States for Coordinated Air Use Management is here today to help us understand the environmental and health consequences of unregulated glider truck production. Dr. Miller, thank you for being here.

We also hold this hearing – on extremely polluting trucks – as Hurricane Florence is barreling down on the Carolinas. In the past year, we have seen extreme weather events, from huge forest fires in California to a massive hurricane in Puerto Rico, devastate communities nationwide. Evidence shows that Climate Change has intensified these extreme weather events leading to more destruction. I hope that this Committee can one day explore the scientific evidence behind such events rather than ignoring the facts.

Thank you, Mr. Chairman. I yield back.

[The prepared statement of Ranking Member Johnson follows:]

OPENING STATEMENT
Ranking Member Eddie Bernice Johnson (D-TX)

House Committee on Science, Space, and Technology
Subcommittee on Environment
Subcommittee on Oversight
"Examining the Underlying Science and Impacts of Glider Truck Regulations"
September 13, 2018

Thank you, Mr. Chairman.

The Majority called this hearing today to discuss the issue of glider truck regulations. Administrations from both parties have recognized the importance of reducing emissions from heavy-duty trucks and have worked diligently to do so. Thanks to the efforts of former Presidents Clinton, Bush, and Obama, the air we breathe every day has gotten cleaner and healthier over the last twenty-five years.

However, a decade after stricter emissions limits from heavy-duty trucks were put in place, a cottage industry popped up whereby certain companies began to sell glider vehicles that could skirt these stricter emissions standards by capitalizing on a loophole in the original rule.

In 2015, the Obama Administration moved to close this loophole by requiring glider vehicles to meet the same emissions standards as new freight trucks. In November 2017, former EPA Administrator Scott Pruitt released a proposed rule to exempt glider trucks from the Obama-era regulations.

Some members of our Majority, and certain members of the glider industry, claim that gliders emit fewer pollutants than new trucks. If that were true, they would not have lobbied EPA to undo the rule regulating glider trucks. We know that glider trucks, often furnished with 1990s-era engines manufactured prior to the advent of modern day vehicle emissions technologies, are dirtier for the air we breathe and more dangerous to our health than new trucks. Credible scientists understand this and have documented it multiple times.

In response to this glider controversy, and at the request of members of the House Appropriations Committee, EPA's vehicle testing lab based in Ann Arbor, Michigan published a study in November 2017 showing that glider trucks emit far more pollutants than new truck models. Some in the Majority want the public to believe that this EPA lab engaged in a secretive partnership with representatives of the trucking industry to color the outcomes of this objective and accurate study. I suspect the Majority will present e-mails at today's hearing in an attempt to paint a picture of some sort of illicit or inappropriate activity between them, although in actuality, the facts run counter to the narrative that the glider industry seeks to put forth.

Instead, we should be focusing our attention on the scientific misconduct inquiry currently pending at Tennessee Technological University regarding a summary document that the EPA relied upon to justify the repeal of the glider provisions. In February of this year, the President of Tennessee Tech wrote a letter to then-Administrator Pruitt requesting that the EPA withhold any

use or reference to this study until the University completes its investigation. I will add that the study's Principal Investigator withdrew his name from this study and returned funding he had received to conduct it to Fitzgerald Glider Kits, the company that funded the study and one of the largest manufacturers of glider kits in the nation.

While I am disappointed that, yet again, the Majority has not sought testimony from EPA to explain its actions, I am pleased to see Dr. Paul Miller, a scientist and lawyer who has decades of experience working in air quality research and policy, testify before us again this morning. He's joining us today from the Northeast States for Coordinated Air Use Management, where he provides technical and policy coordination among the air quality agencies of eight northeastern states. Welcome, Dr. Miller, and I look forward to hearing your testimony.

As we examine EPA's proposed repeal of the glider rule, let's remember one essential fact. The Environmental Protection Agency was created to protect public health and the environment. I am skeptical that repealing the glider rule with achieve either goal.

Thank you. I yield back the remainder of my time.

Chairman BIGGS. Thank you, Mr. Beyer.

I want to recognize we have a new Member of this Committee, and so I welcome Representative Troy Balderson. He's not sure whether to say thank you or not. He's kind of—I don't blame you.

Mr. BALDERSON. Thank you, Chairman. And thank you, everyone.

Chairman BIGGS. We're glad to have you as a member of the Science Committee. Representative Balderson represents Ohio's 12th District and was sworn into the House last week. He's a former farmer and businessman. Representative Balderson also served as a member of the Ohio State Senate and the State House of Representatives before joining us here in the House of Representatives. And I hope all of you will join me in welcoming Troy. We look forward to working with you.

Mr. BALDERSON. Thank you very much, Chairman.

[Applause.]

Chairman BIGGS. Before I introduce our witnesses, I note that Mr. Todd Spencer, the President of Owner-Operator Independent Drivers Association, was scheduled to be on our panel today but had to withdraw at the last minute to attend to a family matter in Missouri. Thankfully, Mr. Collin Long from the Owner-Operator Independent Drivers Association was able to be here in his place. Thank you, Mr. Long, for your quick accommodation. We wish the best to Mr. Spencer.

Now, I'm going to introduce our witnesses. Our first witness today is Ms. Linda Tsang. She's a Legislative Attorney for the Congressional Research Service and has been in that role since 2016. Ms. Tsang previously worked at the EPA as a Rule Manager Environmental Engineer from 2000 to 2004. She became the Director of Climate and Air Quality at the American Forest and Paper Association and was in that position from 2013 to 2016.

She holds a bachelor's degree from Massachusetts Institute of Technology in environmental engineering and a juris doctor from the Vermont Law School. Thank you for joining us today.

Our second witness is Mr. Collin Long, Director of Government Affairs at the Owner-Operator Independent Drivers Association. Mr. Long previously worked for Congressman Charles Dent in a variety of roles from 2005 to 2012 and went to work for the Portland Cement Association from 2012 to 2016. His bachelor's degree is from Syracuse University.

Our next witness is Dr. Paul J. Miller, Deputy Director and Chief Scientist at the Northeast States for Coordinated Air Use Management. He previously worked at NESCAUM from 1995 to 1999 as a Senior Science and Policy Advisor. Dr. Miller then went to the Commission on Environment Cooperation as an Air Quality Program Coordinator from 1999 to 2005.

Dr. Miller holds a bachelor's degree in chemistry from Purdue University, a doctorate in chemical physics from Yale, and a J.D. from Stanford University. Glad to have you with us, Dr. Miller.

Our final witness is Dr. Richard Belzer, an independent consultant in the regulation, risk, economics, and information quality sector. Dr. Belzer worked as a staff economist at the Office of Information and Regulatory Affairs within the U.S. Office of Management and Budget from 1988 to 1998. He was also a visiting professor of

public policy at Washington University in St. Louis before consulting.

He received a master's degree in agricultural economics from UC Davis in 1980. Dr. Belzer also received a master's in public policy from the Harvard Kennedy School in 1982 and his doctorate in public policy from Harvard University in 1989.

I now recognize Ms. Tsang for five minutes to present her testimony.

TESTIMONY OF MS. LINDA TSANG,
LEGISLATIVE ATTORNEY,
CONGRESSIONAL RESEARCH SERVICE

Ms. TSANG. Thank you. Good morning, Chairman Biggs, Chairman Abraham, Ranking Member Bonamici, Ranking Member Beyer, and Members of the Subcommittees. My name is Linda Tsang. I'm a Legislative Attorney in the American Law Division of the Congressional Research Service. Thank you for inviting me this morning to testify on behalf of CRS. I will be addressing the rulemaking process EPA used to adopt the emissions standards for glider vehicles, engines, and kits and the process EPA is using to repeal them.

While there may be a number of legal, policy, and science questions related to these rulemakings, my testimony this morning focuses on the legal requirements related to the rulemaking process. While the Administrative Procedure Act generally governs agency rulemaking, Congress established procedures in section 307(d) of the Clean Air Act that apply to the regulation of new motor vehicle emissions. These procedures require EPA, among other things, to provide public notice and comment on the proposed rule. EPA must also describe the basis and purpose of the rule, factual data, legal interpretations, policy considerations, and other supporting information. The final rule must also respond to significant comments and identify any changes to the rule since the proposal.

Operating under these specific rulemaking requirements, in 2016, EPA and the National Highway Traffic Safety Administration, known commonly as NHTSA, jointly published the second phase of greenhouse gas emissions and fuel efficiency standards for medium and heavy-duty trucks and engines. In addition to setting greenhouse gas emissions standards in the phase 2 rule, EPA finalized requirements for glider kits, engines, and vehicles. EPA defines a glider kit as a chassis for tractor-trailer with a frame, front axle, interior and exterior cab, and brakes. It becomes a glider vehicle when an engine, transmission, and rear axle are added.

Beyond the Clean Air Act rulemaking requirements, EPA must comply with various statutes and executive orders on rulemaking. For example, to comply with Executive Order 12866, which addresses the Administration's review of agency regulations, EPA and NHTSA developed a regulatory impact analysis and submitted proposed and final versions of the rule to the White House's Office of Management and Budget for review. EPA also submitted its proposed repeal of the glider provisions to OMB and has not yet submitted the final rule for review.

In addition, EPA and NHTSA reviewed impacts of the phase 2 rule to small businesses to comply with the Small Business Regu-

latory Enforcement Fairness Act. In the final phase 2 rule, the agencies implemented some of the Small Business Advocacy Review Panel's recommendations to reduce the regulatory burdens on small businesses, including glider vehicle assemblers. For the proposed repeal of the glider provisions, the EPA Administrator certified the repeal would not have a significant economic impact on small entities because it is a deregulatory action.

EPA must also provide a notice of its proposed rules to its Science Advisory Board. Congress directed EPA to establish the SAB to provide scientific advice to the agency and to certain congressional committees, including this one. For the phase 2 rule, the SAB concluded that the underlying science for the rule did not merit further review. For the proposed repeal of the glider provisions, the SAB decided this past July to review the science supporting the proposed repeal, including review of the emission rates related to glider vehicles.

To conclude, the Clean Air Act provides detailed procedures that apply to both the phase 2 rule and EPA's proposed repeal of the glider provisions in that rule. In addition, EPA must also comply with the various statutes and executive orders related to rulemaking.

Thank you for the opportunity to testify, and I'll be happy to answer any questions at the appropriate time.

[The prepared statement of Ms. Tsang follows:]

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TESTIMONY

Statement of

Linda Tsang
Legislative Attorney

Before

Committee on Science, Space, and Technology
Subcommittees on Oversight & Environment
U.S. House of Representatives

Hearing on

"Examining the Underlying Science and Impacts of Glider Truck Regulations"

September 13, 2018

Congressional Research Service
7-5700
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CRS TESTIMONY
Prepared for Congress

Chairman Abraham, Chairman Biggs, Ranking Member Beyer, Ranking Member Bonamici, and Members of the Subcommittees:

My name is Linda Tsang. I am a Legislative Attorney in the American Law Division of the Congressional Research Service (CRS). Thank you for inviting me to testify regarding the U.S. Environmental Protection Agency's (EPA's) emission requirements for glider vehicles, glider engines, and glider kits. My testimony will address the rulemaking process EPA used to adopt emission standards for gliders pursuant to its rule, *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2* (Phase 2 Rule) and to propose to repeal them (Proposed Repeal). My testimony will address the specific procedural requirements for rulemaking under the Clean Air Act (CAA). It will not address the substantive requirements, legal arguments, policy considerations, or scientific data relating to the Phase 2 Rule or the Proposed Repeal.

As discussed in more detail below, Congress established procedures in Section 307(d) of the CAA that govern EPA's promulgation or revision of new motor vehicle or engine emission regulations. In addition to the CAA requirements, EPA must also comply with various rulemaking requirements imposed by statutes and executive orders.

Recent Clean Air Act Rulemakings Related to Glider Kits, Engines, and Vehicles

Section 202(a) of the CAA directs EPA to establish standards for air pollutant emissions from new motor vehicles and engines that "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."[1] On October 25, 2016, EPA and the National Highway Traffic Safety Administration (NHTSA) jointly published the second phase of greenhouse gas (GHG) emissions and fuel efficiency standards for medium- and heavy-duty vehicles and engines.[2] The Phase 2 Rule set emission standards for most commercial long-haul tractor-trailers, vocational vehicles, and heavy-duty pickup trucks and vans, and provided for their phase-in between model year (MY) 2018 and MY 2027.[3] As part of the Phase 2 Rule, EPA regulated glider kit, glider engine, and glider vehicle emissions.[4] EPA defined a glider kit as a chassis for a tractor-trailer with a frame, front axle, interior and exterior cab, and brakes. It becomes a glider vehicle when an engine, transmission, and rear axle are added.[5] The final manufacturer of the glider vehicle (i.e., the entity that assembles the parts) is typically not the original manufacturer of the glider kit.[6] NHTSA did not include glider vehicles under its Phase 2 fuel efficiency standards.[7]

[1] 42 U.S.C. § 7521(a)(1).

[2] Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2; Final Rule, 81 Fed. Reg. 73,478 (Oct. 25, 2016) [hereinafter *Phase 2 Rule*]. For additional information on the Phase 2 Rules, see CRS In Focus IF10927, *Phase 2 Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles*, by Richard K. Lattanzio. The Phase 2 Rule expands on the Phase 1 Rule issued in 2011 for model year 2014 through 2018 motor vehicles. Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles; Final Rule, 76 Fed. Reg. 57,106 (Sept. 15, 2011).

[3] *Phase 2 Rule*, 81 Fed. Reg. 73,478 (Oct. 25, 2016)

[4] 81 Fed. Reg. at 73,941-46.

[5] *Id.* at 73,512-13.

[6] *Id.*

[7] *Id.* at 73,526 n.130.

Petitions for Reconsideration of the Glider Provisions

After EPA issued the Phase 2 Rule, representatives of the glider vehicle assembler industry submitted a joint petition pursuant to CAA Section 307(d)(7)(B) requesting that EPA reconsider the glider vehicle, glider engine, and glider kit regulations.[8] The petitioners argued, among other things, that CAA Section 202(a) does not authorize EPA to regulate glider kits, vehicles, or engines because glider vehicles are not "new motor vehicles," glider engines are not "new motor vehicle engines," and glider kits are not self-propelled "motor vehicles" under the CAA.[9] The petitioners also argued that the Phase 2 Rule glider regulations relied on "unsupported assumptions" regarding glider vehicle emissions.[10]

EPA responded to the glider industry joint petition, stating that it "raises significant questions regarding the EPA's authority under the CAA to regulate gliders as well as the soundness of the EPA's technical analysis used to support the requirements."[11] Based on the petition, EPA decided to revisit the Phase 2 Rule glider regulations.[12]

Proposed Repeal of the Glider Provisions

On November 16, 2017, EPA proposed to repeal the Phase 2 Rule emission standards and regulations for heavy-duty glider vehicles, engines, and kits.[13] In the Proposed Repeal, EPA determined that its previous statutory interpretation of its authority over glider engines, vehicles, and kits was "incorrect" and "not the best reading" of the CAA.[14] EPA proposed to interpret the CAA definitions of "new motor vehicles" and "new motor vehicle engines" to exclude glider vehicles and engines, respectively. Consistent with this interpretation of the scope of "new motor vehicle," EPA further proposed that it has no authority to treat glider kits as "incomplete" motor vehicles under CAA Section 202(a).

Rulemaking Procedures Under the Clean Air Act

While the Administrative Procedure Act (APA) generally governs agency rulemaking procedures,[15] Congress established procedures under CAA Section 307(d) to govern EPA's promulgation of specific CAA regulations, including regulations for new motor vehicles or engines under Section 202(a).[16] These

[8] *See, e.g.*, Petition from Tommy C. Fitzgerald, President, Fitzgerald Glider Kits, LLC et al. to E. Scott Pruitt, Admin., EPA (July 10, 2017), https://www.epa.gov/sites/production/files/2017-07/documents/hd-ghg-frfitzgerald-recons-petition-2017-07-10.pdf [hereinafter *Petition*]. Other petitions for reconsideration and EPA's responses to the petitions are available at https://www.epa.gov/regulations-emissions-vehicles-and-engines/petitions-reconsideration-phase-2-ghg-emissions-and-fuel. Under Section 307(d)(7)(B), EPA must convene a reconsideration proceeding if the objection could not have been raised during the public comment period for the proposed rule, and the EPA Administrator concludes that the objection is centrally relevant to the rule. *Id.* EPA must "provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed." *Id.*

[9] *Petition* at 3–4.

[10] *Id.* at 4.

[11] Letter from E. Scott Pruitt, Admin., EPA, to Tommy C. Fitzgerald, President, Fitzgerald Glider Kits, LLC (Aug. 17, 2017), https://www.epa.gov/sites/production/files/2017-08/documents/hd-ghg-phase2-fitzgerald-gliders-ltr-2017-08-17.pdf.

[12] *Id.*

[13] Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits; Proposed Rule, 82 Fed. Reg. 53,442 (Nov. 16, 2017) [hereinafter *Proposed Repeal*].

[14] *Id.* at 53,444-45.

[15] 5 U.S.C. § 551(1). The APA broadly defines agency as "each of authority of the Government of the United states . . . ," but specifically exempts certain entities including "Congress" and the "courts of the United States." *Id.* The APA also governs agency adjudications. *See id.* §§ 555-57.

[16] 42 U.S.C. § 7607(d)(1)(K). In addition to new motor vehicle regulations, Section 307(d) procedures apply to the promulgation or revision of specific CAA standards and requirements listed in Section 307(d)(1). *Id.* § 7607(d)(1). Section 307 permits judicial

procedures require EPA, among other things, to establish a public rulemaking docket, publish a notice of the proposed rulemaking (NOPR) in the *Federal Register*, allow at least 30 days for public comment, and provide an opportunity for a public hearing.[17] In the *Federal Register* NOPR, EPA must provide a statement (known as the preamble) that describes the basis and purpose of the proposed rule, factual data supporting it, methodology used to obtain and analyze the data, legal interpretations and policy considerations, and other supporting information.[18] During the rulemaking, EPA must also consider all public comments it receives and other relevant information.[19] After considering public comments on the proposed rule, EPA must publish the final rule in the *Federal Register* with a new preamble responding to "significant" comments and identifying any changes to the rule since its proposal.[20]

CAA Section 307(d) rulemaking procedures governed EPA's promulgation of the Phase 2 Rule glider provisions.[21] For the Phase 2 Rule, EPA took the following rulemaking actions:[22]

- EPA and NHTSA established dockets, Docket ID No. EPA–HQ–OAR–2014–0827 and NHTSA–2014–0132, respectively, which are accessible at www.regulations.gov.[23]
- EPA and NHTSA published a joint proposed Phase 2 Rule in the *Federal Register* on July 13, 2015.[24]
- EPA and NHTSA provided a public comment period from July 13, 2015 to October 1, 2015[25] and held two public hearings on the proposed Phase 2 Rule.[26]
- EPA provided a statement of basis and purpose for the proposed Phase 2 Rule, including data, legal interpretations, policy considerations, and other information supporting, among other things, the proposed requirements for glider kits, engines, and vehicles.[27] Because EPA issued the glider provisions pursuant to its authority under the CAA, NHSTA did not participate in promulgating those provisions.[28]

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review of procedures used to promulgate a final rule if the procedural objections were raised during the public comment period. *Id.* § 7607(d)(7)(B). If the procedural objection was impracticable to raise during the public comment (but within the time specified for judicial review) and centrally relevant to the outcome of the rule, EPA must convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. *Id.*

[17] *Id.* at § 7607(d)(2)-(5)

[18] *Id.* at § 7607(d)(3).

[19] *Id.* at § 7607(d)(4).

[20] *Id.* at § 7607(d)(3), (6)(B).

[21] 42 U.S.C. § 7607(d)(1)(K). EPA procedures used for the Phase 2 Rule were not judicially challenged. Other substantive provisions related to tractor-trailers were challenged in court. Truck Trailer Mfr. Ass'n v. EPA, Nos. 16-1430 (D.C. Cir. Dec. 22, 2016).

[22] This list of rulemaking actions is not a complete list of all rulemaking actions associated with the Phase 2 Rule. Documents related to the Phase 2 Rule rulemaking are provided in the two dockets, Docket ID No. EPA–HQ–OAR–2014–0827 and NHTSA–2014–0132, which can accessed at www.regulations.gov.

[23] Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2; Proposed Rule, 80 Fed. Reg. 40,138 (July 13, 2015) [hereinafter *Proposed Phase 2 Rule*].

[24] *Id.*

[25] *See* Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2; Extension of Comment Period, 80 Fed. Reg. 53,756 (Sept. 8, 2015) (extending the comment period for the proposed rule from September 17, 2015 to October 1, 2015).

[26] *See* Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2; Public Hearings, 80 Fed. Reg. 44,863 (July 28, 2015) (scheduling public hearings on August 2 and 18, 2015).

[27] *Proposed Phase 2 Rule*, 80 Fed. Reg. 40,138, 40,329, 40,527-30 (July 13, 2015).

[28] *Phase 2 Rule*, 81 Fed. Reg. 73,478, 73,526 n.130 (Oct. 25, 2016).

- EPA posted supporting documents and public comments relating to its proposed glider provisions to the docket.[29]
- EPA and NHTSA published the final Phase 2 Rule, which included a statement of basis and responses to significant comments, in the *Federal Register* on October 25, 2016.[30] In the statement of basis, EPA responded to comments related to the glider provisions.[31]

CAA Section 307(d) requires EPA to follow the same procedures that it uses to promulgate rules to revise them.[32] Consequently, to remove the glider provisions from the Phase 2 Rule,[33] EPA had to comply with CAA Section 307(d) rulemaking procedures. For the Proposed Repeal, EPA took the following rulemaking actions:[34]

- EPA used the existing Phase 2 Rule docket, Docket ID No. EPA–HQ–OAR–2014–0827, which is accessible at www. regulations.gov, for the Proposed Repeal.[35]
- EPA published the Proposed Repeal in the *Federal Register* on November 16, 2017.[36]
- EPA provided a public comment period from November 16, 2017 to January 5, 2018 and held a public hearing on the Proposed Repeal on December 4, 2017.[37]
- EPA provided a statement of basis and purpose of the Proposed Repeal, including legal interpretations and other supporting information.[38]
- EPA posted public comments and supporting documents related to the Proposed Repeal to the docket.[39]
- Among the public comments and supporting documents on the docket, EPA posted a report issued by the EPA National Vehicle & Fuel Emissions Laboratory, entitled "Chassis Dynamometer Testing of Two Recent Model Year Heavy-Duty On-Highway Diesel Glider Vehicles," dated November 20, 2017, which reported the results of "emissions testing of a 2016 model year (MY) Peterbilt 389 sleeper cab tractor and a 2017 MY Peterbilt 579 sleeper cab tractor that were produced as glider vehicles."[40]

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[29] *See, e.g.*, Memorandum from David Choi, Office of Transp. & Air Quality, EPA, *Emissions Modeling Files for Glider Analysis* (July 28, 2016), https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0827-2232 (posting emission modeling files used to estimate impacts of gliders for the Phase 2 Rule).

[30] *Phase 2 Rule*, 81 Fed. Reg. 73,478 (Oct. 25, 2016).

[31] *Id.* at 73,526.

[32] 42 U.S.C. § 7607(d)(1)(K).

[33] 82 Fed. Reg. at 53,448-49. Because EPA issued the glider provisions pursuant to its authority under the CAA, NHSTA did not participate in the rulemaking repealing those provisions.

[34] This list of rulemaking actions is not a complete list of all rulemaking actions associated with the Proposed Repeal. Documents related to the Proposed Repeal rulemaking are provided in Docket ID No. EPA–HQ–OAR–2014–0827, which can accessed at www.regulations.gov.

[35] *Proposed Repeal*, 82 Fed. Reg. 53,442 (Nov. 16, 2017).

[36] *Id.*

[37] *Id.*

[38] *Id.* at 53,442-48.

[39] *See* Public Submission folder in Docket ID No. EPA–HQ–OAR–2014–0827, https://www.regulations.gov/docketBrowser?rpp=25&so=DESC&sb=commentDueDate&po=0&dct=PS&D=EPA-HQ-OAR-2014-0827.

[40] EPA NATIONAL VEHICLE & FUEL EMISSIONS LABORATORY, CHASSIS DYNAMOMETER TESTING OF TWO RECENT MODEL YEAR HEAVY-DUTY ON-HIGHWAY DIESEL GLIDER VEHICLES (Nov. 20, 2017), https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0827-2417.

As of the date of this testimony, EPA has not issued a final rule on the Proposed Repeal.

Statutory and Executive Order Requirements for Rulemakings

Beyond the CAA Section 307(d) rulemaking requirements, EPA must comply with various statutes and executive orders on rulemaking. This section highlights several rulemaking requirements that may apply to the Phase 2 Rule and the Proposed Repeal, and identifies some of the actions that EPA took pursuant to these requirements.[41]

Executive Order 12866

Executive Order (E.O.) 12866 provides the White House with an opportunity to review and clear proposed regulatory actions of federal agencies.[42] E.O. 12866 requires federal agencies to submit "significant" regulatory actions at both the proposed and final rule stages to the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget (OMB) for review.[43] E.O. 12866 defines a "significant regulatory action," in part, as having an "annual effect on the economy of $100 million or more or adversely affect[ing] in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities."[44] An agency is prohibited, "except to the extent required by law," from issuing a rule while OIRA review is pending.[45] In addition, E.O. 12866 directs agencies to perform a cost-benefit analysis for regulatory actions determined to be "economically significant" and "adopt a regulation only upon a reasoned determination that the benefits" of the rule "justify its costs."[46] Failure of an agency to comply with E.O. 12866 is not subject to judicial review.[47]

For the Phase 2 Rule, EPA and NHTSA determined that the rulemaking was an "economically significant" regulatory action and submitted the rule on June 3, 2016 to OMB for review pursuant to E.O. 12866.[48] The agencies prepared an analysis of the potential costs and benefits associated with this action and posted the analysis, the "Regulatory Impact Analysis—Heavy-Duty GHG and Fuel Efficiency Standards" to the Phase 2 Rule docket.[49] OMB completed its review of the final Phase 2 Rule on August 16, 2016.[50]

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[41] This section does not address all executive orders or other statutory requirements related to the Phase 2 Rule or the Proposed Repeal. For additional information regarding executive orders and statutes affecting the federal rulemaking process, see CRS Report R41546, *A Brief Overview of Rulemaking and Judicial Review*, by Todd Garvey, CRS Report RL32240, *The Federal Rulemaking Process: An Overview*, coordinated by Maeve P. Carey, and CRS Report RL32397, *Federal Rulemaking: The Role of the Office of Information and Regulatory Affairs*, coordinated by Maeve P. Carey.

[42] *See, e.g.*, Exec. Order No. 12866, 58 Fed. Reg. 51735 (Oct. 4, 1993).

[43] Exec. Order No. 12866 §§ 3, 6.

[44] *Id.* at § 2(f). A "significant regulatory action" is also defined as any regulatory action that is likely to result in a rule that may create a serious inconsistency or interfere with an action taken or planned by another agency; materially alter the budgetary impact of entitlements, grants, user fees, or loan programs; or raise novel legal or policy issues. *Id.*

[45] *Id.* at § 8.

[46] *Id.* at § 1(b).

[47] *Id.* at § 10.

[48] Information regarding OMB's review of the Phase 2 Rule is available on the OMB website at https://www.reginfo.gov/public/do/eoDetails?rrid=126415 and https://www.reginfo.gov/public/do/eoDetails?rrid=125029.

[49] EPA & NHTSA, GREENHOUSE GAS EMISSIONS AND FUEL EFFICIENCY STANDARDS FOR MEDIUM- AND HEAVY-DUTY ENGINES AND VEHICLES - PHASE 2 REGULATORY IMPACT ANALYSIS (Aug. 16, 2016), https://nepis.epa.gov/Exe/ZyPDF.cgi/P100P7NS.PDF?Dockey=P100P7NS.PDF.

[50] Information regarding OMB's review of the Phase 2 Rule is available on the OMB website at https://www.reginfo.gov/public/do/eoDetails?rrid=126415 and https://www.reginfo.gov/public/do/eoDetails?rrid=125029.

For the Proposed Repeal, EPA determined that the repeal was a "significant regulatory action" under E.O. 12866 and submitted a draft of the Proposed Repeal to OMB for review on October 20, 2017.[51] OMB comments on the draft Proposed Repeal and EPA's responses to those comments are posted in the docket.[52] OMB concluded its review on the Proposed Repeal on November 8, 2017, determining that it was "consistent" with OMB recommendations.[53] Based on a search of the docket, EPA did not appear to publish a regulatory impact analysis with the Proposed Repeal.[54] According to OMB's regulatory review information, EPA has not submitted a final glider repeal rule to OMB for review.[55]

Rulemaking Requirements Concerning Small Businesses

Federal agencies must also review rulemaking impacts on small businesses. The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the APA or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities.[56] EPA and NHSTA determined that the Phase 2 Rule could potentially have a significant economic impact on small entities.[57] Specifically, the agencies identified glider vehicle assemblers as one of the four categories of directly regulated small businesses that could be impacted.[58]

In addition to preparing a regulatory flexibility analysis, Section 609(b) of the RFA, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA), directs specific federal agencies, including EPA, to conduct additional outreach to small entities that may be affected by a rule.[59] Pursuant to the SBREFA requirements, EPA convened a Small Business Advocacy Review Panel (Panel) to obtain advice and recommendations from representatives of the small entities that potentially would be subject to the Phase 2 Rule's requirements.[60] The preamble to the final Phase 2 Rule summarizes the Panel's recommendations and EPA's changes to the Phase 2 Rule based on those recommendations.[61]

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[51] The status of the OMB review of the Proposed Repeal is available on the OMB website at https://www.reginfo.gov/public/do/eoDetails?rrid=127648.

[52] *See, e.g.*, Email from Chad Whiteman, Senior Policy Analyst, OIRA, OMB to Benjamin Hengst, EPA (Oct. 24, 2017, 10:16 EDT), https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0827-2406.

[53] Information on the OMB review of the Proposed Repeal is available on the OMB website at https://www.reginfo.gov/public/do/eoDetails?rrid=127648.

[54] Several news outlets reported that OMB requested that EPA perform a regulatory impact analysis for the final repeal. *See, e.g.*, Dawn Reeves, *EPA's Planned Glider Truck Repeal Appears 'Stuck' Absent Political Pressure*, INSIDE EPA (June 12, 2018), https://insideepa.com/daily-news/epas-planned-glider-truck-repeal-appears-stuck-absent-political-pressure; Michael Bastasch, *SOURCES: EPA's Effort To Save An Industry From Obama Regulations Is Being Held Up By Bureaucratic Delays*, THE DAILY CALLER (May 2, 2018), http://dailycaller.com/2018/05/02/epa-obama-era-regulation-repeal-glider-kits/. Based on publicly available information, it does not appear that OMB has issued a public request regarding a regulatory impact analysis for the Proposed Repeal.

[55] The status of the OMB review of the Proposed Repeal is available on the OMB website at https://www.reginfo.gov/public/do/eoDetails?rrid=127648.

[56] *See generally* 5 U.S.C. §§ 601–612. For additional information on RFA, see CRS Report RL32240, *The Federal Rulemaking Process: An Overview*, coordinated by Maeve P. Carey.

[57] *Phase 2 Rule*, 81 Fed. Reg. 73,478, 73,526 (Oct. 25, 2016).

[58] *Id.* The agencies explained that "vehicles produced by installing a used engine into a new chassis are commonly referred to as 'gliders,' 'glider kits,' or 'glider vehicles.'" *Id.*

[59] 5 U.S.C. § 609(b), (d).

[60] *Id.*

[61] *See id.* (discussing certain regulatory flexibilities included in the final rule to minimize impacts to glider vehicle assemblers and other small entities). *See also* SMALL BUSINESS ADVOCACY REVIEW PANEL ON EPA'S PLANNED PROPOSED RULE GREENHOUSE GAS EMISSIONS AND FUEL EFFICIENCY STANDARDS FOR MEDIUM- AND HEAVY-DUTY ENGINES AND VEHICLES: PHASE 2 (Jan. 15, 2015), https://www.epa.gov/sites/production/files/2015-08/documents/report-sbarpanel_heavydutyengines2.pdf (detailing the

In the Proposed Glider Repeal, the EPA Administrator certified that repeal would not have "a significant economic impact on a substantial number of small entities" under the SBREFA.[62] An agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves a regulatory burden, has no net burden, or otherwise has a positive economic effect on the small entities subject to the rule.[63] Because small glider manufacturers would be able to produce glider vehicles without meeting Phase 2 Rule motor vehicle emission standards, EPA concluded that the Proposed Repeal would have no adverse regulatory impact for any directly regulated small entities.[64]

EPA Science Advisory Board Review

As part of the rulemaking process, EPA must provide notice of its proposed rules to its Science Advisory Board (SAB).[65] Congress directed EPA to establish the SAB to provide scientific advice to EPA and specific congressional committees.[66] The Environmental Research, Development, and Demonstration Authorization Act of 1978 requires EPA to provide the SAB with its proposed regulations and supporting scientific and technical information.[67] While the SAB may advise the EPA Administrator on the adequacy of the scientific and technical basis of the proposed action, it may not impose requirements on EPA.[68]

EPA provided the proposed Phase 2 Rule to the SAB on June 11, 2014.[69] According to EPA, the SAB discussed its working group's recommendations on the proposed rule and agreed that no further SAB consideration of the rule or its supporting science was merited.[70]

For the Proposed Repeal, the SAB decided to review the "adequacy of the supporting science" of the proposal on June 21, 2018.[71] The SAB noted key questions that merit review, including:

- "What are the emission rates of glider trucks for GHGs, nitrogen oxides, particulate matter, and other pollutants of concern? What are the key sources of variability and uncertainty in these rates?
- How do these emission rates compare to those of conventionally manufactured trucks that are: (a) new; and (b) used at prices comparable to the purchase price of a 'new' glider truck? What are key sources of variability and uncertainty in the comparisons?
- What is the range of possible market penetration of glider trucks into the on road heavy duty vehicle stock? What is the effect of glider truck penetration into the market on fleet

review and recommendations of Small Business Advocacy Review Panel on the Phase 2 Rule).

[62] *Proposed Repeal*, 82 Fed. Reg. 53,442, 53,448 (Nov. 16, 2017).

[63] 5 U.S.C. § 605(b).

[64] 82 Fed. Reg. at 53,448.

[65] 42 U.S.C. § 4365(c).

[66] *See id.* § 4365(a) (requiring EPA to establish a "Science Advisory Board which shall provide such scientific advice as may be requested by the Administrator, the Committee on Environment and Public Works of the United States Senate, or the Committee on Science, Space, and Technology, on Energy and Commerce, or on Public Works and Transportation of the House of Representatives").

[67] *Id.*; Environmental Research, Development, and Demonstration Authorization Act of 1978, Pub. L. 95-155, 91 Stat. 1257 (1978).

[68] 42 U.S.C. § 4365(c).

[69] *Phase 2 Rule*, 81 Fed. Reg. 73,478, 73,969 (Oct. 25, 2016).

[70] *Id.*

[71] Letter from Michael Honeycutt, Chair, Science Advisory Board to E. Scott Pruitt, Admin., EPA (June 21, 2018), https://yosemite.epa.gov/sab/sabproduct.nsf/0/E7CB10891C8CAD8F852582B3006EFAF7/$File/EPA-SAB-18-002+.pdf.

level emissions at national, regional, and local scales in the near-term and long-term, compared to the status quo?

- What are implications of changes in emissions in the near-term and long-term from the penetration of glider trucks regarding GHG emissions, air quality, air quality attainment, and human health, compared to the status quo?"[72]

The SAB indicated that the review may begin with existing EPA documents, such as EPA's "November 20, 2017 test report in which emissions of gliders and conventionally manufactured trucks were compared, and focus on areas where updates are needed."[73] The SAB did not indicate a timeline for its review.

Conclusion

CAA Section 307(d) provides detailed procedures that EPA must follow to promulgate, revise, or repeal certain CAA regulations. These procedures apply to the Phase 2 Rule and the Proposed Glider Repeal. In addition to CAA rulemaking requirements, EPA must also comply with various statutes and executive orders relating to rulemaking.

[72] *Id.* at 3.

[73] *Id.*; *see also* EPA NATIONAL VEHICLE & FUEL EMISSIONS LABORATORY, CHASSIS DYNAMOMETER TESTING OF TWO RECENT MODEL YEAR HEAVY-DUTY ON-HIGHWAY DIESEL GLIDER VEHICLES (Nov. 20, 2017), https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0827-2417.

Appendix. Biography of Linda Tsang

Linda Tsang is a Legislative Attorney in the American Law Division of the Congressional Research Service (CRS). She works on legal issues related to environmental, energy, climate change, administrative, and constitutional law. Before joining CRS in 2016, she served as the Director of Climate and Air Quality at the American Forest & Paper Association from 2013-2016; an attorney at Beveridge & Diamond, P.C. from 2008-2013, focused on statutory and regulatory issues under the Clean Air Act; and as an environmental engineer at the U.S. Environmental Protection Agency, Region 1 from 2000-2005, managing Safe Drinking Water Act regulations. She previously served as a project manager for the Environmental Defense Fund's corporate partnership program from 1997-2000. She earned her J.D. from Vermont Law School and her B.S. in Environmental Engineering from the Massachusetts Institute of Technology. She is a member of the District of Columbia bar.

Chairman BIGGS. Thank you so much.

And now I recognize Mr. Long for five minutes to present his testimony.

TESTIMONY OF MR. COLLIN LONG,
DIRECTOR OF GOVERNMENT AFFAIRS,
OWNER-OPERATOR INDEPENDENT DRIVERS ASSOCIATION

Mr. LONG. Chairman Biggs and Abraham, Ranking Member Bonamici and Beyer, and Members of the Committee, thank you for providing me the opportunity to testify today. As you heard, my name is Collin Long. I'm the Director of Government affairs for the Owner-Operator Independent Drivers Association, which you may have heard is called OOIDA. OOIDA represents more than 160,000 small-business truckers across the United States. That comprises about 96 percent of the trucking industry.

OOIDA members have experienced firsthand how federal policy changes can dramatically reshape our industry. Unfortunately, these policies always place the heaviest burden on the men and women who own small businesses and rarely benefit their operations in terms of safety or economics. Too often, Washington pursues regulations with little regard for the practical implications or understanding of how they will affect our members. The current discussion surrounding glider kits perfectly encapsulates this problem.

Since 2002, federal emission reduction standards have increased the cost of new trucks 50 and $70,000. As a result, purchasing a new vehicle has become prohibitively expensive for small-business owners. One of the ways our members can manage their costs while operating at a high level of efficiency is through the purchase of glider kits, which, as you've heard, are about 25 percent less expensive.

A driver's livelihood depends upon a reliable vehicle that rarely breaks down and can handle the demands of long-haul trucking. Unfortunately, our members who have purchased new trucks with the latest emission reduction technology have found them to be incredibly unreliable. If a truck becomes a liability by routinely being inoperable, the owner must absorb the cost of lost productivity while also paying for the necessary repairs.

Because of emissions requirements, today's new trucks also utilize complicated and expensive technology, which requires the expertise of specialized technicians with proprietary machinery who are only found at authorized dealerships. Before repairs even begin, owner-operators typically have to pay hundreds of dollars just to have the problem diagnosed. For some, the task of even finding an authorized dealer can be challenging and expensive. Drivers typically purchase glider kits with remanufactured engines because it allows them to diagnose and repair mechanical issues without the need for a technician or specialized equipment.

A glider kit's reliability extends beyond routine maintenance, though, as fuel efficiency is either closely matched or in some cases exceeds a new truck's. This is because gliders are specifically designed to achieve the best per-miles—excuse me the best miles-per-gallon performance possible. The average long-haul trucker will drive anywhere between 100 and 120,000 miles a year, meaning

any improvement to a vehicle's performance can have a significant impact on overall fuel consumption. On average, each of our members purchase over 19,000 gallons of fuel per year. An increase in fuel efficiency by just one mile per gallon would save almost 3,000 gallons of diesel per truck.

While others will debate the environmental impacts associated with emission reductions, we think it's important to consider how the use of glider kits affects our industry's consumption of fossil fuels. A substantial increase in glider kit appeal has developed among OOIDA members in recent years. In a 2018 survey of owner-operators, 14 percent of respondents who plan to purchase a commercial motor vehicle in the next several years favor glider kits, while only 12 percent indicated they would buy an entirely new truck. These figures illustrate a dramatic growth in the glider kit market, as in 2003, just three percent of our members indicated a preference for gliders.

Chairman Biggs and Chairman Abraham, thank you again for the opportunity to testify today. I hope I've been able to give you a new perspective on why glider kits are so important to small-business truckers. In my written testimony, I've included the story of an OOIDA member who made the decision to purchase glider kits as a means to save his business. These stories are common among our members but are too often lost in this debate or disregarded as anecdotal.

OOIDA appreciates the opportunity to explain why our members support the EPA's proposal to reconsider the emission requirement for glider kits. Exempting these vehicles from phase 2 regulations will continue to provide small-business truckers with affordable, reliable, and efficient options when purchasing new or used trucks.

Thank you, and I look forward to your questions.

[The prepared statement of Mr. Long follows:]

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Testimony of Collin Long
Director of Government Affairs
Owner-Operator Independent Drivers Association (OOIDA)
before the
United States House of Representatives Committee on Science, Space and Technology – Subcommittee on the Environment and Subcommittee on Oversight
"Examining the Underlying Science and Impacts of Glider Truck Regulations"
September 13th, 2018

Chairmen Biggs and Abraham, Ranking Members Bonamici and Beyer, and Members of the Committee, thank you for providing me the opportunity to testify today. My name is Collin Long and I am the Director of Government Affairs for the Owner-Operator Independent Drivers Association (OOIDA). OOIDA represents more than 160,000 small business truckers across the United States. As the largest national association devoted exclusively to promoting the interests of owner-operators and professional drivers, OOIDA advocates for policies that protect the viability of small-business motor carriers, which comprise roughly 96% of the trucking industry. Because our members make their livings behind the wheel, we also advocate for improved road safety and greater responsibility among all highway users.

OOIDA members have experienced firsthand how changes to federal trucking policies can dramatically reshape our industry. These policies always place the heaviest burden on small-business truckers and rarely benefit their operations in regards to safety or economics. Too often, Washington pursues regulations with little regard for their practical implications or understanding of how they will affect hundreds of thousands of small businesses. I welcome the opportunity to testify today because the current discussion surrounding refurbished trucks, known as glider kits, perfectly encapsulates this decades-old problem.

Since 2002, federal emission reduction standards have increased the cost of new trucks between $50,000 and $70,000 as additional environmental components and systems have become mandatory. As a result, purchasing a new truck has become prohibitively expensive for small businesses, with owner-operators finding it more and more difficult to remain competitive because of such excessive federal regulations. One of the ways small-business truckers can manage their costs while operating at a high level of efficiency is the through the purchase of glider kits. While others will debate the scientific merits of the internal study of the Environment Protection Agency (EPA) and whether the vehicles are a threat to our environment, I am grateful for the opportunity to explain why gliders are becoming an increasingly popular business decision for owner-operators.

What is a Glider Kit?

A "glider kit" is a group of new, assembled truck or tractor parts that typically includes a chassis frame, front axle, cab, and brakes. The truck-buyer combines a remanufactured powertrain (engine and transmission) with the newer parts in the glider kit, producing a fully operational vehicle. Glider kits have been a staple in our industry for decades, favored for their dependability and consistent performance records.

Cost Efficiency

Small trucking businesses safely transport millions of tons of cargo each year. Despite playing such a critical role in our strengthening economy, many owner-operators struggle to be competitive and remain solvent. Unfortunately, the cost of operating a small trucking business escalates every year as the government has mandated more environmental regulations, safety standards, screening and licensing requirements and fees. Because of these compounding costs, owner-operators are extremely sensitive to any cost increases that do not improve their efficiency or enhance highway safety.

Glider kits are appealing to our members because they are at least 25 percent less expensive than new commercial motor vehicles. These savings translate to tens of thousands of dollars when you consider the cost of a new truck can approach $250,000. Unlike large, corporate motor carriers, who typically purchase new trucks in bulk and enjoy reduced prices, single truck operators have little to no leverage in negotiating prices when purchasing new vehicles. Operating on the slimmest of margins, owner-operators have turned to glider kits as a means to remain competitive and solvent. These cost savings allow the industry's safest drivers to remain viable and stay on the road.

One reason why glider kits overall upfront cost are less is because of a statutory safe harbor passed by Congress related to the first sales tax on heavy-duty trucks since the truck has already been taxed once. Under federal law, a 12 percent tax applies to the first retail sale of, among other things, heavy-duty trucks and highway tractors.

For decades, disputes arose over how substantial repairs to a previously taxed truck or tractor had to be for the vehicle to become taxable again. Congress resolved the issue in the 1980s by adopting a bright-line math test: if the cost of repairs does not exceed 75 percent of the retail price of a comparable new truck or tractor, then the repaired vehicle cannot be taxed a second time. The language was codified in 1997 as section 4052(f) of the Internal Revenue Code. After the creation of the safe harbor but before its codification, the Internal Revenue Service (IRS) issued Revenue Ruling 91-27, 1991-1 C.B. 192, and specifically adopted Congress's safe harbor. The ruling confirmed, among other things, that the restoration of a used tractor where one "uses a glider kit to repair the vehicle" will not give rise to a second excise tax if "the cost of the restoration of the worn tractor did not exceed 75 percent of the price of a comparable new vehicle."

Reliability

A professional driver's livelihood depends upon a reliable truck that rarely breaks down and can handle the demands of long-haul trucking. If a truck becomes a liability by routinely being inoperable, the owner must absorb the cost of lost productivity, while paying for the necessary repairs.

Today's new trucks utilize increasingly complicated and expensive technology, which requires the expertise of specialized technicians with proprietary machinery, who are only found at that truck manufacturers' authorized dealerships. Before repairs even commence, owner-operators typically have to pay hundreds of dollars just to get these technicians to diagnose the problem. For drivers based in remote areas, the task of even finding an authorized dealer can be challenging and expensive.

Our members who do not operate gliders consistently complain that what would have otherwise been a routine fix for a driver familiar with their engine now consumes countless working hours and costs potentially thousands of dollars. In fact, drivers typically purchase glider kits with remanufactured engines similar to their previously owned trucks because it allows them to more easily diagnose and repair any mechanical issues without the need for a dealer technician or specialized equipment. When it comes to minor repairs and maintenance for their truck, 73 percent of our members prefer to do the work themselves.

A glider kit's reliability extends beyond routine maintenance, as fuel efficiency is either closely matched, or in some cases, exceeds a new truck's. Glider kits do not utilize unproductive mechanisms to eliminate remaining soot in a diesel engine. Rather, they are designed to achieve the best miles per gallon (mpg) performance possible. Because an owner-operators largest expense is fuel, the maximized efficiency of a glider kit provides significant financial benefits.

Additional Benefits

When you consider that the average long-haul trucker will drive anywhere between 100,000 and 120,000 miles in a year, any improvements to a vehicle's fuel mileage performance can have a significant impact on overall fuel consumption. Our members who operate glider kits have generally reported better fuel economy rates than those driving newer vehicles. While others will debate the environmental impacts associated with emissions reductions, it is important to consider how the use of glider kits affects our industry's consumption of fossil fuels. The average truck driver purchases approximately 19,500 gallons of fuel per year. An increase in fuel efficiency by just 1 mpg would save almost 3,000 gallons of fuel. It is also important to remember that as vehicles using refurbished equipment, glider kits recycle millions of pounds of steel each year.

Real World Experience

I'd like to share with you the experience of an OOIDA member named Loren Hunt, who was able to remain in business after replacing new trucks with refurbished glider kits. Loren's family has been operating LHT Enterprises since the early 1960s, when his father started the business in Bois D'Arc, Mo.

Loren has purchased dozens of dependable trucks over the years but started to experience performance and reliability issues once the EPA's 2007 and 2010 heavy-duty truck standards were implemented. When the 2007 standards were first launched, manufacturers began using diesel particulate filters (DPF) in a truck's exhaust filters to trap unburned particulates. The DPF systems needed to regenerate (regen) at regular intervals, meaning the truck had to run at high revolutions per minute (rpm) for about 25 minutes in order for the DPF to burn out the trapped particulates. This process meant that LHT Enterprises' drivers would have to pull off the road and sit idling, wasting fuel and time, to allow the DPF to regen. Further, the DPF would need to be cleaned every 30,000 to 40,000 miles and replaced at 100,000 miles, with a cost between $3,500 and $5,000. The DPF also required additional sensors and wiring. The system's inclusion in the engine meant that fuel economy dipped 15 to 20 percent.

The DPF system's cost and inefficiencies foreshadowed looming problems with the 2010 heavy-duty truck standards when engines that once relied upon sound mechanical build and assembly were replaced by engines that relied more on integrated computer systems, increased technology and proprietary programming – all at a dramatically increased cost of ownership and operation. New emissions systems, like a diesel exhaust fluid injection, required urea injection and incorporated dangerous high-temperature burners (1,300 degrees Fahrenheit) to burn particulates. These systems have been blamed for numerous truck fires as a result of the high temperatures required to operate. Additionally, the newer trucks continue to sacrifice fuel efficiency in order to achieve maximum-burned particulates, while utilizing more toxic and caustic fluids, like urea, than older engines. Due to the higher cost and complexity associated with these engines, Loren encountered overwhelming maintenance costs – nearly $35,000 in a 10-month span in 2014 – for just three new trucks. To make matters worse, these trucks were not generating any revenue while routinely down for repair.

With their new trucks faltering, Loren's business diminished and he had to decide whether to utilize alternative vehicles, or terminate his operations altogether. LHT Enterprises decided purchasing glider kits was the best business decision because they would reduce maintenance and operation costs, while minimizing non-productive time. The sticker price of the glider kits saved the company over $20,000 alone. Meanwhile, Loren saw the gliders outperform the newer trucks by 1 mpg, which means thousands of dollars saved on fuel over the course of a year. Maintenance costs decreased due to the glider kits' simple build and proven assembly. LHT Enterprises is so pleased with the performance of its glider kits that they hope to maintain a fleet of the vehicles indefinitely.

Loren's experience mirrors that of countless other owner-operators whose businesses have remained viable through the purchase of glider kits. Because of the availability of glider kits in today's marketplace, small businesses are no longer faced with the decision to cease operations or blindly purchase a used truck with no guarantee of its performance or reliability. LHT Enterprises continues to safely operate and grow because of the availability of gliders. Stories like these must be considered when bureaucrats develop new regulations that will threaten the viability of small businesses.

Growing Popularity

A substantial increase in glider kit ownership and appeal has developed among OOIDA in recent years. In a 2018 survey of owner-operators, 14 percent of respondents who planned to purchase a commercial motor vehicle in the next several years favored glider kits, while only 12 percent indicated they would buy an entirely new truck. These figures illustrate a dramatic growth in the glider kit market, as just 3 percent of 2003 respondents indicated a preference for the vehicles. This trend will likely continue as the cost and burden of new truck ownership soars and owner-operators more closely evaluate their operating expenses when acquiring new vehicles.

Conclusion

Chairman Biggs and Chairman Abraham, thank you again for the opportunity to testify today. I hope I've been able to give you a new perspective on why OOIDA supports the EPA's proposal to reconsider the emission requirements for glider vehicles, glider engines and gilder kits. Exempting these vehicles from Phase 2 regulations will continue to provide our members affordable and reliable options when purchasing new or used trucks. While glider kits provide appealing cost savings for drivers, they are also reliable, efficient, and meet all of the required safety standards necessary for operation. We encourage Members of Congress to join us in supporting the agency's efforts to repeal this harmful regulation. In addition to this testimony, I also submit OOIDA's comments to the Phase 2 rule reconsideration docket, which was submitted to the EPA earlier this year.

I look forward to hearing my fellow panelists' testimony and answering your questions.

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Collin Long, Director of Government Affairs

Collin Long is the Director of Government Affairs for the Owner-Operator Independent Drivers Association. He joined the Association in 2016 and is responsible for advancing the legislative and regulatory agenda of small trucking businesses in Washington, DC.

Collin is originally from Allentown, Pa., and graduated from Syracuse University with a B.A. in international relations.

He began his career in Washington in 2005 as a transportation staffer for U.S. Representative Charlie Dent, R-Pa. He subsequently served as senior director of government affairs for the Portland Cement Association, representing America's cement manufacturers on Capitol Hill. During his time in D.C., Collin has worked on a variety of transportation issues.

Chairman BIGGS. Thank you.

I now recognize Dr. Miller for five minutes for his testimony.

TESTIMONY OF DR. PAUL J. MILLER,
DEPUTY DIRECTOR & CHIEF SCIENTIST,
NORTHEAST STATES FOR COORDINATED AIR USE MANAGEMENT

Dr. MILLER. Good morning. I thank the Chairs and the Ranking Members and all the Members of these Subcommittees for providing NESCAUM with the opportunity today to offer the following comments on the science and impacts of glider kits on air quality.

NESCAUM, by way of introduction, the Northeast States for Coordinated Air Use Management, is a nonprofit regional association of State air pollution control agencies in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. And we provide at NESCAUM policy and technical support to our State members for their air quality and climate programs.

Our member State agencies have the primary responsibility for developing strategies that will attain and maintain air quality that is protective of public health and the environment for their citizens and those living downwind in out-of-state areas. NESCAUM and our member States strongly oppose a repeal of emission requirements for glider kit trucks because of the very serious harm to air quality and public health that will occur if this loophole is reopened.

At its core, absolving new glider vehicles from complying with current engine standards is inconsistent with the Clean Air Act's primary purpose to protect and enhance the quality of the Nation's air resources so as to promote public health and welfare.

With over 42 million people in the Northeast, the New York City metro region, and beyond, we still continue to have episodes of poor air quality both for ground-level ozone, which nitrogen oxides or NOx are primary contributors, and particulate matter. And during severe events, the extent of this can extend over 200,000 square miles across the Eastern United States. Local and regional sources contribute to this problem.

Diesel exhaust is a major source of particulate matter, nitrogen oxides contribute to this, and it is responsible tens of thousands of premature deaths, hospital admissions, and lost work and school days in the United States annually. Diesel particulate matter in exhaust has been linked to increased cancer and noncancer health risks. Based on the science EPA considers diesel exhaust a likely human carcinogen when inhaled. The California Air Resources Board lists it as a known carcinogen, as does the International Agency for Research on Cancer, an arm of the World Health Organization. Peer-reviewed studies continue to strengthen the case that exposure to particular matter at levels below current health standards is damaging of public health.

In its 2016 phase 2 rulemaking, EPA correctly recognized that while glider kits can have legitimate uses as powertrain—sources of powertrain engines, salvaged from wrecked vehicles, they have increasingly been marketed as so-called pre-emission engines, in other words, engines that don't meet current standards. We agree

with EPA's original analysis and its more recent 2017 glider kit emissions testing showing the distinction between glider kits using 2002 and earlier engines versus engines meeting current emissions standards.

EPA estimates for glider vehicles to meet the same NOx and P.M. emission limits with current engine standards would reduce 190,000 tons per year of NOx and 5,000 tons per year of P.M. emissions in 2025. That would grow to 319,000 tons per year of NOx and 8,500 tons per year of particulate matter in 2040. The reason this is important to our states is because of NOx emissions, we continue to violate the ozone standards. NOx emissions are the primary precursor pollutant to ozone. Ozone is not directly emitted. And on-road highway diesel vehicles are about 25 percent of our NOx emissions inventory causing our ozone problem.

We cannot address our ozone problem without addressing glider kits. Five thousand glider kits are the equivalent NOx emissions of about 200,000 new vehicles meeting current engine standards, so a relatively small portion of those engines, those kits contribute disproportionately to our problems.

With regards to the testing, we believe that EPA's approach is consistent with our own State approaches. They used an accredited testing lab. They followed a standard regulatory drive cycle. They provided data sets with transparent analysis. They maintained rigorous quality assurance and quality control, and they did the test in triplicate.

Comparing this—and working, by the way, with industry on these testing programs is standard procedure with our States. It's something that I think should be encouraged, and we certainly don't see a problem with that. So this is not at odds with what Assistant Administrator William Wehrum described in the letter to this committee.

Contrast to Tennessee Tech, an uncredited facility owned by a glider manufacturer, did not use a regulatory cycle—test cycle, did not repeat test runs, did not report the actual data, so it's a subjective analysis. It's a visual inspection of a probe that's used by mechanics, not by our States in using the comparative certification, and no NOx emissions data were presented, so we have no idea actually of what the true results were.

So with that, I conclude my statement, and I am happy to take questions at the appropriate time. Thank you.

[The prepared statement of Dr. Miller follows:]

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Comments from the Northeast States for Coordinated Air Use Management
Presented by Paul J. Miller, Ph.D.
Deputy Director & Chief Scientist
Before the House Committee on Science, Space and Technology
Subcommittee on Oversight and Subcommittee on Environment
"Examining the Underlying Science and Impacts of Glider Truck Regulations"
September 13, 2018

Major Points

- NESCAUM member state agencies have the primary responsibility for developing strategies that will attain and maintain air quality that is protective of public health and the environment for their state citizens and for those living in downwind out-of-state areas.
- NESCAUM and our member state agencies strongly oppose a repeal of emission requirements for glider kit trucks because of the very serious harm to air quality and public health that will occur if this loophole is re-opened.
- NESCAUM and its member state agencies agree with EPA's original glider vehicle analysis finding that glider vehicles constitute an unacceptably large source of excess nitrogen oxides (NOx) and particulate matter (PM) emissions having significant adverse impacts on air quality and public health.
- Assuming an annual sales volume of 5,000 to 10,000 glider trucks, requiring the vehicles to meet current engine emission standards would avoid 350 to 1,600 premature deaths over the operating life of the vehicles, with monetized health benefits ranging from $1.5 billion to $11.0 billion.
- EPA's glider vehicle emissions testing presented in its 2017 report is fully consistent with state practices, including working collaboratively with an engine or vehicle manufacturer in a testing program.
- Glider vehicles with pre-2001 engines have 20 to 40 times higher NOx and PM emissions than a fully compliant modern truck. Just 5,000 glider vehicles with pre-2001 engines would approach the entire NOx and PM emissions from a typical year's production of 250,000 fully compliant new heavy-duty trucks.
- Failing to hold glider vehicles to modern pollution standards will burden the states, who will be required to offset the excess emissions at potentially much higher costs for decades to come.
- The plain language of the Clean Air Act unambiguously requires EPA to regulate glider vehicles and glider vehicle engines as new motor vehicles.
- Typical older engines used with glider vehicles lack the electronic capacity to run many modern safety features found in modern emission-compliant trucks.

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Before the House Committee on Science, Space and Technology
Subcommittee on Oversight and Subcommittee on Environment
on
Examining the Underlying Science and Impacts of Glider Truck Regulations

September 13, 2018

Good morning. My name is Paul Miller, and I am Deputy Director and Chief Scientist with the Northeast States for Coordinated Air Use Management (NESCAUM). I thank the Chairs and Ranking Members, and all the members of the Subcommittees for providing NESCAUM with the opportunity today to offer the following comments on the science and impacts of glider kits on air quality.

NESCAUM is a non-profit regional association of state air pollution control agencies in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. NESCAUM provides policy and technical support to our state member agencies in furtherance of their air quality and climate programs. Our member state agencies have the primary responsibility for developing strategies that will attain and maintain air quality that is protective of public health and the environment for their state citizens and for those living in downwind out-of-state areas.

NESCAUM and our member states strongly oppose a repeal of emission requirements for glider kit trucks because of the very serious harm to air quality and public health that will occur if this loophole is re-opened. At its core, absolving new glider vehicles from complying with current engine standards is inconsistent with the Clean Air Act's primary purpose "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare."[1]

Continuing Air Quality Problems in the Northeast
The NESCAUM region, home to over 42 million people, is subject to episodes of poor air quality resulting from ground-level ozone and fine particle pollution. During severe events, the scale of the problem can extend beyond NESCAUM's borders and include over 200,000 square miles across the eastern United States. Local and regional sources as well as air pollution transported hundreds of miles from distant sources outside the region contribute to elevated ozone and fine particle concentrations in the region.

[1] 42 C.F.R. §7401(b)(1) (1990).

Diesel exhaust is a major source of particulate matter (PM) and nitrogen oxides (NOx), which are responsible for tens of thousands of premature deaths, hospital admissions, and lost work and school days in the U.S. annually. Exposure to diesel PM has been linked to increased cancer and non-cancer health risks. EPA considers diesel exhaust a likely human carcinogen via inhalation.[2] The California Air Resources Board (CARB) has listed diesel exhaust as a chemical known to cause cancer and has developed quantitative factors for estimating cancer risk from exposures.[3] In June 2012, the International Agency for Research on Cancer, which is part of the World Health Organization, classified diesel exhaust as a known human carcinogen (Group 1) based on an increased risk for lung cancer.[4] Short-term exposures may cause lung irritation and exacerbation of asthma or allergies, while chronic exposures may result in lung cancer or lung damage.[5] Recent peer-reviewed research continues to strengthen the growing body of scientific evidence that acute and chronic adverse health impacts, including premature mortality, occur from exposure to PM levels below current federal health standards.[6,7]

Glider Vehicle Emissions

In its 2016 Phase 2 rulemaking, EPA correctly recognized that while gliders have a legitimate use in those rare cases where a powertrain can be salvaged from a wrecked vehicle, they have increasingly been marketed and sold to new truck buyers as a way to avoid nitrogen oxides (NOx) and PM control requirements ("pre-emission" engines).[8] We agree with EPA's original analysis, and with its more recent 2017 glider kit emissions testing, which found that these trucks constitute an unacceptably large source of excess NOx and PM emissions having significant adverse impacts on air quality and public health.

EPA estimates that requiring glider vehicles to meet the same NOx and PM emission limits with current engine standards will lead to reductions of 190,000 tons per year (tpy) of NOx and 5,000 tpy of PM emissions in 2025.[9] The reductions grow larger in 2040, with 319,000 tpy of NOx

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[2] EPA. *Integrated Risk Information System (IRIS): Diesel engine exhaust*, p. 11 (February 28, 2003). Available at https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0642_summary.pdf.

[3] California Environmental Protection Agency, Office of Environmental Health Hazard Assessment. *Technical Support Document for Cancer Potency Factors*. 2009. Available at https://oehha.ca.gov/air/crnr/technical-support-document-cancer-potency-factors-2009.

[4] International Agency for Research on Cancer, World Health Organization. *IARC: Diesel Engine Exhaust Carcinogenic* (Press Release No. 213). June 12, 2012. Available at https://www.iarc.fr/en/media-centre/pr/2012/pdfs/pr213_E.pdf.

[5] EPA. *Health Assessment Document for Diesel Engine Exhaust* (EPA/600/8-90/057F). Prepared by the National Center for Environmental Assessment, Washington, DC, for the Office of Transportation and Air Quality. 2002.

[6] Di, Q., *et al.*, *Association of short-term exposure to air pollution with mortality in older adults.* JAMA 318.24 (2017): 2446-2456. DOI: 10.1001/jama.2017.17923.

[7] Di, Q., *et al.*, *Air pollution and mortality in the Medicare population*. New England Journal of Medicine 376.26 (2017): 2513-2522. DOI: 10.1056/NEJMoa1702747.

[8] *See, e.g.*, "About Fitzgerald Glider Kits" marketing glider kits with "pre-emission Detroit, Cummins, and Caterpillar engine options." At https://www.fitzgeraldgliderkits.com/about-fitzgerald/ (accessed September 10, 2018).

[9] U.S. EPA and NHTSA, *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2, Response to Comments for Joint Rulemaking*, p. 1962, Table A-1 (August 2016).

and 8,500 tpy of PM.[10] The extent of emission reductions applied to a sales volume of 5,000 to 10,000 MY2017 glider trucks will avoid 350 to 1,600 premature deaths over the operating life of the vehicles, with monetized health benefits ranging from $1.5 billion to $11.0 billion.[11]

Glider Vehicle Emissions Testing

EPA's glider testing presented in its 2017 report[12] is fully consistent with state practices in obtaining vehicles for testing, using accredited testing laboratories, adhering to regulatory drive cycle test protocols, providing data sets and transparent analysis, maintaining rigorous quality assurance and quality control, repeating test runs, and working collaboratively with an engine or vehicle manufacturer in a testing program. This is not at odds with the EPA's National Vehicle and Fuel Emissions Laboratory approach in testing glider kits as described in EPA Assistant Administrator William Wehrum's letter to the full Committee on August 21, 2018.

We contrast this to a glider emissions testing report by a team at Tennessee Tech University and submitted to EPA by glider manufacturers in support of reinstating the glider kit loophole.[13] That emissions testing was performed at an unaccredited facility owned by a glider manufacturer, did not use a standard regulatory drive cycle test procedure, and did not include supporting data and analysis (*e.g.,* a sample probe filter "was visually inspected" without quantification as a subjective test for ascertaining emissions performance, and no NOx emissions data were presented).[14]

Glider Vehicles and Nitrogen Oxides (NOx)

NOx emissions are of special concern to the Northeast states. NOx is the most egregious contributor to regional ozone concentrations, an important precursor to fine particulate matter formation, and a contributor to multiple other environmental problems such as acid rain and eutrophication of coastal bays and estuaries (Table 1).

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[10] U.S. EPA and NHTSA, *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2, Response to Comments for Joint Rulemaking*, p. 1962, Table A-2 (August 2016).
[11] U.S. EPA and NHTSA, *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2, Response to Comments for Joint Rulemaking*, p. 1965 (August 2016).
[12] U.S. EPA, *Chassis Dynamometer Testing of Two Recent Model Year Heavy-Duty On-Highway Diesel Glider Vehicles*, National Vehicle & Fuel Emissions Laboratory, Ann Arbor, MI (November 20, 2017).
[13] *Petition for Reconsideration of Application of the Final Rule Entitled "Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2 Final Rule" to Gliders*, submitted to the U.S. EPA by Fitzgerald Glider Kits, LLC, Harrison Truck Centers, Inc., and Indiana Phoenix, Inc., July 10, 2017, Exhibit 1.
[14] US EPA Memorandum: Teleconference with Tennessee Tech University Regarding Glider Test Report Summarized in June 2017 Letter; Tennessee Tech University – Summary of Heavy Duty Truck Study and Evaluation of the Phase II Heavy Duty Truck Rule, November 13, 2017 (https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0827-2416).

Table 1. Adverse public health and environmental impacts of NOx in the Northeast

Ozone and PM2.5	• Reduces lung function, aggravates asthma and other chronic lung diseases • Can cause permanent lung damage from repeated exposures • Contributes to premature death
Acid Deposition	• Damages forests • Damages aquatic ecosystems, e.g., Adirondacks and Great Northern Woods • Erodes manmade structures
Coastal Marine Eutrophication	• Depletes oxygen in the water, which suffocates fish and other aquatic life in bays and estuaries, e.g., Chesapeake Bay, Narragansett Bay, and Long Island Sound
Visibility Impairment	• Contributes to regional haze that mars vistas and views in urban and wilderness areas

Based on recent historical monitoring data, large parts of the Northeast region violate the recently strengthened 0.070 ppm 8-hour average ozone national ambient air quality standard (NAAQS). In addition, the CT-NJ-NY region continues to violate the 2008 0.075 ppm ozone NAAQS and remains at risk of failing to maintain the 1997 0.08 ppm 8-hour NAAQS. Air quality monitoring data in recent years no longer show a declining trend in peak ozone concentrations in this region. And in early July of this year, the New York City metropolitan region saw a 1-hour ozone average of 0.143 ppm, a peak level not seen in this area in over 10 years.

As shown in Figure 1, NOx pollution within the New York City metropolitan area is readily visible from satellite observations of the polluted air column over the Mid-Atlantic and Northeast U.S.

Figure 1. 2011-2016 week day nitrogen dioxide column concentrations observed by NASA's Ozone Monitoring Instrument (OMI). Nitrogen dioxide is a component of NOx.

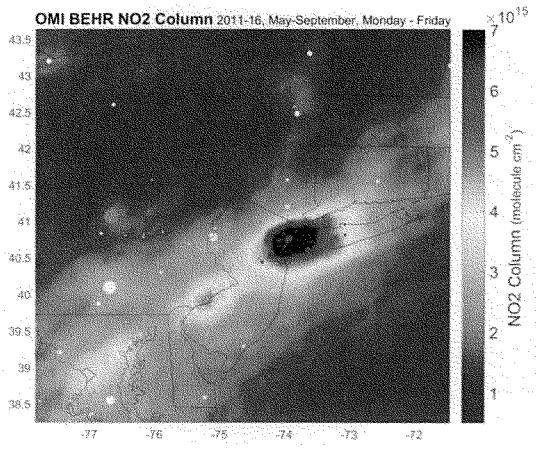
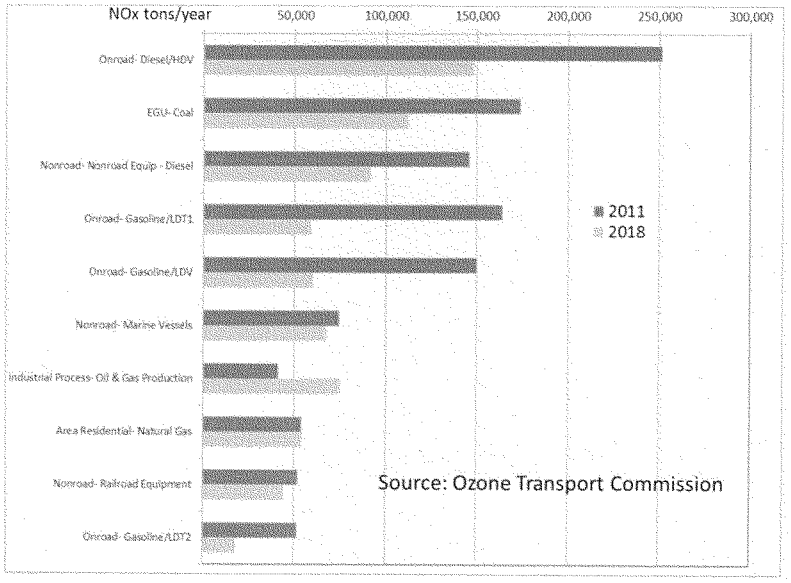


Figure 2 shows that on-road diesel vehicles, which include heavy duty vehicles (HDV), are the largest source of estimated NOx emissions in this region. And this likely understates the impact of highway trucks, as the diesel HDV truck emission estimates do not account for glider vehicles, which are not included in the mobile source emission model used to develop the inventories.

Figure 2. On-road diesel vehicles are the largest NOx source sector in Northeast/Mid-Atlantic (DC to Maine)

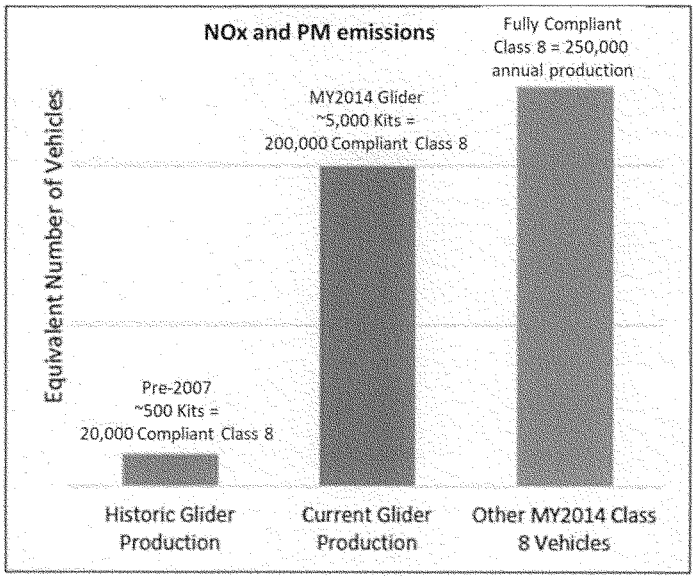


According to EPA, glider vehicles with pre-2001 engines have 20 to 40 times higher NOx and PM emissions than a fully compliant modern truck. As shown in Figure 3, production of just 5,000 glider vehicles with pre-2001 engines would approach the entire NOx and PM emissions from a typical year's production of 250,000 fully compliant new heavy-duty trucks (Class 8).[15] This will forego achieving the significant public health and environmental benefits from the greater than 90% reduction in NOx and PM reductions from current emissions-compliant on-road heavy duty trucks.[16]

[15] U.S. EPA, *Frequently Asked Questions about Heavy-Duty "Glider Vehicles" and "Glider Kits,"* EPA-420-F-15-904 (July 2015).

[16] 66 Fed. Reg. 5002, *Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*, (January 18, 2001). We note that the ability to achieve the deep reductions in PM emissions is made technically feasible through lowering the sulfur content of diesel. The predominant impact of lower sulfur diesel on PM emissions is to enable the use of advanced diesel particulate controls (much as removing lead from gasoline was needed to enable the use of effective catalytic converters with gasoline vehicles). While lowering diesel sulfur content was necessary to enable more advanced controls, it should be recognized that only a very small amount of direct PM reductions comes from reducing diesel sulfur content alone (*i.e.*, reductions in direct sulfate emissions, while large on a percentage basis, are small on a total PM mass basis). 66 Fed. Reg. at 5031, Fig. II.D-2.

Figure 3. Comparison of NOx and PM emissions from increased glider vehicle production



Hamstringing the states' ability to protect public health at lower cost

The EPA's failure to meet statutory deadlines in designating nonattainment areas under the Clean Air Act and its persistent failure to fully address interstate ozone transport have been detrimental to the states' interests in protecting public health. Re-opening this large loophole to allow the unconstrained production and sale of highway trucks lacking modern pollution controls will greatly increase emissions in our region and across the country. Failing to hold glider vehicles to modern pollution standards also will burden the states, who will be required to offset the excess emissions at potentially much higher costs for decades to come. Table 2 compares historical NOx control costs at the state and national levels with estimated control costs of a glider vehicle equipped with an engine meeting current emission standards. The glider vehicle control cost is estimated at about $670 per ton of NOx reduced, which falls well below the other measures in Table 2.

Table 2. Comparison of glider vehicle NOx control cost effectiveness (bottom row) to other state and national NOx control measures.

Source	Cost Effectiveness ($/ton NOx)
ICI Boilers (area & point sources)	$750 - $7,500 (Low NOx Burners) $1,300 - $3,700 (SNCR) $2,000 - $14,000 (SCR)
Combustion Turbines – SCR	$2,010 - $19,120
Tier 2 Light-duty Vehicle Emissions & Gasoline Sulfur	$2,100*
10 ppm Sulfur Gasoline	$4,500**
MY2012+ Heavy-HDV engine control technology	**$672*** **

*Based on EPA RIA, Tier 2 Motor Vehicle Standards and Gasoline Sulfur, Dec. 1999, Table VI-8, uncredited, NOx tons only.
**Based on 0.89 cents/gal EPA estimate and NESCAUM projected 2017 NOx reductions from gasoline on-road vehicles.
***Based on EPA RIA, HDV engine and diesel fuel standards, Dec. 2000, p. V-7 (NOx tons only from Table VI.C-1) using variable and operating costs of control technology. Low sulfur fuel cost assumed same for gliders.

An additional consideration is that U.S. companies are thriving as they have become leaders in many of the advanced emission reducing technologies that will continue to be in demand around the world for years to come. A preferential exemption for glider engines and vehicles from these long-established modern emission standards puts these companies at a competitive disadvantage, thus undercutting businesses employing hundreds of thousands of workers across the U.S. Furthermore, the proposed rulemaking portends a 'race to the bottom' if more truck manufacturers are drawn into glider production, leading to even greater harmful impacts to air quality and public health.

Glider vehicles are new motor vehicles under the Clean Air Act (CAA)
The plain language of the CAA unambiguously requires EPA to regulate glider vehicles and engines in glider vehicles as new motor vehicles. The Act requires EPA to establish and revise emission standards for any air pollutant from any class of "new motor vehicles or new motor vehicle engines." 42 U.S.C. § 7521(a)(1). The CAA specifies that a motor vehicle is "new" up to the point when its title is "transferred to an ultimate purchaser." 42 U.S.C. § 7550(3). "Ultimate purchaser" is, in turn, defined as "the first person who in good faith purchases such new motor vehicle or new engine for purposes other than resale." 42 U.S.C. § 7550(5).

To re-state, it is the passage of title to the "ultimate purchaser," not the status of the engine or other vehicle components, that establishes glider vehicles as "new motor vehicles" under the CAA. A glider vehicle clearly fits the definition of "new motor vehicle" because the ultimate purchaser is the first to take title to the vehicle. There is no "ultimate purchaser" prior to this point who previously held title to the glider vehicle. Under these definitions, glider vehicles and glider vehicle engines—like all other classes of vehicles and engines—are "new" until purchased by a consumer to be put into use. Accordingly, section 202(a)(1) mandates that EPA regulate their emissions.

This plain language of the CAA also specifies that "new motor vehicle engine" can mean either "an engine in a new motor vehicle" or "a motor vehicle engine the equitable or legal title to which has never been transferred to the ultimate purchaser." 42 U.S.C. § 7550(3). To have any independent meaning, the term "engine in a new motor vehicle" must be understood to encompass used and rebuilt engines in new motor vehicles, *i.e.,* engines that have, at some point in the past, been purchased by a person to be used "for purposes other than resale." 42 U.S.C. § 7550(3) & (5).

This plain language interpretation of Section 202 in its statutory context comports with the purpose of the CAA generally and with the more specific purpose of Section 202. 42 U.S.C. §§ 7401 (b) & (c) & 7521(a)(3). Section 202 is targeted at new motor vehicles and engines that "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). Congress intended these emissions to decline substantially, over time, under EPA's regulation, providing that emissions standards for new motor vehicles and engines may only be revised in ways that "require reduction of emissions from the standard that was previously applicable." 42 U.S.C. § 7521(b)(1)(C). Unsurprisingly, the CAA reflects Congress's particular concern with emissions from heavy-duty trucks and engines. With respect to them, Congress mandated that EPA's emissions standards "reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply." 42 U.S.C. § 7521.

A contrary interpretation would undermine the purpose of the CAA to protect air quality and promote the public health and welfare, by in effect, creating a loophole for the use of previously owned engines in new truck bodies as substitutes for new, compliant vehicles, even when that would vastly increase pollution. It seems rather implausible that in drafting the CAA, Congress intended for the single emissions sector of heavy-duty trucks built from glider kits to be the only mobile emissions source that was completely exempt from federal regulation.

Safety concerns

It is important to note that the typical older engines used with glider vehicles lack the electronic capacity to run many modern safety features found in modern emission-compliant trucks. Key safety features typically lacking in "pre-emission" glider vehicles include electronic stability control (rollover prevention), adaptive cruise (speed) control, and lane departure warnings

(collision avoidance).[17] Pre-2000 engines, among the most popular in glider vehicles, are exempt from maintaining electronic log books (e-logs) that would provide real-time logging of driving hours and rest times.[18] Without this feature, drivers may operate for longer periods than allowed, resulting in greater driver fatigue on the roads.

Conclusion

Our states have long supported and relied upon strong – and smart – federal regulation to ensure that harmful air emissions are gradually reduced over time. Within this cooperative framework, cleaner on-road heavy duty vehicles are vital to our states' efforts to attain and maintain air quality standards.

In sum, there is no way to understand the dramatic increase in sales of glider kits with old, dirty ("pre-emission") engines except as a concerted effort to circumvent critical public health protections. Exempting glider vehicles from modern emissions standards unnecessarily exposes the nation's citizens to elevated emissions of harmful pollutants, and it unfairly penalizes the many businesses in our states and across the country that operate in compliance with modern emission standards.

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[17] Testimony to EPA by Robert Nuss, Nuss Truck & Equipment, Docket ID No. EPA-HQ-OAR-2014-0827-4307 (Dec. 4, 2017), accessed at https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0827-4307 on September 11, 2018.

[18] Federal Motor Carrier Safety Administration, *FAQs on ELD Rule*, https://www.fmcsa.dot.gov/faq/if-vehicle-registration-commercial-motor-vehicle-reflects-model-year-2000-or-newer-b-0, accessed on September 11, 2018.

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Dr. Paul J. Miller is Deputy Director and Chief Scientist of the Northeast States for Coordinated Air Use Management (NESCAUM) in Boston, Massachusetts where he provides technical and policy coordination among the air quality agencies of eight northeastern states. Dr. Miller returned to NESCAUM in January 2006 after previously being with NESCAUM from 1995-1999 as Senior Science and Policy Advisor. He has contributed to state efforts on ozone transport, acid rain, regional haze, and other air issues.

From 1999-2005, Dr. Miller was the Air Quality Program Coordinator with the Commission for Environmental Cooperation (CEC) in Montreal, Quebec. The CEC is a trinational intergovernmental agency created by Canada, Mexico and the United States to promote environmental cooperation among the three NAFTA trading partners.

Dr. Miller has been a Senior Fellow at Princeton University's Center for Energy and Environmental Studies. Previous to Princeton, he was Senior Energy Fellow at the W. Alton Jones Foundation in Charlottesville, Virginia. He also was a National Research Council Associate at the Joint Institute for Laboratory Astrophysics, University of Colorado and the National Institute of Standards and Technology, in Boulder, Colorado.

Dr. Miller has a B.S. in Chemistry from Purdue, a Ph.D. in chemical physics from Yale, and a law degree from Stanford.

Chairman BIGGS. Thanks, Dr. Miller.

I now recognize Dr. Belzer for five minutes to present his testimony.

TESTIMONY OF DR. RICHARD B. BELZER, INDEPENDENT CONSULTANT IN REGULATION, RISK, ECONOMICS & INFORMATION QUALITY

Dr. BELZER. Good morning. Thank you, Mr. Chairman. I appreciate the opportunity to testify concerning work I conducted in May for Fitzgerald Glider Kits. This is a strawman regulatory impact analysis for EPA's regulation rescinding the glider provisions in what is being called the phase 2 greenhouse gas rule.

That work is my own work product. I performed it from start to finish in about two weeks. Fitzgerald did not have the right to approve it, and it is published as a working paper on my website.

And I had to perform this because, normally, when we look to the regulatory impact analysis for the phase 2 rule to find the benefits and costs of rescinding a provision, one cannot do that, however, because the phase 2 rule regulatory impact analysis is significantly incomplete.

So I have four key points to make, and you'll see it on the next slide there.

[Slide.]

Dr. BELZER. There are significant errors in EPA's analysis. They came up with $238 billion in present value net social benefits. They committed several errors, two I will mention. First, they assume that companies that buy trucks are unable to rationally account for fuel economy in their purchase decisions. This is an astounding claim. Fuel is the largest cost of operating a heavy-duty truck.

Second, EPA estimated that the phase 2 rule would send $66 billion in U.S. wealth to other countries, and they counted these wealth transfers as benefits to Americans. This is an elementary violation of accepted practice in benefit-cost analysis. When you take these two errors out alone, you end up with $26 billion in net present value costs for the phase 2 rule. This is shown on that slide in front of you.

EPA also did not analyze incremental benefits and costs of banning gliders. Go on to the next slide, please.

[Slide.]

Dr. BELZER. The regulatory impact analysis is 1,100 pages long. That's more than two reams of paper. In that, there is no analysis of the benefits and costs of essentially banning gliders from the heavy-duty truck market.

So what do you do? Well, you go to the preamble to the 2016 rule, and there you will see that EPA reports an estimate for the benefits of it. The preamble is almost 800 pages long. This part, surrounded by yellow highlighter, is the total sum of their analysis of the benefits of regulating gliders.

So they didn't show their work, and since they didn't show their work, nobody outside of EPA can actually replicate it. To obtain their estimate, though, they also seem to have assumed that every glider removed from the market is a new truck sold. That makes no sense. Those who would purchase gliders can buy a new truck. They could buy a used truck from a secondary market, or they

could retain an existing truck in service longer than its planned lifetime.

Let's assume that new trucks have fewer emissions, lower emissions than gliders. But it's likely that used trucks and old trucks retained in service have higher emissions, so the question is what is the net change in emissions? And the net change in emissions from banning gliders could well be positive and not the $6–14 billion that the EPA claims.

Now, my analysis shows how to estimate the environmental benefits and costs. Go to the next slide, please.

[Slide.]

Dr. BELZER. And I don't have any data to estimate these net benefits or costs because EPA didn't collect the data prior to regulating gliders. But I can tell you what the condition would be, and that's how you would go about it. What you're looking for are emissions for all four types of vehicles, and you weight them by their environmental impacts, and from that, you try to estimate what proportion of gliders would be replaced by new trucks. Policymakers can look at that and decide is that reasonable or is that not?

It requires good data, objective data. Obtaining good emissions data is challenging because it's really easy to get bad data. You can tweak the emissions test or you can even more easily, select trucks likely to test the way you want them to. But it's important to have a sample that's large enough to extrapolate to the market, and I don't know how large that sample would have to be, but I do know that two is not the optimal sample size.

I do know that it could be done better, and I think the right way to go about this is actually to collaborate on a test protocol, do the test together so that everybody is in agreement that the tests are performed correctly and honestly. Thank you very much.

[The prepared statement of Dr. Belzer follows:]

Testimony of

Richard B. Belzer

before the

U.S. House of Representatives Committee on Science, Space, and Technology
Subcommittee on Environment
and
Subcommittee on Oversight

Hearing:
"Examining the Underlying Science and Impacts of Glider Truck Regulations"

September 13, 2018

Richard B. Belzer, Ph.D.
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Good morning Chairmen Biggs and Abraham, Ranking Members Bonamici and Beyer, and Members of the Subcommittees:

I appreciate the opportunity to testify today concerning work I conducted in May for Fitzgerald Glider Kits, LLC. It is a strawman Regulatory Impact Analysis for EPA's regulation rescinding the glider provisions in the joint EPA and NHTSA regulation titled "Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2."[1] For parsimony I will refer to this as the "Phase 2 Rule."

This work product is my own; I performed it from start to finish in about two weeks; and Fitzgerald did not have the right to approve it. It is published as a working paper on my website.[2]

I performed the strawman RIA to inform decision-makers and the public about what needed to be done to prepare quantitative estimates of benefits and costs. Normally, one would look to the RIA for the Phase 2 Rule for these estimates,[3] but as I will explain in a moment, that is a dead end.

I have four key points to make, summarized on Slide 2.

1. EPA's RIA for the 2016 heavy-duty truck GHG regulation has material errors.

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[1] **U.S. Environmental Protection Agency and National Highway Traffic Safety Administration.** 2016a. "Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2; Final Rule." *Federal Register*, 81(206), 73478-74274.

[2] **Belzer, Richard B.** 2018. "Regulatory Impact Analysis for Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits," Mount Vernon VA, May 15. Available at http://bit.ly/2oTz4ES.

[3] **U.S. Environmental Protection Agency and National Highway Traffic Safety Administration.** 2016b. "Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles; Phase 2; Regulatory Impact Analysis," Washington DC: USEPA/NHTSA, August.

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To obtain its estimate of $238 billion in present value net social benefits, EPA had to commit several material errors. I will mention just two.

First, EPA assumed that companies that buy trucks are unable to rationally account for fuel economy in their purchase decisions. This is an astounding claim. Fuel is the largest cost of operating a heavy-duty truck – higher than driver labor, and higher than lease payments on the truck itself. When truck buyers make mistakes, the market punishes them ruthlessly. Even more remarkable is EPA's extraordinary confidence that it knows better than truck buyers, despite the fact that the Agency suffers no consequences at all when it makes mistakes. This assumption yielded $170 billion in imaginary present value benefits.

Second, EPA estimated the Phase 2 Rule would send $66 billion in U.S. wealth to other countries and counted these wealth transfers as benefits to Americans. This is an elementary violation of accepted practice in benefit-cost analysis.

When these two errors are removed, the Phase 2 Rule has $26 billion in net present value costs. This is shown on Slide 3.

2. EPA did not analyze the incremental benefits and costs of banning gliders from the heavy-duty truck market.

The RIA for the Phase 2 Rule is 1,115 pages long. There are hundreds of references, which if printed could yield a stack of paper several feet tall. But in that 1,115-page RIA, there is no analysis of the incremental benefits and costs of banning gliders.

In the preamble to the Phase 2 Rule, EPA claims that the glider ban yields incremental benefits of $6-16 billion per year, as shown on Slide 4. EPA did not show its work, however, so no one outside the Agency can reproduce these results. This is a clear violation of long-established information quality guidelines.[4]

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[4] **Office of Management and Budget.** 2002. "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies; Notice; Republication." *Federal Register*, 67(36), 8452-60; **U.S. Environmental Protection Agency.** 2002. "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency." (EPA/260r-02-008).

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3. EPA appears to have incorrectly assumed that gliders are perfect substitutes for new trucks.

To obtain the $6-16 billion per year benefit estimate in the preamble, EPA needed to know what glider purchasers would do once gliders were banned. It appears that EPA assumed that every glider removed from the market would be replaced by a new heavy-duty truck, as shown on the left side of Slide 5. This makes no sense.

Those who would have purchased gliders, but under the Phase 2 Rule cannot do so, have three options, not one, as shown on the right side of Slide 5:

- Buy a new truck.
- Buy a used truck on the secondary market.
- Retain an existing truck in service beyond its planned lifetime.

Let's assume that new trucks have lower emissions than gliders. But it's likely that used trucks and existing trucks retained in service have higher emissions than gliders. So, banning gliders could result in a net increase in environmental damage, not $6-16 billion per year in emission reductions.

4. My strawman RIA shows how to estimate the environmental benefits or costs from gliders.

I developed formulas for determining the minimum proportion of gliders that must be replaced by new trucks for environmental benefits to be greater than zero. These formulas are shown on Slide 6. If policy-makers believe that the actual proportion is likely to be less than p_n, then the net environmental benefits of banning gliders will be negative. And even if net environmental benefits are positive, it does not follow that net social benefits are greater than zero. We have not begun to consider the opportunity costs of banning gliders, which EPA did not estimate, and which are likely to be substantial.

Estimating these equations requires, among other things, objective data on greenhouse gas and pollutant emissions from gliders, new trucks, used trucks, and existing trucks retained in service beyond their planned lifetimes. Obtaining good emissions data is challenging, because it's easy to get bad data – by tweaking emissions tests, for example, or even more easily, by selecting trucks likely to test the way you want them to. The right way to go about this is to establish a test protocol that everyone agrees to in advance, and jointly conduct the tests to ensure that everyone agrees that the protocol was strictly followed.

Finally, it is important to have samples large enough to extrapolate to the market. I don't know how big these samples must be, but I do know that sampling a couple trucks isn't

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enough. There are statistical methods that can be used to determine minimum sample sizes, and the test protocol should take account of this knowledge.

Thank you for the opportunity to testify. I welcome any questions that you may have pertaining to my work.

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Draft Strawman Regulatory Impact Analysis for Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits

Richard B. Belzer, Ph.D.

House Science Committee
September 13, 2018

Key points

1. EPA's RIA for the 2016 heavy-duty truck GHG regulation has material errors.
2. EPA did not analyze the incremental benefits and costs of banning gliders from the heavy-duty truck market.
3. EPA appears to have incorrectly assumed that gliders are perfect substitutes for new trucks.
4. My strawman RIA shows how to estimate the environmental benefits or costs from gliders.

1. EPA's RIA for the 2016 heavy-duty truck GHG regulation has material errors.

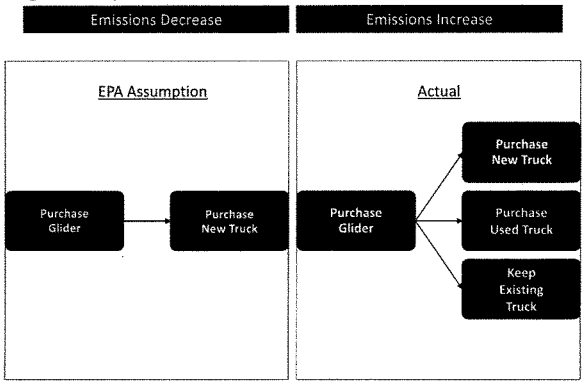
	Lifetime Present Value in $ Billions (3% Discount Rate)	Lifetime Present Value in $ Billions (7% Discount Rate)
Vehicle program	-$ 25	-$ 17
Maintenance	-$ 1	-$ 1
Fuel savings from buyer irrationality	$170	$92
Climate benefits	$ 94	$66
NET BENEFITS	$238	$140
Less speculative fuel savings	-$170	-$ 92
Less transfers to non-US entities	-$94	-$ 60
REVISED NET BENEFITS	-$26	-$ 12

2. EPA did not analyze the incremental benefits and costs of banning gliders from the heavy-duty truck market.

1. Regulatory Impact Analysis
   a. 1,115 pages, plus secondary documents
   b. No incremental analysis of glider ban
2. Preamble to 2016 Final Rule
   a. Ban said to yield incremental benefits of $6-16 billion/yr (2013$) (81 FR 73943), but analysis is not disclosed
   b. No incremental opportunity costs (e.g., diminished reliability, highway safety risks, lost producers' and consumers' surplus, forced capital retirement)
   c. 'No significant impact on small entities' (81 FR 73962)

3. EPA appears to have incorrectly assumed that gliders are perfect substitutes for new trucks.

Fig. 1: Buyer Behavior if Glider Market is Prohibited



4. My strawman RIA shows how to estimate the environmental benefits or costs from gliders.

For GHG Emissions	**For Pollutant Emissions**
$p_n = \frac{G_g - G_u}{G_n - G_u}$,	$p_n = \frac{E_g - E_u}{E_n - E_u}$,
where	*where*
G_n = *GHGs from new trucks*	E_n = *pollutants from new trucks*
G_g = *GHGs from gliders*	E_g = *pollutants from gliders*
G_u = *GHGs from used/existing trucks*	E_u = *pollutants from used/existingtrucks*
p_n = *% gliders supplanted by new trucks*	p_n = *% gliders supplanted by new trucks*

Notes

1. *Assumes emissions from used trucks retained in service are identical.*
2. *Gliders provide net benefits if subsititution of new trucks for gliders is less than* p_n.
3. p_n *approaches zero as the difference in emission between new and used trucks approaches zero.*
4. *Opportunity costs (i.e, benefits foregone) must be deducted from environmental benefits to obtain net social benefits.*

Questions?

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Belzer, Richard

Independent consultant

Since 2001, Dr. Richard Belzer has been an independent consultant in regulation, risk, economics and information quality. Previously he was a visiting professor of public policy at Washington University in St. Louis and staff economist in the Office of Information and Regulatory Affairs in the Office of Management and Budget. He received his Ph.D. in public policy from Harvard University (1989), Master's in Public Policy (MPP) from the John F. Kennedy School of Government (now Harvard Kennedy School) (1982), and MS and BS degrees in agricultural economics from the University of California at Davis (1979, 1980). Current original research areas include the measurement and estimation of Type I and Type II errors in the identification, placement, and discipline of children with disabilities; the analysis of benefits and costs from banning glider vehicles from the heavy-duty truck market; the development of statutorily appropriate measures of economic feasibility under the Safe Drinking Water Act; the analysis of variability in pulmonary function testing; the development of objective economic indicators to identify adverse human health effects; the improved use of human health risk assessments as inputs to benefit-cost analysis; the analysis of environmental justice ranking schemes; the analysis of patent law and examination practices; the estimation of potential cost reductions to state Medicaid programs from the substitution of electronic for tobacco cigarettes; and the economic value of subjective quality information in U.S. wine markets. Recent consulting projects have included a benefit-cost analysis of rescinding the ban on gliders from the heavy-duty truck market; reviews of California's proposed drinking water standards for hexavalent chromium and 1, 2, 3-trichloropropane; and the critique of predicted human health impacts and monetized risks attributable to air emissions from new facilities designed to achieve federal regulatory standards. Dr. Belzer is a regular contributor to scholarly professions through journal peer review and service to professional societies. He was elected Treasurer of the Society for Risk Analysis (1998, 2000) and elected Secretary-Treasurer of the Society for Benefit-Cost Analysis (2008, 2010). He earned multiple awards for exemplary performance at OMB, given the SRA's Distinguished Service Award (2003), and named a Fellow of the Cecil and Ida Green Center for the Study of Science and Society (1995). He has not received any grants from EPA, any other government agency, or any private entity. He has conducted independent research on behalf of clients or through self-funding; some projects are jointly funded. His clients since 2015 include: Fitzgerald Glider Kits LLC, the American Chemistry Council, the California Manufacturing Technology Association, the R Street Institute, and Exxon Mobil Biomedical Sciences, Inc.

Chairman BIGGS. Thank you. I thank all the witnesses for their testimony today and again for being with us, and now it's time for questions and I recognize myself for five minutes.

And I just want to clarify some points made by the minority I disagree with about the Tennessee Tech study. This hearing is not relying on the Tennessee Tech study quite frankly, and you'll notice that none of us mentioned that except for on the other side. We're not here to discuss that study or offer it as proof of gliders being environmentally friendly. We're here to examine the EPA study for which we have documents showing undue influence from Volvo.

Furthermore, when then-Administrator Pruitt relied upon Tennessee Tech study, it was the only glider study in existence because EPA had not completed its study yet, let alone informed the EPA leadership that a study was in progress. The mere fact that there are two studies now at odds with one another, in addition to questionable practices that indicate bias, illustrates the need for more in-depth examination of this issue, and that's what I think we are trying to get at today, the need for more in-depth analysis.

I want to go to Mr. Long first. Can you please elaborate on some of the issues facing the trucking industry today as far as workforce shortage, business expenses—as far as those are concerned?

Mr. LONG. Sure, I'd love to. We contend there is no shortage of drivers, but you've all been hearing there is. There's a turnover problem because a lot of folks are unable to remain in the business. And this is a typical reason why. Right now, as I mentioned, our testimony includes a story of a gentleman who owns a small business that's been in his family since the 1960s, and he was faced with the problem of whether or not to purchase new glider kits to remain in business or to exit the trucking industry altogether, and that was because he had purchased some new trucks with all the environmental technology included, and they were so unreliable that they were costing them tens of thousands of dollars a year and not only in repairs, in lost productivity because they spent so much time in the shop getting worked on. So he came up with the decision to purchase gliders as an alternative because they were much more reliable, and he was capable of maintaining the better on his own.

So I would say regulation as a whole is driving a lot of our members out of the industry. In this case, it's costs driving them out of the industry. Certainly every regulation comes with a cost, but in this one, it's taking away a reliable alternative option for them to purchase a new truck.

Chairman BIGGS. Thank you. Now, Dr. Belzer, I want to get to your brief but very informative testimony. What—I mean, you've suggested that there be more collaboration on the study. I was surprised that it was what I would call an extreme small-end study. What could have been done differently to produce more transparency and eliminate what I view as bias? I mean, every time you have a study, if you're conducting the scientific method the way I was taught, you want to eliminate bias as much as possible. How would we do that here?

Dr. BELZER. Well, I should first say I'm not an engineer, so I would hesitate to attempt to devise the protocol, but what needs to be done is a protocol needs to be agreed upon by EPA and the var-

ious different stakeholders in industry. There should be a way of agreeing on how to do this properly, and that would include all the different elements of the test, and it doesn't sound like there's a great deal of controversy about what those should be. It would also include a sample size and a procedure for selecting trucks for the sampling. Remember what you're doing is you're extrapolating to an entire industry from a very small sample. The opportunity for error, never mind bias, but opportunity for error is just very great, and a sample of two doesn't do it, no matter how well the two were collected or assembled. A sample of a dozen may not be enough. I'm not an expert in sampling theory and how to good about that.

But I think that if they collaborate on the technology for the test, they collaborate on doing the test, they look over each other's shoulders, that's the way to get it done and make sure everybody's happy with it. Then you can go forward with it and use it for policy purposes.

Chairman BIGGS. Thank you. I'm going to conclude my time and recognize the Ranking Member of the Environment Subcommittee, Ms. Bonamici, for five minutes.

Ms. BONAMICI. Thank you, Mr. Chairman.

Some of today's witnesses have argued that the EPA's deregulatory action on gliders should not require a Regulatory Impact Analysis, and several Members of the Majority actually made a similar argument in a recent letter to the OMB. But I'd like to bring to their attention a 2017 White House memorandum that states, "Agencies must continue to assess and consider both the benefits and costs of regulatory actions, including deregulatory actions." So I'd like to request unanimous consent to enter this memo into the record.

Mr. ABRAHAM. [Presiding.] Without objection.

[The information follows:]

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

April 5, 2017

M-17-21

MEMORANDUM FOR: REGULATORY POLICY OFFICERS AT EXECUTIVE DEPARTMENTS AND AGENCIES AND MANAGING AND EXECUTIVE DIRECTORS OF CERTAIN AGENCIES AND COMMISSIONS

FROM: Dominic J. Mancini, Acting Administrator
Office of Information and Regulatory Affairs

SUBJECT: Guidance Implementing Executive Order 13771, Titled "Reducing Regulation and Controlling Regulatory Costs"

I. Introduction

This guidance, in the form of Questions and Answers (Q&As), addresses the requirements of Executive Order (EO) 13771, titled "Reducing Regulation and Controlling Regulatory Costs." It applies to Fiscal Years (FY) 2017 and beyond. This guidance supplements the Office of Management and Budget (OMB) interim guidance issued on February 2, 2017, titled "Interim Guidance Implementing Section 2 of the EO of January 30, 2017, Titled 'Reducing Regulation and Controlling Regulatory Costs.'" While OMB's Office of Information and Regulatory Affairs (OIRA) believes this guidance largely treats the subjects covered in the February 2, 2017 interim guidance in a consistent manner, where these two memoranda are in conflict, this guidance supersedes the previous guidance. It reflects OIRA's consideration of the comments received in response to the February 2, 2017, interim guidance. Comments sent by members of the public are available on Regulations.gov in docket ID OMB-2017-0002.

II. General Requirements

The guidance explains, for purposes of implementing Section 2, the following requirements:

- "Unless prohibited by law, whenever an executive department or agency . . . publicly proposes for notice and comment or otherwise promulgates a new regulation, it shall identify at least two existing regulations to be repealed." Sec. 2(a).
- "For fiscal year 2017 . . . the heads of all agencies are directed that the total incremental cost of all new regulations, including repealed regulations, to be finalized this year shall be no greater than zero, unless otherwise required by law or consistent with advice provided in writing by the Director of the Office of Management and Budget . . . ." Sec. 2(b).
- "In furtherance of the requirement of subsection (a) of this section, any new incremental costs associated with new regulations shall, to the extent permitted by law, be offset by the elimination of existing costs associated with at least two prior regulations." Sec. 2(c).

In general, executive departments or agencies ("agencies") may comply with those requirements by issuing two EO 13771 deregulatory actions (described below) for each EO 13771 regulatory action (described below). The incremental costs associated with EO 13771 regulatory actions must be fully offset by the savings of EO 13771 deregulatory actions.

In addition, agencies planning to issue one or more EO 13771 regulatory actions on or before September 30, 2017, should for each such EO 13771 regulatory action:

- Identify two existing regulatory actions the agency plans to eliminate or propose for elimination on or before September 30, 2017 in a reasonable period of time before the agency issues the EO 13771 regulatory action; and
- Fully offset the total incremental cost of such EO 13771 regulatory action as of September 30, 2017.

Guidance on the requirements of Section 3(a) is forthcoming.

Beginning with FY 2018, Section 3(d) requires the Director of OMB to identify to agencies a total amount of incremental costs (or "regulatory cap" as stated in Section 2) for all EO 13771 deregulatory and EO 13771 regulatory actions finalized during the fiscal year. The total incremental cost imposed by each agency should not exceed the agency's allowance for that fiscal year, unless required by law or approved by the Director. The total incremental cost allowance may be an increase or reduction in total regulatory cost, and will be informed by agencies' draft submissions for the *Regulatory Plan*.

Please consult with OIRA if you have any particular questions regarding the applicability or interpretation of EO 13771 not addressed in these Q&As.

Agencies should continue to comply with all applicable laws and requirements. In addition, EO 12866 remains the primary governing EO regarding regulatory planning and review. Accordingly, among other requirements, except where prohibited by law, agencies must continue to assess and consider both the benefits and costs of regulatory actions, including deregulatory actions, when making regulatory decisions, and issue regulations only upon a reasoned determination that benefits justify costs.

III. Definitions

This section provides definitions for terms used in this guidance. The definitions should not necessarily be applied to other sections of EO 13771 that this guidance does not cover, and do not replace definitions used in other EOs or statutes.

Q1. What is an "agency"?

A: An "agency," unless otherwise indicated, means any authority of the United States that is an "agency" under 44 U.S.C. 3502(1), other than those considered to be independent regulatory agencies, as defined in 44 U.S.C. 3502(5). A cabinet department is considered a single agency for purposes of EO 13771 compliance.

Q2. What is an "EO 13771 regulatory action"?

A: An "EO 13771 regulatory action" is:

(i) A significant regulatory action as defined in Section 3(f) of EO 12866 that has been finalized and that imposes total costs greater than zero; or

(ii) A significant guidance document (*e.g.*, significant interpretive guidance) reviewed by OIRA under the procedures of EO 12866 that has been finalized and that imposes total costs greater than zero.

For example, EO 13771 regulatory actions include negotiated rulemakings that are significant as defined in Section 3(f) of EO 12866, that have been finalized, and that impose total costs greater than zero.

Q3. What is a "significant guidance document"?

A: As defined in OMB's Final Bulletin for Agency Good Guidance Practices, a "significant guidance document" is a guidance document disseminated to regulated entities or the general public that may reasonably be anticipated to:

(i) Lead to an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
(ii) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
(iii) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
(iv) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in EO 12866, as further amended.

A significant guidance document does not include legal advisory opinions for internal Executive Branch use and not for release (such as Department of Justice Office of Legal Counsel opinions); briefs and other positions taken by agencies in investigations, pre-litigation, litigation, or other enforcement proceedings; speeches; editorials; media interviews; press materials; Congressional correspondence; guidance documents that pertain to a military or foreign affairs function of the United States (other than guidance on procurement or the import or export of non-defense articles and services); grant solicitations;

warning letters; case or investigatory letters responding to complaints involving fact-specific determinations; purely internal agency policies guidance documents that pertain to the use, operation or control of a government facility; internal guidance documents directed solely to other Federal agencies; and any other category of significant guidance documents exempted by an agency in consultation and concurrence with the OIRA Administrator. In the list above, "internal" policies and guidance documents do not include those that materially affect an agency's interactions with non-Federal entities, even if nominally directed only to agency personnel. For example, an internal directive to field staff on how to implement a regulatory requirement could be a significant guidance document if it satisfied any of (i) through (iv) above.

If they satisfy the definition above, modifications to existing guidance and interpretative documents would be considered significant guidance documents.

Q4. What is an "EO 13771 deregulatory action"?

A: An "EO 13771 deregulatory action" is an action that has been finalized and has total costs less than zero. An EO 13771 deregulatory action qualifies as both: (1) one of the actions used to satisfy the provision to repeal or revise at least two existing regulations for each regulation issued, and (2) a cost savings for purposes of the total incremental cost allowance. EO 13771 deregulatory actions are not limited to those defined as significant under EO 12866 or OMB's *Final Bulletin on Good Guidance Practices.*

An EO 13771 deregulatory action may be issued in the form of an action in a wide range of categories of actions, including, but not limited to:

- Informal, formal, and negotiated rulemaking;
- Guidance and interpretative documents;
- Some actions related to international regulatory cooperation; and
- Information collection requests that repeal or streamline recordkeeping, reporting, or disclosure requirements.

Significant proposed rules issued before noon on January 20, 2017, that are formally withdrawn by notice in the *Federal Register* and removed from the *Unified Agenda of Regulatory and Deregulatory Actions* may qualify as repeal actions, but do not qualify for cost savings.

Please consult with OIRA regarding other actions your agency believes should qualify as an EO 13771 deregulatory action.

Q5. What does "offset" mean?

A: The term "offset" means at least two EO 13771 deregulatory actions have been taken per EO 13771 regulatory action and that the incremental cost of the EO 13771 regulatory action has been appropriately counterbalanced by incremental cost savings from EO 13771 deregulatory actions, consistent with the agency's total incremental cost allowance.

Q6. What is a "statutorily or judicially required" rulemaking?

A: A statutorily required rulemaking is one for which Congress has provided by statute an explicit requirement and explicit timeframe for rulemaking. For example, a statute that states, an agency "shall issue nutrition labeling requirements within 10 years" of the statute's enactment date would be considered a statutorily required rule.

A judicially required rulemaking is one for which there is a judicially established binding deadline for rulemaking, including deadlines established by settlement agreement or consent decree.

Agencies should consult with OIRA to determine whether a rule falls within the definition of a statutorily or judicially required rulemaking.

Q7. What is a rule issued with respect to a "national security function" of the United States?

A: For the purposes of EO 13771, a regulation issued with respect to a national security function is a regulation that satisfies the two following requirements:

(1) The benefit-cost analysis demonstrates that the regulation is anticipated to improve national security as its primary direct benefit; and
(2) (A) For regulations the agency considers legislative rules: OIRA and the agency agree the regulation qualifies for a "good cause" exception under 5 U.S.C. 553(b)(3)(B); or (B) For other regulations (including significant guidance) the agency and OIRA agree that applying the requirements of EO 13771 to the regulation would be impracticable or contrary to public interest.

Q8. What is "total incremental cost"?

A: The term "total incremental cost" means the sum of all costs from EO 13771 regulatory actions minus the cost savings from EO 13771 deregulatory actions.

IV. Scope Questions

Q9. Which new regulations as defined in EO 13771 must be offset?

A: Agencies are required to offset EO 13771 regulatory actions issued after noon on January 20, 2017. This includes those EO 13771 regulatory actions that are rules finalizing a Notice of Proposed Rulemaking (or in certain instances an interim final rule; see Question 11 for a further discussion) issued before noon on January 20, 2017.

Agencies should use the existing significance determination process outlined in EO 12866 for determining whether an action is an EO 13771 regulatory action. Agencies should not assume that actions that appear, or have appeared, in the *Unified Agenda of Regulatory and*

Deregulatory Actions as nonsignificant have been determined by OIRA to be nonsignificant. Agencies should obtain an affirmative significance determination from OIRA before publishing regulatory actions.

Q10. How are interim and direct final rules treated?

A: In general, significant interim and direct final rules must be offset. However, a significant interim final rule or direct final rule may qualify for an exemption with respect to the timing for identifying and issuing the EO 13771 deregulatory actions.

Q11. How are significant rules that finalize interim final rules (IFR) treated?

A: If the final rule neither increases nor decreases the cost of the IFR, then the action does not need to be offset nor does it qualify as an EO 13771 deregulatory action. If the final rule includes changes that increase the cost of the IFR, then the final rule must be offset (however, if the final rule imposes only *de minimis* costs relative to the IFR, the final rule may qualify for an exemption). If the final rule reduces the cost of the IFR, then the rule and the cost savings relative to the IFR may qualify as an EO 13771 deregulatory action.

Q12. Must agencies identify EO 13771 deregulatory actions for significant advance notices of proposed rulemaking (ANPRM)?

A: No. With respect to rulemaking, the requirements of EO 13771 do not apply to pre-notice of proposed rulemaking activities such as ANPRMs.

Q13. How are regulatory actions that implement Federal spending programs or establish fees and penalties treated?

A: In general, Federal spending regulatory actions that cause only income transfers between taxpayers and program beneficiaries (*e.g.*, regulations associated with Pell grants and Medicare spending) are considered "transfer rules" and are not covered by EO 13771. Additionally, an action that establishes a new fee or changes the existing fee for a service, without imposing any new costs, does not need to be offset; nor does an action that establishes new penalties or fines or changes those already in existence.

However, in some cases, such regulatory actions may impose requirements apart from transfers, or transfers may distort markets causing inefficiencies. In those cases, the actions would need to be offset to the extent they impose more than *de minimis* costs. Examples of ancillary requirements that may require offsets include new reporting or recordkeeping requirements or new conditions, other than user fees, for receiving a grant, a loan, or a permit. Analogously, if an action reduces the stringency of requirements or conditions for transfer recipients or permit holders, the action may qualify as an EO 13771 deregulatory action. Also, an action that causes transfers that, for example, induce moral hazard or other inefficient behavior may need to be offset and an action that reduces such transfers may qualify as an EO 13771 deregulatory action.

Please consult with OIRA on these actions, especially with regards to potential distortionary costs due to transfers. See OMB Circular A-4 for a discussion of the distinction between transfers and costs generally.

Q14. How are activities treated that are associated with regulatory cooperation or international standards?

A: Regulatory activities associated with regulatory cooperation with foreign governments that reduce costs to entities or individuals within the United States, including at the border, or otherwise lower the cost of regulations on the United States economy, may qualify as EO 13771 deregulatory actions. Activities associated with standard-setting that reduce costs to entities or individuals within the United States may also qualify as EO 13771 deregulatory actions. However, agency actions to harmonize with the standards of an international body or foreign government that increase costs on United States entities or individuals may need to be offset. OIRA recognizes such harmonization could also lead to operating efficiencies for businesses that agencies may be able to capture in their analysis of the benefits and costs of EO 13771 actions.

Agencies should consult OIRA on how to treat specific regulatory activities related to regulatory cooperation or international standard-setting.

Q15. Do regulatory actions overturned by subsequently enacted laws qualify for savings?

A: Generally, yes. OIRA considers Acts of Congress that overturn final regulatory actions, such as disapprovals of rules under the Congressional Review Act, to operate in a similar manner as agency EO 13771 deregulatory actions.

Q16. Do regulatory actions that are vacated or remanded by a court qualify as EO 13771 deregulatory actions?

A: If a regulatory action issued before noon on January 20, 2017, is vacated by a judicial order for which all appeals have been resolved, OIRA will consider on a case-by-case basis whether the regulatory action being vacated qualifies as an EO 13771 deregulatory action.

If an EO 13771 regulatory action was issued on or after noon on January 20, 2017, any judicial order for which all appeals have been resolved vacating the regulatory action, and any related subsequent agency action (such as a withdrawal of a vacated regulation from the Code of Federal Regulations in order to comply with the order), will not qualify as an EO 13771 deregulatory action. Any EO 13771 deregulatory actions used to offset a vacated EO 13771 regulatory action, however, would be available to offset other EO 13771 regulatory actions (after accounting for any sunk costs incurred in complying with the vacated action).

If a court permits a regulatory action to remain in effect after a judicial remand for further agency proceedings, such as through remand without vacatur, the remanded action remains in effect. Therefore, there is no action at the time of remand that could qualify as an EO 13771

deregulatory action. In the same way that an agency complies with EO 12866 when issuing a subsequent agency action to revise a remanded regulatory action, an agency will similarly need to comply with EO 13771. A subsequent agency action may qualify as an EO 13771 deregulatory action if the subsequent agency action is deregulatory in nature, or may need to be offset if the action is a significant regulatory action that is final and that imposes costs (*i.e.*, an EO 13771 regulatory action).

Agencies should notify OIRA of any judicial decisions that affect regulatory actions subject to EO 13771.

Q17. What happens if an EO 13771 deregulatory action is remanded or vacated by a court?

A: As in the answer to the previous question, OIRA recognizes the inherent case-by-case nature of the issues raised by the potential remand or vacatur of an EO 13771 deregulatory action. For example, such decisions may happen years after a rule is finalized, and may affect compliance with both the cost allowances and the repeal provisions established pursuant to EO 13771. The agency should contact OIRA to determine how a remand or vacatur of an EO 13771 deregulatory action affects the agency's obligations under EO 13771.

Q18. Does EO 13771 apply to significant regulatory actions in which the law prohibits the consideration of costs in determining a statutorily required standard?

A: Because EO 13771 applies only to the extent permitted by law, agencies are still required to comply with their statutory obligations. Accordingly, if a statute prohibits consideration of cost in taking a particular regulatory action, EO 13771 does not change the agency's obligations under that statute. However, agencies will generally be required to offset the costs of such regulatory actions through other deregulatory actions taken pursuant to statutes that do not prohibit consideration of costs. Because each agency's obligations will differ depending on the particular statutory language at issue, these issues must be addressed on a case-by-case basis.

Please consult with OIRA regarding questions about particular statutory language and its relationship to EO 13771.

Q19. How do the requirements of EO 13771 apply to significant regulatory actions issued by one agency that do not have the force and effect of law until adopted, with or without change, by another agency?

A: Because the agency authorities that establish such sequential or otherwise overlapping regulatory responsibilities differ by program, these actions will need to be handled on a case-by-case basis. However, agencies in these circumstances should always work together to avoid double-counting costs and cost savings; they should also work together as closely as possible when developing regulatory approaches for such programs. In cases where one agency's action does not qualify as an EO 13771 regulatory action because it is not a significant regulatory action under EO 12866, associated actions by other agencies may still be covered by EO 13771.

Q20. Does EO 13771 apply to regulatory actions of independent regulatory agencies?

A: No. EO 13771 applies only to those agencies that meet the definition of "agency" in this guidance. Nevertheless, independent regulatory agencies are encouraged to identify existing regulations that, if repealed or revised, would achieve cost savings that would fully offset the costs of significant regulatory actions while continuing to meet the agency's statutory obligations.

V. Accounting Questions

Q21. How should costs and cost savings be measured?

A: Except where noted in other portions of this guidance, costs should be estimated using the methods and concepts appearing in OMB Circular A-4. There are several types of impacts that, under OMB Circular A-4, could be reasonably categorized as either benefits or costs, with the only difference being the sign (positive or negative) on the estimates. In most cases where there is ambiguity in the categorization of impacts, agencies should conform to the accounting conventions they have followed in past analyses. For example, if medical cost savings due to safety regulations have historically been categorized as benefits rather than reduced costs, they should continue to be categorized as benefits for EO 13771 regulatory actions. Identifying cost savings, such as fuel savings associated with energy efficiency investments, as benefits is a common accounting convention followed in OIRA's reports to Congress on the benefits and costs of Federal regulations.

Cost savings estimates for EO 13771 deregulatory actions should follow the same conventions, but in reverse. Only those impacts that have been traditionally estimated as costs when taking a regulatory action should be counted as cost savings when taking an EO 13771 deregulatory action. For example, the medical cost savings described above as historically being counted as benefits when regulating should not then be counted as "negative cost savings" when deregulating.

An agency that has used different accounting conventions across different past analyses should consult with OIRA regarding the categorization of ambiguous impacts. In general, when faced with ambiguity, OIRA will attempt to achieve greater consistency in the categorization of similar types of costs and benefits across different agencies.

OIRA notes that rules that cause an increase in the resources used by Federal agencies to accomplish their programmatic goals may need to be offset, and rules that reduce the real resources used by Federal agencies to accomplish their goals may qualify as EO 13771 deregulatory actions. These types of impacts have long been considered regulatory costs under OMB Circular A-4, and are a component of the costs OIRA includes in its reports to Congress on the benefits and costs of Federal regulations.

For EO 13771 deregulatory actions that revise or repeal recently issued rules, agencies generally should not estimate cost savings that exceed the costs previously projected for the

relevant requirements, unless credible new evidence show that costs were previously underestimated. On the other hand, a less recent regulatory impact analysis (RIA) may need revision to reflect, among other things, the fact that only costs occurring after the effective date of the regulatory repeal should be the basis for the cost savings estimate (*i.e.*, agencies should not count sunk costs). Where an agency believes it can significantly improve upon a prior cost estimate, especially a recent one, through methodological enhancements, the agency should first discuss those methodologies with OIRA.

Q22. How should cost savings be determined for regulatory actions that expand consumption and/or production options?

A: For regulatory actions that expand consumption and/or production options—sometimes referred to as "enabling" regulatory actions or regulations—cost savings should include the full opportunity costs of the previously forgone activities. Opportunity cost in this context would equal the sum of consumer and producer surplus, minus any fixed costs. See OMB Circular A-4 for a more detailed discussion of these concepts.

Generally, "one-time" regulatory actions (*i.e.*, those actions that are not periodic in nature) that expand consumption and/or production options would qualify as EO 13771 deregulatory actions.

There may be situations where this approach for determining the cost offsets generated by an enabling regulatory action is inappropriate. For instance, this approach may not be appropriate in certain circumstances where, if an agency were to fail to issue a regulatory action, a significant existing and ongoing economic activity would be prohibited. See Question 26. Cost offsets for such regulatory actions will be determined on a case-by-case basis.

Please consult with OIRA on all such non-routine regulations.

Q23. How does Executive Order 13771 apply to routine hunting and fishing regulatory actions?

A. Routine hunting and fishing regulatory actions that establish annual harvest limits are not required to be offset, and are not eligible to be used as cost savings. This includes migratory bird hunting frameworks under the Migratory Bird Treaty Act and fishery management plans and amendments under the Magnuson-Stevens Fishery Conservation and Management Act. This exemption does not apply to regulatory actions that affect hunting and fishing activity that are not routine regulatory actions.

Q24. What base year should agencies use?

A: Agencies should adjust all estimates to 2016 dollars using the GDP deflator, as released on March 30, 2017, until further guidance is provided by OIRA.

Q25. How should agencies calculate cost and cost savings for the purpose of EO 13771 accounting?

A: Agencies should calculate the present value (as of 2016) of costs for EO 13771 regulatory actions and cost savings for EO 13771 deregulatory actions over the full duration of the expected effects of the actions using both 7 percent and 3 percent end-of-period discount rates.

Q26. In determining costs and cost savings under EO 13771, how should regulatory baselines be determined?

A: For the most part, agencies should follow the guidance about regulatory baselines provided in OMB Circular A-4. However, there can be uncertainty, which is recognized in OMB Circular A-4, regarding how best to capture the directive to assess impacts against the state of the world in the absence of the regulation. Provided below are two cases in which this uncertainty, or other challenges arising in the context of OMB Circular A-4, have often been addressed by performing analyses with multiple baselines. In each of these cases, OIRA has also provided guidance about how to determine costs or cost savings for the purposes of EO 13771:

(1) When a regulatory action finalizes an interim final rule (IFR), agencies are typically encouraged to present two sets of estimates: the overall regulatory impacts and the incremental impacts relative to the IFR. For purposes of determining costs or available cost savings under EO 13771, agencies finalizing an IFR should include only the incremental impacts of the final rule, relative to the IFR.

(2) There are multiple Federal programs and policies—such as discharge general permitting under the Clean Water Act or Medicare quality performance tracking—that are updated or renewed at regular intervals via rulemaking. Because these updates reliably occur, an assessment of the incremental changes between the previous and updated programs is often much more informative than a comparison of the updated programs against hypothetical discontinuance. Although multiple-baseline analysis is likely to continue to be encouraged in such cases for analysis conducted under EO 12866, for purposes of EO 13771, costs or cost savings should be determined by the incremental changes between previous and updated programs. For example, if an agency is statutorily or judicially required to issue a regulation every five years to permit or prohibit an activity, and the agency previously issued a regulation to address the requirement, the appropriate baseline to use for estimating the costs or cost savings of the new regulation under EO 13771 is likely the existing regulation (or interim operating conditions if there is temporarily no regulation in effect).

Please consult with OIRA if you have questions regarding the appropriate baseline upon which to calculate costs or cost savings.

Q27. How should agencies treat unquantified costs and cost savings?

A: As stated in OMB Circular A-4, agencies should use their best efforts to monetize the effects of both regulatory actions and deregulatory actions and, in some cases, significant guidance documents. Depending on the likely magnitude of the effects, such efforts may include conducting or sponsoring studies to develop monetized estimates. In proposed/draft regulatory actions expected to lead to EO 13771 regulatory actions or EO 13771 deregulatory actions agencies should, at a minimum, clearly identify any non-monetized costs or cost savings, explain the key reason(s) why monetization is not possible, discuss any information the agency has that is relevant to estimating such costs, and request information from the public to monetize such costs at the final stage.

The weight assigned to unquantified effects will depend on their significance and degree of certainty, and will be handled on a case-by-case basis. See OMB Circular A-4 for more information on unquantified costs.

Q28. How should agencies treat EO 13771 regulatory actions and EO 13771 deregulatory actions published by multiple agencies?

A: These will be handled on a case-by-case basis. Agencies should consult OIRA as early as possible to determine the appropriate treatment of the action.

Q29. Can agencies "bank" cost savings and deregulatory actions?

A: Yes. Agencies may bank both EO 13771 deregulatory actions and the associated cost savings for use in the same or a subsequent fiscal year towards EO 13771's requirement to identify at least two existing regulations to be repealed (unless prohibited by law) and, separately, to comply with the total incremental cost allowance. Surplus EO 13771 deregulatory actions and cost savings do not expire at the end of a fiscal year and can be used in subsequent fiscal years.

For example, if an agency issues four EO 13771 deregulatory actions, the agency may apply them to up to two subsequent EO 13771 regulatory actions, including those occurring in a future fiscal year. Regardless, at the end of each fiscal year, an agency must be able to identify, and should have finalized, twice as many EO 13771 deregulatory actions as EO 13771 regulatory actions.

Similarly, if an agency issues two EO 13771 deregulatory actions with total cost savings of $200 million to offset the cost of an EO 13771 regulatory action with a cost of $150 million, the agency may bank the surplus cost savings of $50 million to offset the cost of another EO 13771 regulatory action, regardless of when the latter action is issued. See Questions 24 and 25 for accounting conventions that allow for appropriate comparison of costs and cost savings experienced at different time periods.

Q30. Can EO 13771 deregulatory actions (and associated cost savings) be transferred within an agency?

A: Yes. The requirements of EO 13771 apply agency-wide. An EO 13771 deregulatory action issued by a component in one agency can be used to offset an EO 13771 regulatory action issued by a different component in that same agency.

Q31. Can EO 13771 deregulatory actions (and associated cost savings) be transferred between agencies?

A: An agency that is not able to identify sufficient EO 13771 deregulatory actions for an EO 13771 regulatory action it intends to issue may submit a written request to the Director of OMB to assess whether the transfer of EO 13771 deregulatory action credits (after consultation with the supplying agency) would be appropriate before submitting the EO 13771 regulatory action to OMB for review under EO 12866. However, if the transfer is not appropriate, the agency must identify adequate offsets absent an exemption.

VI. Process Questions

Q32. How does EO 13771 affect the consideration of regulatory benefits or other requirements under EO 12866?

A: EO 13771 does not change the requirements of EO 12866, which remains the primary governing EO regarding regulatory review and planning. In particular, EO 13771 has no effect on the consideration of benefits in informing any regulatory decisions. For all EO 13771 regulatory actions and EO 13771 deregulatory actions, except where prohibited by law, agencies must continue to assess and consider both benefits and costs and comply with all existing requirements and guidance, including but not limited to those in EO 12866 and OMB Circular A-4.

Q33. Which EO 13771 regulatory actions might qualify for a full or partial exemption from EO 13771 requirements?

A: The following categories of EO 13771 regulatory actions may qualify for a full or partial exemption from EO 13771's requirements: 1) expressly exempt actions; 2) emergency actions; 3) statutorily or judicially required actions; and 4) *de minimis* actions. These categories are not exhaustive. For any EO 13771 regulatory action an agency believes qualifies for an exemption under any of the circumstances provided below, agencies should submit exemption requests to OIRA prior to submitting the action to OMB for review under EO 12866 or prior to publication of the EO 13771 regulatory action if it was not subject to EO 12866 review.

- Expressly exempt – EO 13771 expressly exempts regulations issued with respect to a military, national security (see Question 7 above), or foreign affairs function, and regulations related to agency organization, management, or personnel. These actions qualify for a full exemption. See 5 USC 553.

- Emergencies – EO 13771 regulatory actions addressing emergencies such as critical health, safety, financial, non-exempt national security matters, or for some other compelling reason, may qualify for an exemption. In most cases, exemptions for such rules will be granted with respect to the timing of required offsets, allowing the agency to address the emergency before identifying and issuing EO 13771 deregulatory actions. Agencies will generally still be required to offset such actions. If necessary, the costs of such actions, and the requirement to identify for repeal at least two existing regulations, will be moved to the subsequent fiscal year for purposes of determining EO 13771 compliance.
- Statutorily or judicially required – EO 13771 does not prevent agencies from issuing regulatory actions in order to comply with an imminent statutory or judicial deadline, even if they are not able to satisfy EO 13771's requirements by the time of issuance. However, agencies will be required to offset any such EO 13771 regulatory actions as soon as practicable thereafter. In addition, this flexibility may not apply to discretionary provisions attached to EO 13771 regulatory actions required to comply with statutory or judicial deadlines.
- *De minimis* – EO 13771 regulatory actions with *de minimis* costs may qualify for an exemption. For example, if OIRA designates a proposed rule as significant under EO 12866 because it raises novel legal or policy issues, and the agency estimates the action would have present value costs of $50,000 spread over a large number of persons and/or entities, OIRA may exempt the action from some or all of the requirements of EO 13771.

Q34. Is a significant final regulatory action exempt from the requirements of EO 13771 if the action was designated not significant at a prior stage?

A: Generally, no. Any regulatory action that is identified as significant at the final rule stage that imposes total costs greater than zero would need to be offset to comply with EO 13771, regardless of the determination in an earlier phase. Therefore, the agency should consult OIRA as soon as possible if it believes an action that was not determined to be significant at the draft or proposed rule stage may now be determined to be significant, perhaps due to substantive issues identified through public comment or further agency analysis.

Q35. How should agencies prioritize existing requirements to repeal or revise?

A: Agencies should follow the requirements in EO 13777 for prioritizing existing requirements to repeal or revise. EO 13777 establishes Regulatory Reform Task Forces in agencies, and directs those task forces to evaluate existing regulations and make recommendations to the agency head regarding their repeal, replacement, or modification, consistent with applicable law. EO 13777 directs each Regulatory Reform Task Force to identify regulations that:

- Eliminate jobs, or inhibit job creation;
- Are outdated, unnecessary, or ineffective;
- Impose costs that exceed benefits;
- Create a serious inconsistency or otherwise interfere with regulatory reform initiatives and policies;

- Are inconsistent with the requirements of section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516 note), or the guidance issued pursuant to that provision, in particular those regulations that rely in whole or in part on data, information, or methods that are not publicly available or that are insufficiently transparent to meet the standard for reproducibility; or
- Derive from or implement EOs or other Presidential directives that have been subsequently rescinded or substantially modified.

EO 13777 further directs each Regulatory Reform Task Force to seek input and other assistance, as permitted by law, from entities significantly affected by Federal regulations, including State, local, and tribal governments, small businesses, consumers, non-governmental organizations, and trade associations. Input from such public engagement may be used to prioritize recommendations to repeal or revise.

Finally, where the costs of an EO 13771 regulatory action will be incurred entirely or to a large degree by a certain sector or geographic area, the agency should prioritize EO 13771 deregulatory actions that affect the same sector or geographic area, to the extent feasible and permitted by law.

Q36. Can regulatory and deregulatory actions be bundled in the same action?

A: Yes, under certain circumstances. Many actions submitted to OIRA for review under EO 12866 consist of logically connected changes to multiple but related sections of the Code of Federal Regulations. For example, a rule exempting some categories of regulated entities from compliance with a previously issued regulation may also require eligible entities to submit additional documentation to demonstrate eligibility for the exemption. In these cases, it may be legitimate and appropriate to pursue such changes through a single "bundled" action, and this guidance is not meant to materially change agency decision making in this area. Where an agency combines such provisions, the cost impact (the difference between costs imposed and cost savings, per Question 21) of such rules will generally determine whether such actions are EO 13771 regulatory actions that need to be offset, or EO 13771 deregulatory actions. Agencies, however, should avoid artificially bundling provisions that are not logically connected in a single regulatory action. OIRA may determine that the regulatory and deregulatory portions of the rule should be considered separately for purposes of EO 13771 compliance.

Agencies should consult with OIRA when considering bundling regulatory and deregulatory actions.

Q37. When and how should agencies identify EO 13771 deregulatory actions?

A: The agency's *Unified Agenda of Regulatory and Deregulatory Actions* should reflect compliance with the requirements of EO 13771, and should include, to the extent practicable, EO 13771 deregulatory actions that, when combined with EO 13771 deregulatory actions that are not regulations (such as Paperwork Reduction Act information collection reforms), are sufficient to offset those actions appearing in the Agenda that are or are expected to result

in EO 13771 regulatory actions. At a minimum, the agency should identify all EO 13771 deregulatory actions, along with cost savings estimates, by the time it submits to OMB for review under EO 12866 the corresponding EO 13771 regulatory action. In the rare event that an agency is unable to identify sufficient EO 13771 deregulatory actions, OIRA will address such a situation on a case-by-case basis.

While each *Federal Register* notice should identify whether the regulation is an EO 13771 regulatory action, there is no need to discuss specific offsetting EO 13771 deregulatory actions within the same *Federal Register* entry. Additionally, offsetting the costs of regulatory actions to comply with the requirements of EO 13771 should not serve as the basis or rationale, in whole or in part, for issuing an EO 13771 deregulatory action.

Q38. When must identified EO 13771 deregulatory actions be finalized?

A: To the extent practicable, agencies should issue EO 13771 deregulatory actions before or concurrently with the EO 13771 regulatory actions they are intended to offset. By the end of each fiscal year, including any carryover from previous fiscal years, agencies should have: (1) issued at least twice the number of EO 13771 deregulatory actions as EO 13771 regulatory actions; and (2) appropriately offset the cost of all final EO 13771 regulatory actions issued. The offset should be consistent with their respective total incremental cost allowance for future fiscal years, and agencies are expected to maintain compliance, to the extent practicable, throughout the year. These requirements exclude those EO 13771 regulatory actions issued during the year for which either law prohibits compliance with EO 13771 or the agency received an exemption from OIRA. When an agency receives a partial exemption from OIRA (*e.g.*, with respect to the timing of EO 13771 deregulatory actions), the requirements should be addressed as soon as practicable. Agencies should plan in advance and leave sufficient time, if necessary, for OIRA to complete its review under EO 12866 or the Paperwork Reduction Act, and for agencies to publish in the *Federal Register* any EO 13771 deregulatory actions needed to comply with EO 13771 before the end of each fiscal year.

Q39. What happens if an agency is not in full compliance with the requirements of EO 13771 at the end of a fiscal year?

A: If, by the end of a fiscal year, an agency does not finalize at least twice as many EO 13771 deregulatory actions as EO 13771 regulatory actions issued during the fiscal year, or has not met its total incremental cost allowance for that fiscal year, the agency must, within 30 days of the end of the fiscal year, submit for the OMB Director's approval, a plan for coming into full compliance with EO 13771 that addresses each of the following:

(1) The reasons for, and magnitude of, non-compliance;
(2) How and when the agency will come into full compliance; and
(3) Any other relevant information requested by the Director.

This excludes EO 13771 regulatory actions that are exempt or where compliance with EO 13771 is prohibited by law.

OMB may recommend that an agency take additional steps to achieve compliance, such as publishing a notice in the *Federal Register* requesting ideas from the public on EO 13771 deregulatory actions to pursue. OMB may also request that agencies post plans approved by the Director.

This guidance is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

Ms. BONAMICI. We also must recognize the consequences of deregulation. In fact in August the Regulatory Impact Analysis for the Trump Administration's rollback of the Clean Power Plan, which is also known as the Affordable Clean Energy Rule, was released to the public with a shocking conclusion. In fact, a New York Times headline says it all: "Cost of new EPA coal rules up to 1,400 more deaths a year." These estimates were from the EPA's own technical analysis. I request unanimous consent to enter this article into the record.

Mr. ABRAHAM. Without objection.

[The information follows:]

The New York Times

Cost of New E.P.A. Coal Rules: Up to 1,400 More Deaths a Year

By Lisa Friedman

Aug. 21, 2018

Want climate news in your inbox? Sign up for our Climate Fwd: newsletter.

WASHINGTON — The Trump administration has hailed its overhaul of federal pollution restrictions on coal-burning power plants as creating new jobs, eliminating burdensome government regulations and ending what President Trump has long described as a "war on coal."

The administration's own analysis, however, revealed on Tuesday that the new rules could also lead to as many as 1,400 premature deaths annually by 2030 from an increase in the extremely fine particulate matter that is linked to heart and lung disease, up to 15,000 new cases of upper respiratory problems, a rise in bronchitis, and tens of thousands of missed school days.

Officials at the Environmental Protection Agency, which crafted the regulation, said that other rules governing pollution could be used to reduce those numbers.

"We love clean, beautiful West Virginia coal," Mr. Trump said at a political rally Tuesday evening in West Virginia, the heart of American coal country. "And you know, that's indestructible stuff. In times of war, in times of conflict, you can blow up those windmills, they fall down real quick. You can blow up pipelines, they go like this," he said, making a hand gesture. "You can do a lot of things to those solar panels, but you know what you can't hurt? Coal."

Nevertheless, Tuesday's release of the rule along with hundreds of pages of technical analysis for the first time acknowledged that the rollback of the pollution controls would also reverse the expected health gains from the tougher regulations.

A similar analysis by the E.P.A. of the existing rules, which were adopted by the Obama administration, calculated that they would prevent between 1,500 and 3,600 premature deaths per year by 2030, and would reduce the number of school days missed by 180,000 annually.

The Trump administration proposal, called the Affordable Clean Energy rule, would replace the stricter Obama-era regulations that were designed to fight global warming by forcing utilities to switch to greener power sources, but which Mr. Trump, the coal industry and electrical utilities have criticized as overly restrictive.

But the supporting documents show that the E.P.A. expects it to allow far more pollutants into the atmosphere than the regulation it would supersede, the Clean Power Plan.

The Trump administration has made deregulation a centerpiece of its political strategy, and the E.P.A. has led the charge. The proposed weakening of the rules on coal-burning plants follows a plan to let cars emit more pollution. Transportation and the power sector are the two largest contributors of carbon emissions.

The data detailing the health effects of the coal-plant rules is the product of a longstanding E.P.A. requirement that new regulatory proposals go through a rigorous assessment. But as the agency works to roll back regulations on industry, it has also taken steps to sharply restrict the way it uses data to assess its own proposals.

Critics say that these changes could make it more difficult to perform calculations like the one that the E.P.A. made public on Tuesday. As a result, the costs and benefits of sweeping new rules like these would be harder to assess.

The numbers in both the analysis of the Clean Power Plan and its likely successor, the Affordable Clean Energy rule, are derived from an intricate three-part modeling system that the E.P.A. has used for decades to calculate the benefits and drawbacks of pollution regulation. The premature mortality numbers used in those models draw from a landmark Harvard University study, known as Six Cities, that definitively linked air pollution to premature deaths.

Ultimately that study formed the backbone of the kind of federal air pollution regulations now being weakened. Today, however, the Six Cities study itself is under attack at the E.P.A.

The agency is considering a separate rule that would restrict the use of any study for which the raw, underlying data cannot be made public for review. The argument for the rule is that the research work isn't sufficiently transparent if the data behind it isn't available for analysis.

But scientists overwhelmingly oppose the move, pointing out that participants in long-term health studies typically agree to take part only if their personal health information won't be made public.

If the E.P.A. finalizes that rule, it would restrict the use of one of the main pieces of research that ties pollution to premature death, potentially making it easier for future E.P.A. assessments of health impact to assign a lower premature death rate by instead using other research.

"What it would do is change the understanding of the benefits, or in this case the disbenefits, of a particular rule-making," said Paul Billings, senior vice president for public policy at the American Lung Association. "It would exclude that important piece of information."

The E.P.A.'s analysis of the new Trump administration plan does include premature death calculations based on studies that are considered less comprehensive than the Six Cities study. Those analyses start at the possibility of an extra eight to 25 deaths a year under Mr. Trump's climate plan.

The E.P.A. didn't respond to questions about its proposal to limit the scientific research used in its assessment.

At its heart, the administration's Affordable Clean Energy rule will give individual states vast authority to set more modest goals and to regulate emissions from coal plants as they see fit. Critics assailed it on Tuesday as a shortsighted effort that could set back the effort to tame global warming.

"The Trump administration sees political value in this rollback, but our health and the economic promise of clean energy is at stake," former Vice President Al Gore said in a statement.

Trump administration officials say the Clean Power Plan, in its effort to reduce carbon emissions, illegally tried to force electric utilities to use greener energy sources. The new plan, they said, would achieve many of the benefits sought by the Obama administration but in a way that is legal and allows states greater flexibility.

"However much people may want E.P.A. to regulate power grids, however much people may want E.P.A. to demand that renewables be built instead of coal plants, we do not have that authority," said William J. Wehrum, the E.P.A.'s air chief, on Tuesday.

A former coal industry attorney, Mr. Wehrum said that the agency had the authority only to "regulate emissions from things that emit" and not try to direct the broader direction of energy development.

Andrew R. Wheeler, the E.P.A.'s acting administrator, said on Tuesday: "We are proposing a better plan. It respects the rule of law and will enable states to build affordable, clean, reliable energy portfolios."

The administration's proposal lays out several possible pathways that individual states might use for regulating coal-fired power plants, and what the consequences would be for pollution and human health in each case. In the scenario the E.P.A. has pegged as the most likely to occur, the health effects would be significant.

It is in that scenario where the E.P.A. estimates its plan will see between 470 and 1,400 premature deaths annually by 2030 because of increased rates of microscopic airborne particulates known as PM 2.5, which are dangerous because of their link to heart and lung disease as well as their ability to trigger chronic problems like asthma and bronchitis.

The Trump administration analysis also found that its plan would see 48,000 new cases of what it described as "exacerbated asthma," and at least 21,000 new missed days of school annually by 2030 because of an increase of pollutants in the atmosphere.

Mr. Wehrum acknowledged Tuesday that there would be "collateral effects" on traditional pollutants compared to what the Clean Power Plan might have achieved. But, he said, "We have abundant legal authority to deal with those other pollutants directly, and we have aggressive programs in place that directly target emissions of those pollutants."

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A version of this article appears in print on Aug. 22, 2018, on Page A1 of the New York edition with the headline: Cost of E.P.A.'s Pollution Rules: Up to 1,400 More Deaths a Year

READ 773 COMMENTS

Ms. BONAMICI. Thank you, Mr. Chairman.

The pollutants, including carbon dioxide, nitrogen oxides, and particulate matter, are similar to those that would increase should glider regulations be rolled back.

Mr. Long, my uncle was a long-haul truck driver and, like Representative Beyer said, he's a small-business owner. We hear those concerns. We want to make sure that this committee can work on addressing those concerns without jeopardizing public health and the environment.

Also, Mr. Chairman, Mr. Posey suggested that the EPA lab testing was somehow compromised because a check engine light was on one of the glider vehicles when it arrived at the facility. However, the EPA report fully acknowledges this and details that it was a result of oil in a connector—a connector of oil temperature sensor, and that was cleaned, reinstalled, and repaired prior to the testing. The issue did not reappear for the remainder of the testing, so implications that the study was compromised because of this are therefore demonstrably false. And I'd like to enter that EPA report into the record.

Mr. ABRAHAM. Without objection.

[The information follows:]

Chassis Dynamometer Testing of Two Recent Model Year Heavy-Duty On-Highway Diesel Glider Vehicles

November 20, 2017

National Vehicle & Fuel Emissions Laboratory
U.S. Environmental Protection Agency
Ann Arbor, Michigan

Table of Contents

1. Executive Summary

This report summarizes the results from emissions testing of a 2016 model year (MY) Peterbilt 389 sleeper cab tractor and a 2017 MY Peterbilt 579 sleeper cab tractor that were produced as glider vehicles (i.e., a vehicle with a new chassis and a used powertrain). In addition, these glider test results are compared to equivalent tests of conventionally manufactured 2014 and 2015 MY tractors.

The glider vehicles tested include one of the more popular engine and vehicle configurations currently being produced as glider vehicles. These results are useful in evaluating the emission impacts of glider vehicles, and the observations made in this report are consistent with the expected emissions performance of heavy-duty highway diesel engines manufactured in the 1998-2002 timeframe.

The criteria pollutant emissions (NOx, PM, HC, CO) from the 2016 MY Peterbilt 389 and 2017 Peterbilt 579 glider vehicles were consistently higher than those of the conventionally manufactured 2014 and 2015 tractors. The extent to which this occurred depended on the pollutant and the test cycle.

- Under highway cruise conditions, NOx emissions from the Peterbilt 389 and Peterbilt 579 glider vehicles were approximately 43 times as high, and PM emissions were approximately 55 times as high as the conventionally manufactured 2014 and 2015 MY tractors.
- Under transient operations, absolute NOx and PM emissions were higher for the Peterbilt 389 and Peterbilt 579 glider vehicles on all duty cycles. On a relative basis, the glider vehicle NOx emissions were 4-5 times higher, and PM emissions were 50-450 times higher than the conventionally manufactured 2014 and 2015 MY tractors.
- HC and CO emissions for the Peterbilt 389 and Peterbilt 579 glider vehicles were also significantly higher than the conventionally manufactured 2014 and 2015 MY tractors on a relative basis. However, on an absolute basis, they appear to be less of a concern than the NOx and PM emissions.
- CO_2 emissions from the Peterbilt 389 and Peterbilt 579 glider vehicles were lower than the conventionally manufactured vehicles when measured on the chassis dynamometer without taking into account the differences in the aerodynamic drag between the vehicles.

Ms. BONAMICI. Thank you, Mr. Chairman.

Dr. Miller, thank you for your testimony. What is your assessment of the claim that Regulatory Impact Analyses are not necessary for deregulatory actions? And based on your expertise, what might a Regulatory Impact Analysis demonstrate for the proposed rollback of glider regulations?

Dr. MILLER. I guess you noted OMB guidance—I think OMB circular A–4 in addition requires that regulatory and deregulatory actions all go through a regulatory impact assessment. And I think in this case, based on the number of excess emissions from glider vehicles with pre-controlled engines, especially the most popular pre-2002 engines, you're talking about potential implications of up to 1,600 avoided premature deaths, and the costs of that is about $11 billion. When associated with the excess emissions of about 5,000 glider trucks, if you do the math, that's a foregone health benefit of about $1.1 million per truck. And that's what a regulatory impact assessment of rolling back this loophole repeal would show.

I would also like to state very quickly in this context of only two trucks, California also did roadside monitoring entered into the rulemaking docket that's very consistent with the EPA dynamometer tests in the lab, and so there is backing for that as well.

And I'd also like to emphasize the physical implausibility of an engine with no emission controls being as clean as an engine with modern emission controls. It defies physical explanation. The comment that sulfate emissions are reduced by 98 percent is technically true but irrelevant. Sulfate emissions—primary sulfate emissions out of a diesel engine are only a few percent of total particulate emissions. Most of it is carbon-based with toxic metals, organics. Sulfate is only a small part. The reason for lower——

Ms. BONAMICI. Dr. Miller, I want to get one more—I don't want to interrupt, but I want——

Dr. MILLER. Sorry.

Ms. BONAMICI. —interrupt, but I want to get one more——

Dr. MILLER. All right. Sorry.

Ms. BONAMICI. —question in the remaining time. I noticed in your impressive bio that you have not only a science background but a law degree, so I wanted to ask you, the proposed EPA rule published in November of 2017 justified a repeal on restrictions on glider vehicle production by claiming that glider vehicles and engines do not constitute new motor vehicles or engines according to the Clean Air Act. What's your response to that?

Dr. MILLER. I think it defies the purpose of the Clean Air Act. It's going through a legal contortion interpretation to undermine the general purpose Congress set out in the beginning of the Clean Air Act that it is to protect the Nation's air resources and protect public health and environment. You really have to go through contortions looking at, for example, a 1958 consumer protection information law to try to get around the—you know, if it looks like a duck and it quacks like a duck, it's probably a duck. These are new engines. These are new vehicles—with old engines, excuse me, installed, and they are meant to circumvent the post-2010 emission standards. They're advertised as pre-emissions, and it's the huge portion of our emissions inventory.

If these emissions are out there, our own local businesses are going to incur costs at two, maybe three, maybe four, maybe greater times to compensate for those emissions that we're going to have to reduce, so those are additional costs we have to deal with.

Ms. BONAMICI. Thank you. I see my time is expired. I yield back. Thank you, Mr. Chairman.

Mr. ABRAHAM. Thank you. I recognize myself for five minutes.

I'm a physician by trade, and I was taught very early in medical school when you review a scientific article to look at the author, whether there's bias or not, and look at the sample size. And I think in this particular EPA study there's certainly a credibility issue as far as size and possible bias.

Dr. Belzer, I'll ask you. In my testimony I've got 800 independent and small-business truckers who, you know, their business, their livelihood depends on these trucks. What's the estimated price difference between a glider and a new truck? That's for you, Dr. Belzer.

Dr. BELZER. It's my understanding that it is 25 to 30 percent. It was a quarter to a third less expensive for a glider than a new truck, and therefore, a new truck would be about 40 percent more expensive than a glider.

Mr. ABRAHAM. So if the EPA imposes these regulations that eliminate the cost-competitive option like these glider kits, is it safe to assume that the price for new trucks would go up?

Dr. BELZER. I don't know. I think that it might. I think that it depends on the proportion of sales involved. I suspect that the number of glider buyers who would go to buy new trucks is very small and that they would tend toward buying used trucks or rehabilitating their existing ones. I don't think that the numbers of gliders is very large compared to the total number of heavy-duty class eight trucks being sold, so it's possible that the price could go up, but it's hard to tell how much that would be. I think the likely effect is elsewhere.

Mr. ABRAHAM. Okay. And the likelihood of a glider owner having to go buy a new truck or actually buying a new truck is probably not significant?

Dr. BELZER. Well, that is the key question. I believe that what EPA did in its paragraph of analysis is it assumed that that's exactly what they would do and they would do nothing else. Now to be clear, I can't tell what they did because they don't disclose their model, but it is consistent with the estimated emissions, the reported emissions that are being bandied about, that they've taken the 5,000 or 10,000 gliders and replaced them with brand-new trucks. That would not happen in the market.

Mr. ABRAHAM. Okay. Mr. Long, in your testimony you mentioned the growing popularity of glider trucks and how they play a great role in keeping the market stable and competitive. How does that EPA Phase 2 regulations on the glider industry impact the availability and affordability of truck equipment?

Mr. LONG. I'm not sure we've really seen an impact yet, but it's certainly going to affect how our drivers view decisions down the road on what to purchase, which they quite frankly have to face continuously. I mean, a truck can go south pretty quickly, and they'll be forced to purchase a new vehicle. The problem is most of

our members can no longer afford new vehicles because of all the equipment that are associated with emissions reductions, technology that have been placed on them by the government.

So also touching on what Ranking Member Bonamici had to say is that a lot of these members are forced to drive their current trucks into the ground before they even consider replacing them. These aren't necessarily any cleaner than a glider kit, which they can at least specify with better aerodynamics, better fuel efficiency, so it really isn't—the choice for our members is whether or not they continue with their current truck and try and get every mile out of it, whether they buy a new—excuse me, a used truck or whether they purchase a glider kit because they simply can't afford new trucks at this point.

Mr. ABRAHAM. Thank you. Ms. Tsang, in the case of glider trucks, the EPA under the Obama Administration did conduct a regulatory impact analysis before proposing the phase 2 greenhouse gas rules. However, this RIA lacked any thorough analysis on the glider provisions. Is it unusual that the EPA did not engage in a full analysis?

Ms. TSANG. Thank you, Chairman. I can generally speak to the regulatory impact analysis process that EPA used. There was some justification in terms of why they were looking at certain modeling data for the glider kits, but beyond that, I can look further into that after the hearing.

Mr. ABRAHAM. Okay. Is there any regulatory impact analysis on all aspects of a regulation required or are agencies required to follow the analysis?

Ms. TSANG. In terms of wheather there are OMB procedures on how to conduct the regulatory impact analysis?

Mr. ABRAHAM. Okay. Let's continue that then. In the normal course, is it fair to say that agencies issuing rules that affect an entire industry would do such an analysis prior to proposing the rule?

Ms. TSANG. Under Executive Order 12866, significant economic regulations are required to go through a cost-benefit analysis if it significantly affects the economy over $100 million, and there are other criteria as well. So if the agency considers a regulation a significant regulation, it must go through this cost-benefit analysis.

Mr. ABRAHAM. Okay. Thank you. I'm out of time.

Mr. Crist, you're recognized.

Mr. CRIST. Thank you, Mr. Chairman, and thank you to our witnesses for being here today.

It seems to me that if the EPA moves forward with a repeal of glider regulations, that will effectively turn over the decision to how to treat gliders to the States. As I'm sure you know, California has already approved glider regulations that align with the 2016 standards. There also seems to be a lot more awareness now than there was a few years ago of the health impact of gliders. Given this, and as a former Governor, I could see several States following in California's footsteps.

Dr. Miller, I'd be curious. Can you please comment on whether you think my interpretation of the situation is accurate? Could States start regulating glider vehicles on their own if there is no federal standard in place?

Dr. MILLER. Thank you. I will speculate. If—which I think is unlikely—but if it is determined EPA does not have statutory authority on the Clean Air Act to regulate glider kits, then States would not be preempted from regulating glider kits on their own. Based on the air pollution problem we have in the Northeast and presumably other States have similar problems elsewhere, I can say our States will look very, very closely at, at least banning glider kits with pre-2010 engines, and I would hope the glider kit manufacturers tell potential buyers that their trucks may not be allowed in those States.

So yeah, I think it's going to have an implication because we have to deal with these trucks. We have to deal with new trucks, too, meeting new standards. We don't think they're going to be clean enough for us, so it's not just glider kits. It's everything heavy-duty on the road, and we've got to deal with that or we're not going to achieve our standards in public health protection.

Mr. CRIST. What do you think would be a tipping point for States to decide to write their own regulations?

Dr. MILLER. Well, allowing the unlimited production of pre-2010 glider kit engines or glider kit vehicles with those engines, yeah.

Mr. CRIST. What challenges might arise if different States have different policies on glider vehicles?

Dr. MILLER. As I mentioned earlier, you're going to have a problem with interstate trucking trying to go from one place to another where they may not be allowed to go through a particular State and have to go around it.

Mr. CRIST. Dr. Miller, in your testimony you mentioned that the older engines typically used higher glider vehicles lack certain safety features such as electronic stability control and lane departure warnings. Can you elaborate on what these safety features are and how a driver and the public may be affected by the lack of these safety features?

Dr. MILLER. Yes, so the most popular glider kit engines, the pre-2010 engines, do not have the electronic capacity to run a number of modern electric safety features. That includes things like electronic stability control to prevent rollover, the adaptive cruise control to limit excess speed, and lane departure warnings to prevent collisions. So those are features that modern engines, current engines have the capacity to support but the older pre-2002 engines do not.

Mr. CRIST. Thank you very much. Mr. Chairman, I yield back my time.

Mr. ABRAHAM. Thank you, Mr. Crist.

Mr. Posey, you're recognized.

Mr. POSEY. Thank you very much, Mr. Chairman.

This hearing was called because of a possible complicity between Volvo and career employees at the National Vehicle Fuel Emissions Laboratory to create a faulty if not fraudulent emissions study of gliders to eliminate competition from some small American manufacturers. Despite the other side's attempt to make this an issue about whether gliders are good or gliders are bad or whether they're hurting the environment or whether they're helping the environment, this hearing is about an agency's violation of the public trust, and that's what we're here to try and rein in.

And so, Dr. Miller, the Northeast States for Coordinated Air Use Management advocacy group, is it affiliated with other advocacy groups, lobbying associations, trade associations or think tanks?

Dr. MILLER. Affiliated in a legal sense, no.

Mr. POSEY. Okay. In a nonlegal sense?

Dr. MILLER. We work with other groups that are common interest with the States—

Mr. POSEY. Okay.

Dr. MILLER. —and their interest to protect public health, yes, we do.

Mr. POSEY. Have they ever been asked by advocacy groups, lobbying associations, trade associations, think tanks, or whatever to offer positions in an attempt to influence lawmakers or regulators?

Dr. MILLER. We have been asked from time to time for those things, and we check with our States. If they're consistent with their own State interests—we take all comers. I would assume if a constituent asked you something, you would look at it the same way.

Mr. POSEY. Okay. Does it ever act in response to your request to influence lawmakers or regulators on behalf of those requesting assistance?

Dr. MILLER. On behalf of—you mean the entity asking NESCAUM—

Mr. POSEY. Yes. Yes.

Dr. MILLER. —on their behalf?

Mr. POSEY. Yes.

Dr. MILLER. We do not ask on others' behalf. It has to make sense for our States. We get asked, but we have to run it through our own States. If it's consistent with our own State goals, then we own it.

Mr. POSEY. Okay. Well, I'd like to introduce an email into the record from December 8, 2017, from Dr. Miller to Michael Myers concerning the glider repeal rulemaking. Are you familiar with this, sir?

Dr. MILLER. Yes, I am.

Mr. POSEY. Who is Mr. Miller—or Mr. Myers?

Dr. MILLER. Mr. Myers is an Assistant Attorney General for the State of New York.

Mr. POSEY. Okay. In this email you write, "We've been asked by EDF if NESCAUM could submit a comment deadline extension request to EPA. EDF thinks a request from a State organization might be better received at EPA than one from an environmental group." How do you interpret that request?

Dr. MILLER. I'm flattered. Here is a national environmental group that a number of people obviously think have a lot of influence, and on this particular issue, they think we as a regional State association and our States might actually have more influence than they do.

Mr. POSEY. Okay. What does EDF stand for?

Dr. MILLER. Environmental Defense Fund.

Mr. POSEY. Okay. Dr. Belzer, I have an email uncovered under the Freedom of Information Act that shows possible collusion between Volvo and the EPA on initiating a glider test particularly.

Have you seen the email before you related to Steve Berry from Volvo Trucks to Bill Charmley and Angela Cullen of the EPA?

Dr. BELZER. It's not before me, and I don't believe that I've seen that.

Mr. POSEY. Okay.

Dr. BELZER. Maybe I have, but it's not before me and I can't tell.

Mr. POSEY. Okay. I was going to ask you some real good questions about that. All right. Well, I'm going to have to skip those questions.

Mr. Chairman, I'd like to include this article for the record. The article touts Volvo's efforts "as good as new, and the process has less impact on the environment" in remanufactured engines in Flen, Sweden.

[The information follows:]

To: Charmley, William[charmley.william@epa.gov]
From: Cullen, Angela
Sent: Wed 9/6/2017 8:49:48 PM
Subject: RE: Steve's voice-mail on possible tractor test program

Bill,

Just FYI, we talked today. We are targeting to test two glider vehicles beginning 9/18. TATD is in the loop with this testing. We can discuss more details when you are back in the office.

Angela

From: Charmley, William
Sent: Tuesday, September 05, 2017 4:47 PM
To: Berry Steve <steve.berry@volvo.com>; Cullen, Angela <cullen.angela@epa.gov>
Cc: Moulis, Charles <moulis.charles@epa.gov>
Subject: Steve's voice-mail on possible tractor test program

Dear Steve,

Thank you for your voice-mail today. I was in the office this past Friday, but we had some major I.T. issues at the Ann Arbor office this past Friday. I know you mentioned a Friday voice-mail today, but so far I have not been able to listen to that/find it.

Your message today indicated you wanted to talk ASAP about the opportunity for a test program on heavy-duty tractors at the EPA Ann Arbor laboratory, where Volvo would provide the test articles – perhaps one glider and one recent model year Volvo tractor.

I am very interested in pursuing this opportunity. I am on travel Wednesday and Thursday of this week. Can you follow-up directly with Angela Cullen on this topic on Wednesday?

Best regards,

Bill

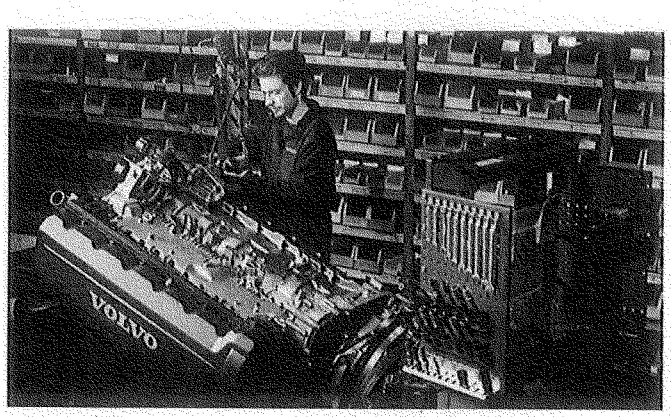
Production

Engines revived

5/8/18

Text: Linda Swanberg Photo: Jonatan Fernström

At the plant in Flen, worn-out engines for heavy-duty trucks are given a new lease of life. After remanufacturing, they are as good as new and the process has less impact on the environment.



Edward Finstorp, an operator, is fitting the engine attachments on a D13 engine for a Volvo truck. The plant in Flen is the largest remanufacturing facility in the Volvo Group, and also remanufactures engines for Volvo CE, Volvo Buses and Volvo Penta, among others.

Lars Färnskog, plant manager of the Volvo Parts Plant in Flen, Sweden.

Outside the low buildings at the Volvo Parts Plant in Flen, Sweden, rows of engines are waiting under blue plastic sheeting before being allowed to come in to the warmth. All engines that are returned by Volvo Trucks' dealers in Europe and Asia are sent here. Engines are one of 40 different exchange parts Volvo Trucks offers its customers and take the longest to remanufacture.

"It takes around 57 hours from the moment the engine is brought into the plant until it has been tested and painted," explains Lars Färnskog, plant manager in Flen.

The remanufacturing process begins with dismantling. The entire engine is taken apart, the parts that cannot be reclaimed are sent for recycling, while the parts that can be remanufactured are sent for cleaning and blasting. Once the moisture, oil residue and paint have disappeared, the parts move on to the machining department.

A co-ordinate measurement machine is used to check the valve housing that controls the oil pressure in a D12 engine.

Kristine Söderlund, an operator, polishes the oil ports on a crankshaft. This is one of the many procedures the different parts undergo before they are re-assembled once again to make an engine.

Here, many surfaces on parts such as the cylinder heads, crankshafts and engine blocks are sanded and milled with great precision and care.

"All the engines come here for a reason. However, as we don't know how an engine has been used, it's important to make sure that there are no uneven surfaces," says Jörgen Karlsson, a cylinder head renovator.

Like many of his colleagues, he knows a huge amount about engines. Remanufacturing requires top-class skills. At the plant in Flen, 150-200 different truck engine variants are remanufactured for Volvo Trucks.

"Most of the engines that arrive here are between eight and nine years old. However, we sometimes receive engines from the 1970s! We make sure that we also take very good care of them," adds Jörgen Karlsson.

During the journey through the plant, every engine component is inspected in several stages. When the time comes for testing, the engine has to pass the same tests as a newly produced model.

"A reconditioned engine carries the same warranty conditions as Genuine Volvo Parts and has the same quality, durability and performance," says Lars Färnskog.

A crankshaft for a D12 engine is waiting to be sanded. During remanufacturing, it is important that every irregularity is removed and surfaces are made smooth.

In addition to all the parts being remanufactured or replaced with new ones, updates are made in accordance with the latest specifications for each specific model. This means that the engines leaving Flen are as good as new – at the every least.

"We make sure that everything, from fuel access to software, is optimised. The customers who choose to purchase a remanufactured engine get a better product at a much lower price and, at the same time, they make an environmental contribution," says Lars Färnskog.

Compared with a newly produced truck engine, the energy consumption of a remanufactured engine is 85 per cent lower. The corresponding figure for the consumption of raw material is 80 per cent. Lars Färnskog is convinced that the large-scale environmental benefits are going to increase the demand for exchange parts.

Using magnetic powder and a lamp, the cylinder head is checked to ensure it does not have any cracks. Cracks can be clearly seen in the green light.

"We know that the world's natural resources are limited and that the price of raw materials is rising. At the same time, our customers are stepping up their demand for our products to be sustainable and re-usable," he says.

To enable cores like transmissions and engines to be remanufactured, it is important that they are prepared for this at the design stage. For this reason, the plant in Flen collaborates closely with product development and contributes input to projects at an early stage.

"Preparing products for a second life represents enormous value for the company, our customers and the environment," says Lars Färnskog.

Preparing products for a second life represents enormous value for the company, our customers and the environment.

Lars Färnskog
Plant manager, Flen

Flen plant

In total, Volvo Trucks offers 40 exchange parts, including everything from filters and pumps to transmissions and engines.

40 – The number of Volvo exchange parts Volvo Trucks offers – everything from filters and pumps to transmissions and engines.
85% – The reduction in energy consumption when a truck engine is remanufactured compared with new production.
80% – The reduction in raw material consumption when a truck engine is remanufactured compared with new production.
90% – The level of recycling in an old truck engine.
57 – The average number of hours it takes to remanufacture a truck engine.
150–200 – The number of different Volvo Trucks engine variants that are remanufactured.

210 – The number of employees.
27,000 m² – The total area of the plant.

Mr. POSEY. And now, Dr. Belzer, Volvo trucks is a leading opponent to glider trucks, and they have said in their public comments that gliders are unclean and proclaim that the environmental harm that could result from the repeal of the phase 2 glider provisions is inexcusable. Can gliders be environmentally friendly in Sweden but here in the United States not environmentally friendly?

Dr. BELZER. I would certainly agree that the statements do appear to be contradictory. I think that the right way to go about this is simply to recognize that if gliders are no longer available, there will be alternatives, and the alternatives are new trucks, used trucks, and retaining existing trucks in service a longer time. The latter two are probably going to have higher emissions than gliders, and so we don't know the net change in emissions from banning gliders, and unfortunately, the EPA approach to assume away those other ways of complying—is a problem. Now, EPA had the authority to regulate all rebuilt engines instead of regulating gliders, but it chose not to do that.

Mr. POSEY. Okay. Thank you, sir. I see my time is up. I yield back.

Mr. ABRAHAM. Mr. McNerney.

Mr. MCNERNEY. Well, I thank the Chairman, and again, I thank the panelists for testifying this morning.

Some glider proponents have claimed that the Volvo truck group colluded with EPA's Michigan lab to initiate a study on glider emissions. They also claim that the EPA lab officials never notified the EPA's headquarters staff about these tests. These claims are demonstrably false, and I will show—in fact, EPA initiated a glider emission study as a response to a House Appropriations Committee report. And in July 2017 staff at EPA's lab informed EPA's leadership in Washington that they would begin scoping a glider test program.

I'd like to enter these emails into the record, the first of which began on July 27, 2017, before the email that was submitted by Mr. Posey, showing that the House Appropriations Committee report urging EPA to conduct the study.

Mr. ABRAHAM. Without objection.

[The information follows:]

To: Grundler, Christopher[grundler.christopher@epa.gov]
Cc: Lewis, Josh[Lewis.Josh@epa.gov]; Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: Dunham, Sarah
Sent: Thur 7/27/2017 12:43:56 PM
Subject: RE: Gliders in House Approps Report.

Thanks—was this in the FY18 committee report?

From: Grundler, Christopher
Sent: Thursday, July 27, 2017 7:26 AM
To: Dunham, Sarah <Dunham.Sarah@epa.gov>
Cc: Lewis, Josh <Lewis.Josh@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>
Subject: Gliders in House Approps Report.

Sarah--

Copied below is language from the House Appropriation Committee report urging epa to conduct a study of glider kit emissions impacts.

We will start scoping out a test program at the lab regarding what such a test program could look like.

Thanks

Chris

Glider Kits.—The Committee notes that the Phase 2 rule for Me- dium and Heavy-Duty Engines and Vehicles is generally supported by the trucking industry. However, under the Phase 2 rule, the Agency defined a glider kit as a new motor vehicle for the purposes of regulation. The Committee recognizes that glider kits typically do not incorporate new engines; therefore, classifying a glider kit as a new motor vehicle raises a number of valid concerns. The Committee

also understands the intent of the provisions in the Phase 2 rule is to promote the removal of older, dirtier engines from the vehicle fleet in order to make air quality improvements. This is a policy that the Committee has strongly supported over a number of years albeit in a non-regulatory manner through the use of grants to encourage engine retrofits. The Committee urges EPA to study the emissions impact of remanufactured engines used in glider kits, compared to new engines, and issue a report to the Committee when available.

Sent from my iPhone

To: Cullen, Angela[cullen.angela@epa.gov]
Cc: Moulis, Charles[moulis.charles@epa.gov]; Charmley, William[charmley.william@epa.gov]
From: Berry Steve
Sent: Wed 9/6/2017 11:48:58 AM
Subject: RE: Steve's voice-mail on possible tractor test program

Hi Angela

Looks like we'll be able to provide at least one glider, more if you have time to test. A Volvo test article as well, if you don't already have "modern product" data for comparative purposes.

Two good places to start:

1) Test program: UDDS? Chassis dyno operation at RMC points? GHG 55/65/ARB transient?

2) Scheduling: Soonest you can test? How long should we plan for each truck to be in Ann Arbor?

I can be available for a discussion before 9, between 10 and 12, and between 2 and 5. (All Eastern times). I'll try to tie in Jeff Marley as well.

Steve

From: Charmley, William [mailto:charmley.william@epa.gov]
Sent: Tuesday, September 05, 2017 4:47 PM
To: Berry Steve; Cullen, Angela
Cc: Moulis, Charles
Subject: Steve's voice-mail on possible tractor test program

Dear Steve,

Thank you for your voice-mail today. I was in the office this past Friday, but we had some

major I.T. issues at the Ann Arbor office this past Friday. I know you mentioned a Friday voice-mail today, but so far I have not been able to listen to that/find it.

Your message today indicated you wanted to talk ASAP about the opportunity for a test program on heavy-duty tractors at the EPA Ann Arbor laboratory, where Volvo would provide the test articles – perhaps one glider and one recent model year Volvo tractor.

I am very interested in pursuing this opportunity. I am on travel Wednesday and Thursday of this week. Can you follow-up directly with Angela Cullen on this topic on Wednesday?

Best regards,

Bill

Mr. MCNERNEY. Thank you. I also would like to submit for the record an article showing that the California's Air Resources Board condemned the EPA's move to allow high-polluting older trucks on the road. In fact, this report shows that one old dirty engine with a glider test kit is equal in emissions to 450 new trucks. I'd like to submit this for the record.

Mr. ABRAHAM. Without objection.

[The information follows:]

California's top air agency strongly condemns EPA's move to allow high-polluting, older trucks on roads

ww2.arb.ca.gov/news/californias-top-air-agency-strongly-condemns-epas-move-allow-high-polluting-older-trucks-roads

SACRAMENTO – Decades of clean air progress stand to be reversed if the U.S. EPA opts to repeal its rule on limiting production of "glider kits," said Steve Cliff, Deputy Executive Officer of the California Air Resources Board, testifying at a public hearing today at EPA headquarters in Washington D.C.

A 'glider kit' is a new truck chassis and cab that includes a refurbished diesel engine and power train. In almost every case, these kits include much older so-called 'pre-emission' engines from 10, 15 and up to 20 years ago. These engines evade current diesel-powered truck tailpipe standards. As a result, compared to current clean trucks, they emit massive amounts of smog-forming pollution and toxic carcinogenic soot, directly impacting public health.

"If you enjoy driving behind a truck belching clouds of black carcinogenic smoke, you can thank EPA for putting many more of them on the roads, rather than cleaner modern models," said CARB Chair Mary D. Nichols. "This illegal effort by EPA will open the floodgates to allow unlimited numbers of old and dirty trucks to pour onto our streets and highways masquerading as brand new clean trucks."

Full Testimony

Glider-kit truck at a recent CARB inspection station

The requirements for glider kits, set to go into effect in January 2018, were developed during three years of close coordination between CARB and the EPA. The current EPA Administrator – who was not part of that process – now seeks to repeal the requirements, effectively eliminating any cap on the number of kits that can be manufactured within a given time frame.

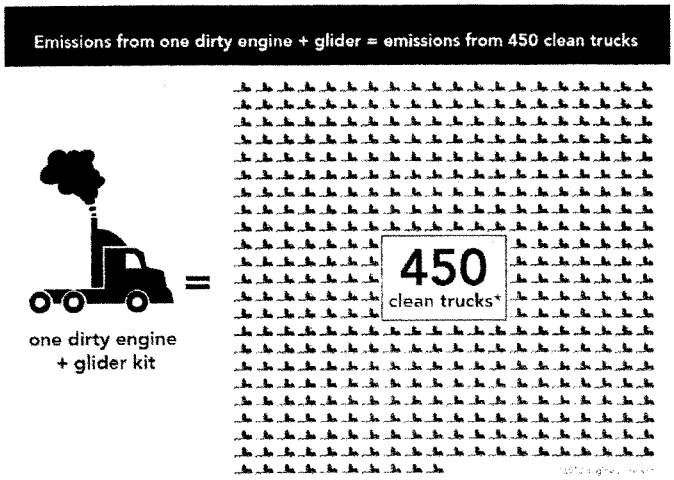
Glider kits are legitimately used when compliant trucks are damaged leaving the chassis unusable but the engine intact. But recently some manufacturers have been abusing the glider provisions to build vehicles with no emission controls, and market them as new trucks.

Currently, some 10,000 'glider kits' are sold each year, about one out of 20 heavy-duty (Class 7 and 8) tractor trucks sold. This is a vastly greater

number than just a decade ago. Repealing the current caps on glider kit production would essentially allow an unfettered number of older, dirty engines onto the market. These trucks lack filters that trap toxic diesel soot and also lack controls that limit smog-forming nitrogen oxides.

Based on U.S. EPA's own testing this year, glider vehicle levels of NOx (oxides of nitrogen, a precursor to smog) were 4 to 40 times higher than those of modern trucks. Levels of diesel particulate matter (a toxic air contaminant linked to cancer and a host of respiratory and cardiac ills including asthma) were 50-450 times higher. CARB's own analysis confirms these figures.

According to Cliff, repealing the rule and allowing unlimited numbers of glider kits on the road will damage public health. CARB analysis determined that a single pre-emission engine in a new glider kit puts out the equivalent of up to 450 modern trucks (with engines from 2010 or later).



In fact, these glider kit trucks are so dirty that if they made up less than 7 percent of all medium- and heavy-duty trucks in California the pollution they emit would completely offset the clean-air benefits of California's current efforts to clean up the state's diesel trucks and buses. This puts Californians at risk, and would make it impossible for California to meet our federally mandated air quality standards.

Cliff also noted that allowing unlimited numbers of dirty glider kit trucks destroys the current regulatory level playing field for diesel truck manufacturers. "It has been a major undertaking on the part of U.S. manufacturers to integrate complex emission controls into their heavy-duty diesel engines," he said in his testimony. "[They] have made significant financial investments and have structured their future product plans taking these investments and emission control commitments into account."

Cliff added that "if EPA continues to shirk its duty to protect the public's health and welfare and our nation's air quality...[it] would put engine manufacturers that have invested significant resources to comply with current emission standards at a competitive disadvantage."

Since 2000, California has led the nation and the world in developing strong programs to reduce air pollution from all diesel sources including ships, trucks, buses and passenger vehicles. Specifically, California's Truck and Bus Regulation calls for all heavy-duty trucks to have 2010 or newer engines in place by 2023.

Cliff urged EPA representatives to listen to public health advocates, air quality agency representatives and manufacturers present at the hearing, united in their opposition to the glider rule repeal. He also reminded the EPA representatives to follow through on its mandate to protect the environment and its "duty to protect air quality and the health of Americans."

Mr. MCNERNEY. Dr. Miller, you've read the EPA's report on glider emissions. Can you please tell us whether you saw any red flags in reading that report, and why do you think this report is important and valuable?

Dr. MILLER. Yes, I've read the report, and I also, prior to this hearing checked with my own states and other states outside my region on their own practices, and everything in that report is consistent with State testing practices that our own membership does and elsewhere, the use of accredited facilities, the use of standard test cycles.

The protocols exist. We don't need to reinvent them. The certification protocols exist. They were followed. They were clearly presented in the report. All the data collected were clearly presented in the report. They actually did fix that—the malfunction indicator light before they tested. They indicated that they did that. They showed the data both with the light on, testing without the light. It was all transparent. The analysis is transparent. It's all numerical. It was done under test cycles that reflect actual real-world driving conditions including load pulling. This is all standard stuff. There's nothing in there that I can see that just smacks of Jerry-rigging the results.

Mr. MCNERNEY. And do you believe that—the CARB's claim that one dirty truck with the kit is equal to 450 clean trucks in emissions?

Dr. MILLER. I will hedge on that in the sense that it's one truck. I do agree that, based on their measurement, that one truck had the emissions of 450 new trucks. Depending on other trucks they'll be all over the place. I do think, based on the testing, that in general one can say it's about an order of magnitude higher. In that case it's two orders of magnitude higher. I don't know if that's an outlier, but I'm pretty confident it's at least an order of magnitude across the board.

Mr. MCNERNEY. Okay. Thank you, Mr. Chairman. I yield back.

Mr. ABRAHAM. Thank you, Mr. McNerney.

Dr. Marshall?

Mr. MARSHALL. Thank you, Mr. Chairman.

First of all, I'll start with Mr. Long and say I'm grateful. We have I guess 1,300 drivers in my district. Kansas maybe the second-, third-most number of highway miles in the country. I represent the largest ag-producing district in the country. The one thing that my ag producers can do for sure is get our commodities to market cheaper than any competitors out there, and your industry is a big, big part of that. So I'm grateful for the business that they do do. My first job was loading cattle trucks. I was 15 years of age working at a sale barn and worked with a lot of your members as well.

In that industry right now, one of the biggest challenges that they're facing, these small owners, the small companies, Mr. Long? Yes.

Mr. LONG. I would say one of the biggest challenges is indeed overregulation, and a lot of it is caused by larger entities kind of forcing their will through the government, whether it be regulatory or legislative, to require more mandates and more safety devices that aren't actually improving safety. There's a laundry list of

issues that we're currently fighting to prevent that would simply increase costs for our members and burdens for our members rather than promote highway safety, improve their economics, or improve their efficiency. So this is just another example we think of smaller members—or, excuse me, smaller businesses getting lost in the discussion and just allowing a government entity and a large corporation to kind of dictate the discussion and ultimately the outcome when our members are going to bear the largest burden, whether it be cost or potentially even running them out of business.

Mr. MARSHALL. Maybe you talk about electronic logging devices a second, how they're impacting you, especially the live animal hauling industry.

Mr. LONG. Sure. Only a fraction of our members are involved in the livestock industry, and we appreciate the relief that they've been getting from Congress or that they will soon be getting from Congress. The ELD issue has been another example of large corporate motor carriers convincing unfortunately you and your colleagues—maybe not all of you here at the table today because it did happen back in 2012—that ELDs were a safety device, and our members contend that they certainly are not—they just track their hours. They don't promote safety at all. So that's an example of a $2 billion mandate that has been kind of forced upon our industry by larger corporate motor carriers in an effort to diminish our efficiency and increase our costs.

Mr. MARSHALL. Okay. Thank you. I'll go to Dr. Belzer.

Dr. Belzer, I'm a physician, and as I try to review EPA research, I really have a hard time following it. And I would say that if we practice medical research the way the EPA does, we wouldn't be making some of the great advances that I'm seeing.

When they did their analysis, an average trucker 100,000 miles a year, about six miles to the gallon, and from what I understand, these gliders have about a 25 percent better gas mileage. Is that accurate? And that's about 4,200 gallons a year of savings of fuel, less fuel being burned, which certainly would mean less pollution. Did they take that into account in their calculations? I couldn't follow that.

Dr. BELZER. Well, I certainly couldn't either because I don't think the analysis is actually there. The regulatory impact analysis does not have that inside it. It has two or three paragraphs describing these glider provisions but does not have the analysis. There is the paragraph in the preamble to the final rule that contains the sum total of what EPA has disclosed with regard to its analysis, so I'm afraid that's all we have to go on. Everything else to me is just hearsay.

Mr. MARSHALL. Also wanted to mention we had a new EPA pathway for sorghum oil to be turned into biodiesel. Would that have any impact on an EPA analysis of this situation if it was coming from sorghum oil rather than the traditional fuels?

Dr. BELZER. Yes, I have no information or expertise on that, and I keep out of things in which I don't have expertise. I do recall, though, that the apparent comparison for gliders is based on the emissions standards as of roughly 2001, but a very large EPA rule on mandating ultralow sulfur diesel that was promulgated after

those engines were made, so I would like to know whether the EPA estimate takes account of the emission reduction from the ultralow sulfur fuel rule, which had substantial benefits according to the EPA when they regulated it. That would be useful to know what the actual emissions are and to compare them with the fuel that is actually in use.

Mr. MARSHALL. Thank you, Dr. Belzer. I yield back.

Mr. ABRAHAM. Thank you, Dr. Marshall.

Mr. Palmer?

Mr. PALMER. Thank you, Mr. Chairman. Continuing on that theme by Congressman Marshall, Dr. Belzer, in your testimony you discussed a range of consumer responses to no longer being able to purchase gliders. Can you elaborate a little bit more about those potential consumer responses and how the phase 2 rule, even if it was hypothetically based on valid scientific studies—which I think there's been substantial doubt raised about that—would be counterproductive to what the regulators hoped to achieve in the first place?

Dr. BELZER. Well, a common phenomenon with regulations that make major changes in, let's say, tailpipe emissions standards is that they do have effects on the market, and so there will often be what's called a pre-buy. The regulations will go into effect in a few years, and during that period of time, those who would be interested in purchasing trucks later will purchase them sooner in order to get in under the wire and do that. So we can predict that. I believe in EPA's phase 1 greenhouse gas rule they took that into account. For some reason they didn't do that this time. But that is a known phenomenon.

I've seen articles in the press suggesting that there are long waits now for vehicles, for heavy-duty trucks. Some of that is driven by the economy, but part of it is a predictable response to the high cost of the phase 2 standards. You should expect a lot of truck sales to occur prior to that in order to beat that. That happens normally. It happens in trucks; it happens in automobiles as well. It's a normal phenomenon. And that's why the Clean Air Act has—it has a provision in it requiring that the effective date for new standards to be delayed a few years so that manufacturers can catch up and be prepared to accommodate that.

Mr. PALMER. What I find interesting about a lot of this in listening to the questions from my colleagues on the other side of the aisle bringing up these various problems from emissions is that, since 1980, our economy's expanded by probably close to 500 percent. Vehicle miles have gone up 98 percent. Population's up over 30 percent. The energy consumption's up over 30 percent. Emissions are down by over 50 percent.

And a lot of the discussion here is around like asthma rates. Asthma rates are at record levels even though the air quality is substantially improved. So I think that, you know, the typical scare tactics from the left on these things that completely misses the real problem, a lot of it has to do with living conditions, household conditions. But I know that doesn't matter to a lot of people, the facts don't, so let me go on and ask Mr. Long a question.

You know, in my district I have over 360 owner-operators. You made a statement that I'd like for you to elaborate on. You said there's not a shortage of drivers. That's not been our experience.

Mr. LONG. Sure. If you look at the driver turnover rate among large motor carriers, it's above 90 percent a year, so essentially they're almost having two drivers per position in the course of a year. We think that's the actual problem, that they're turning through drivers at an exceptional rate. We think steps can be taken by Congress to ensure that our career is one that is appealing and one that is sustainable rather than one where a young driver enters with no hope of making an actual career out of it because he doesn't make the money, he works in difficult conditions, and no one's really working to address either of those.

So we think that rate could certainly come down among smaller fleets. The turnover rate is typically much lower. Drivers get paid better. They have more uniform schedules. They're home with their families more. And those are all steps that can be taken on a national level to certainly address the turnover problem.

Mr. PALMER. The turnover problem, though, how does that impact the individual driver in terms of the more cost that gets added by regulations and particularly how it impacts with the glider rule?

Mr. LONG. Sure. Well, this is an example of an area where our members are being priced out of the industry. And let's keep in mind that our members owner-operators are the safest on the road by far.

Mr. PALMER. Can you put that in context to the bottom line, you know, their take-home pay versus expense?

Mr. LONG. Yes, a lot of what we've been talking about in purchasing new trucks is—well, our members can save 25 percent on glider kits. That's not necessarily the discussion simply because they can't afford the new trucks. They're not really saving anything if they can't afford it in the first place. So for them glider is an affordable option and also improves their MPGs and it improves their reliability.

So as far as bottom lines are concerned, our members run on the slimmest of margins, so expecting them to be capable of purchasing a new truck, it's just not realistic.

Mr. PALMER. Mr. Chair, my time is expired. I will make a comment to you, though. You and I have talked about this issue of air quality and asthma——

Mr. ABRAHAM. Yes.

Mr. PALMER. —and even CDC and others have indicated this length that has occasionally tried to be—they try to make, for instance, in a hearing like this is missing the mark, and I appreciate your indulgence. I yield back.

Mr. ABRAHAM. All right. Mr. McNerney, you have another——

Dr. MILLER. Excuse me. Could I clarify—I'm sorry—that comment on asthma?

Mr. ABRAHAM. Yes, sir.

Dr. MILLER. This is a common misperception I hear quite a bit. Nothing in these comments or my comments or in the—what I say as the basis of the EPA rules are based on air pollution causing asthma as a disease. Whatever causes asthma, I don't know. I'm not the expert. But the problem with the air pollution—and it is

correct, as you're saying, the increase in asthma rates. The problem with air pollution is that it exacerbates asthma attacks in people who already have asthma for whatever reason.

Mr. PALMER. I appreciate the gentleman making that clarification. I wasn't directing the comment to you. It was a comment made by one of my colleagues. But the fact of the matter is is that the problem with asthma has increased substantially even though air quality has improved remarkably. And you're right; we don't know the cause of asthma, and that's one of the conclusions that came out of a CDC report. But I thank the gentleman for his clarification.

Mr. ABRAHAM. Mr. McNerney?

Mr. MCNERNEY. Well, thank you. I appreciate the Chairman for allowing me another round of questions. It's quite remarkable that the Majority is questioning the, "scientific integrity and validity," of the EPA's glider emissions study that was conducted at a nationally accredited laboratory while ignoring the study conducted by the Tennessee Tech University that formed the basis for the EPA's proposed repeal of the glider rule.

Now, let me review a few facts. The Tennessee Tech study was funded by Fitzgerald Glider Kits and conducted in an unaccredited Fitzgerald laboratory. The study concluded that the remanufactured engines performed better or even on par or better than conventional engines emitting fewer hazardous chemicals. According to the Interim Dean of Tennessee Tech's College of Engineering, no credentialed engineering faculty members oversaw the testing, verified the data or calculations, or even wrote or reviewed the final report submitted to Fitzgerald. The Interim Dean also said the conclusion of the testing were sent to Representative Diane Black, including a, "far-fetched scientifically implausible claim that manufactured truck engines met or exceeded the performance of modern pollution controlled engines with regard to emissions."

The Principal Investigator of the study removed his name from the study, returned his portion of the Fitzgerald funding, and filed a scientific misconduct claimant with the university. Aside from the flawed testing, protocols, and unsupported conclusions, he was disappointed that the study had been used for political purposes and wrote, "The misuse of results to support political opinions is a dangerous precedent that should worry all university employees." No final report has been issued, and the data from the study has not been publicly released. The General Counsel at Fitzgerald Glider Kits has argued that the data in the study are protected from disclosure by the university.

Finally, the President of the Tennessee Tech wrote to the EPA, to Representative Black, and Fitzgerald telling them all that they should not reference the study in any way until the university's scientific misconduct investigation is complete. I would like to submit documents supporting my—what I've just said to the Majority for the record.

Mr. ABRAHAM. Without objection.

[The information follows:]

Office of the President
TENNESSEE TECH

June 15, 2017

The Honorable Diane Black
1131 Longworth HOB
Washington, DC 20515

Reference: Tennessee Tech University – Summary of Heavy Duty Truck Study and Evaluation of the Phase II Heavy Duty Truck Rule

Congressman Black:

From September 2016 – November 2016, the Tennessee Technological University Department of Civil and Environmental Engineering ("Tennessee Tech") conducted the first phase of its research on the environmental and economic impact of the Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2 rule ("Phase 2 Rule") published October 25, 2016. The key areas of research were to (1) Compare Glider Kit compliance with the Phase 2 Rule; (2) Perform high level environmental footprint and economic study of OEM manufacturing vs. assembly of remanufactured components (Glider Kits); and (3) Evaluate industry optimization plans to address future environmental regulations including but not limited to production vehicles, component assembly, and facility compliance.

To carry out the environmental footprint component of the research, Tennessee Tech tested thirteen heavy-duty trucks on a common chassis dynamometer at a common site; eight trucks were remanufactured engines and five were OEM "certified" engines, all with low mileage (NOTE: These Base Line Setting Phase I results were completed by testing only one Glider Kit manufacturer's product and one OEM's product). Each vehicle was evaluated for fuel efficiency, carbon monoxide (CO), particulate matter (PM) emissions and nitrogen oxide (NO_x). The results of the emissions test were compared with the 2010 EPA emissions standards for HDVs. Our research showed that optimized and remanufactured 2002-2007 engines and OEM "certified" engines performed equally as well and in some instances out-performed the OEM engines. (see also Appendix A for more detailed test results).

Summary Chart of Phase 1 Test Results	
Emission Standard	**Result**
CO	All vehicles met the standard
PM	All vehicles met the standard
NO_x	None of the vehicles met the standard

Tennessee Tech / Box 5007 Cookeville, TN 38505 / 931-372-3241 / F: 931-372-6332 / www.tntech.edu/president

While none of the vehicles met the NO_x standard, a glider remanufactured engine achieved the best result of any engine tested (see Appendix A). Further, our research showed that remanufactured and OEM engines experience parallel decline in emissions efficiency with increased mileage. Contrary to the assertion in the Phase 2 Rule, it is our estimate that the glider kit HDVs would emit less than 12% of the total NO_x and PM emissions, not 50%, for all Class 8 HDVs. Should the Phase 2 glider cap be fully implemented on January 1, 2018, there is little doubt that consumers utilizing glider vehicles, due to economic considerations, will delay purchasing new equipment and consequently, slow the reduction of engine emissions nationwide. In this regard, the Phase 2 rule is counter-productive to its stated intent.

In addition to equal or lower emissions, glider kits have a smaller carbon footprint than OEM vehicles due to fuel efficiency and recycling of materials. Comparisons between 2016 glider kit vehicles and new EPA compliant vehicles for fuel efficiency reflect that glider kits are 20% more efficient on fuel consumption. Glider vehicles also reuse engines and other components in the remanufacturing process, resulting in the reuse of approximately 4,000 pounds of cast steel. The engine assembly alone accounts for approximately 3,000 pounds of recycled cast steel. Thus, the well-documented environmental impact of casting steel, including the significant NOx emissions, is avoided by reusing cast steel components in glider vehicles. Consequently, given the superior fuel efficiency and the reuse of cast steel, glider vehicles have a lower carbon footprint than OEMs. None of these facts were considered in the development of the Phase 2 rule.

From an economic standpoint, Tennessee Tech examined the impact of the Phase 2 Rule sales cap of 300 units for glider kits would have on the State of Tennessee. The 300 unit sales cap represents 9% of Fitzgerald's current sales. It is estimated that a 91% reduction in output by Fitzgerald would result in a direct loss of approximately 947 jobs and a loss of approximately $512 million of economic output in the State of Tennessee alone. This impact takes into account the direct and indirect economic impact, including expenditures on labor, operations and maintenance as well as changes in the supply chain throughout the state. Additionally, on a broader scale, the economic impact of the Phase 2 Rule could easily exceed $1 billion nationwide due to thousands of permanent job losses and supply chain interruption and reduction. The Phase 2 Rule failed to sufficiently evaluate and consider these impacts.

Finally, this phase of the research shows that trucking companies that utilize glider kit HDVs in their fleets are vigilant in maintenance and elect to optimize their fleets to maximum efficiency throughout the life span of the vehicle. Further, glider kit assemblers facilitate research and development for OEM's by conducting innovative research for fuel additives, emission devices, tire and wheel combinations in small production runs and are currently testing components, light weight drive systems, alternative fuel mixtures, autonomous drive systems, light weight body materials, and intelligent transportation systems. As a general statement, our observation is glider assemblers are in tune with industry needs and cutting edge innovation.

Congressman Black
June 15, 2017

Tennessee Tech will continue to evaluate HDV engines during Phase II of the research in 2017. Such effort will be conducted in conjunction with the Oak Ridge National Lab - Fuel Engines & Emissions Research Center. The goals of the next phase include development of engineering and manufacturing solutions that exceed EPA emission standards, a focused research, development, and testing plan for NO_x emissions, and to continue testing to demonstrate continuous improvement of emissions from remanufactured heavy-duty engines.

Sincerely,

Philip B. Oldham
President

Thomas Brewer
Associate Vice President
Center for Intelligent Mobility

APPENDIX A: Testing Results from Tennessee Tech Phase 1 Heavy Duty Vehicle Study			
Engine	**Type**	**CO (g/HP * hr) (2010 standard = 15.5)**	**PM**
Detroit Diesel DD15	ReMan	0.290	BTD
Caterpillar CT13	ReMan	0.212	BTD
Detroit Diesel Series 60	ReMan	1.553	BTD
Detroit Diesel Series 60	ReMan	1.959	BTD
Detroit Diesel Series 60	ReMan	0.015	BTD
Detroit Diesel Series 60	ReMan	0.317	BTD
Detroit Diesel Series 60	ReMan	0.483	BTD
Detroit Diesel Series 60	ReMan	0.467	BTD
Detroit Diesel DD15	OEM	0.491	BTD
Detroit Diesel DD15	OEM	1.169	BTD
Detroit Diesel DD15	OEM	0.556	BTD
Detroit Diesel DD15	OEM	0.098	BTD
Detroit Diesel DD15	OEM	1.558	BTD

*BTD=below threshold detection point

** NO_x (g/HP * HP) (2010 standard = 0.2); All tested engines were higher than the standard and ranged from a low of 0.44 to a high of 6.45. The lowest tested NOx was a Fitzgerald – Reman Detroit Diesel DD 15 using proprietary Fitzgerald engine design and set up. That same engine also tested at the 0.290 Co rate.

Office of the President

TENNESSEE TECH

February 19, 2018

The Honorable Diane Black
1131 Longworth HOB
Washington, DC 20515

Reference: Tennessee Tech University – Summary of Heavy Duty Truck Study and Evaluation of the Phase II Heavy Duty Truck Rule

Congressman Black:

Please be advised that regarding the "Environmental & Economic Study of Glider Kit Assemblers" report, knowledgeable experts within the University have questioned the methodology and accuracy of the report. Therefore, Tennessee Tech University is actively pursuing a peer review of the report and supporting data to assure its validity. The University also is investigating an allegation of research misconduct related to the study. We request that you withhold any use or reference to said study pending the conclusion of our internal investigations.

We sincerely regret any inconvenience this imposes, but our aim is to ensure the absolute integrity and objectivity of any scholarly product of Tennessee Tech. We anticipate a timely and thorough review following which we will inform you of the outcome. Thank you for your assistance and patience as we work through the concerns raised.

Sincerely,

Philip B. Oldham

PBO/ds

Tennessee Tech / Box 5007 Cookeville, TN 38505 / 931-372-3241 / F: 931-372-6332 / www.tntech.edu/president

Office of the President

TENNESSEE TECH

February 19, 2018

Honorable Scott Pruitt
USEPA Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N. W.
Mail Code: 1101A
Washington, DC 20460

Reference: Tennessee Tech University – Summary of Heavy Duty Truck Study and Evaluation of the Phase II Heavy Duty Truck Rule

Mr. Pruitt:

Please be advised that regarding the "Environmental & Economic Study of Glider Kit Assemblers" report, knowledgeable experts within the University have questioned the methodology and accuracy of the report. Therefore, Tennessee Tech University is actively pursuing a peer review of the report and supporting data to assure its validity. The University also is investigating an allegation of research misconduct related to the study. We request that you withhold any use or reference to said study pending the conclusion of our internal investigations.

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Philip B. Oldham

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Office of the President

TENNESSEE TECH

February 19, 2018

Mr. Tommy C. Fitzgerald
Fitzgerald Glider Kits
575 Technology Dr.
Sparta, TN 38583

Reference: Tennessee Tech University – Summary of Heavy Duty Truck Study and Evaluation of the Phase II Heavy Duty Truck Rule

Mr. Fitzgerald:

Please be advised that regarding the "Environmental & Economic Study of Glider Kit Assemblers" report, knowledgeable experts within the University have questioned the methodology and accuracy of the report. Therefore, Tennessee Tech University is actively pursuing a peer review of the report and supporting data to assure its validity. The University also is investigating an allegation of research misconduct related to the study. We request that you withhold any use or reference to said study pending the conclusion of our internal investigations.

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Sincerely,

Philip B. Oldham

PBO/ds

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February 26, 2018

VIA CERTIFIED MAIL
VIA ELECTRONIC MAIL

Philip B. Oldham
President
Tennessee Tech University
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Kae Carpenter
University Counsel
Tennessee Tech University
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Re: Demand for Preservation of Documents Related to Glider Emissions Study and Fitzgerald Glider Kits

Dear President Oldham and Ms. Carpenter:

As you no doubt are aware, in 2016 Fitzgerald Glider Kits ("FGK") approached Tennessee Tech University ("TTU") with the idea of sponsoring research related to a U.S. Environmental Protection Agency rule entitled "Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2." TTU accepted FGK's proposal. The research, which began in or around June 2016 and was conducted by several individuals who are copied on this letter, involved testing emissions from FGK-rebuilt engines and new OEM engines and performing an economic impact study related to FGK's business (the "Study"). The first phase of the Study was completed in late 2016, and the second phase was completed in late 2017.

The Study is protected from disclosure under Tenn. Code Ann. § 49-7-120(b). TTU officials have represented publicly and privately that the Study has not been disclosed. Nevertheless, certain members of the TTU faculty and administration have publicly called into question the accuracy and validity of the Study. Some of those individuals are copied on this letter. If it is true that TTU has complied with Tenn. Code Ann. § 49-7-120(b) (and we currently have no reason to believe otherwise), it must also be true that most of the members of the faculty and administration who have casted doubt on the Study have not actually reviewed it.

The Study is now the subject of an internal "misconduct in research" investigation. In a February 19, 2018 letter addressed to Tommy C. Fitzgerald, President Oldham instructed FGK to "withhold any use or reference to said study pending the conclusion of [TTU's] internal investigations." As the Study's sponsor, FGK is faced with one of two possibilities:

(1) the Study, which FGK did not take part in, is flawed or involved some sort of misconduct; or

(2) the Study is valid, and the criticism of the Study is unfounded.

FGK has no reason to believe that the Study is in any way inaccurate or invalid. To be sure, we do not have engineers or scientists on staff and we lack the ability to perform the type of research that the Study called for. TTU represented to FGK that the university was fully capable of conducting the Study, and our funding of the Study was predicated on those representations.

We were surprised to learn that the principal investigator (PI) of the Study, Dr. Benjamin Mohr, the Chair of TTU's Civil and Environmental Engineering Department, was the research misconduct complainant. We also understand that Dr. Mohr is now claiming that his involvement in the Study was minimal. That the PI assigned to the Study is attempting to distance himself from the Study is concerning.[1] TTU represented to FGK not only that it was capable of conducting the Study, but also that a PI would be involved in the Study.

FGK expected, like any other sponsor of funded research would reasonably expect, properly conducted research and findings that it could rely on. We did not expect to receive work product that some have characterized as "flawed and shoddy" or "farfetched and scientifically implausible," and we certainly did not expect to be defamed by faculty members and administrators from the very institution that conducted the research. These faculty members and administrators have attacked the Study for the ostensible purpose of protecting TTU's reputation. We appreciate that there may be other motivations. Whatever the intent, these public statements have damaged the business and reputation of FGK and the Fitzgerald family.

We hereby demand that TTU preserve all documents in its possession, custody or control, whether in paper or electronic form, which relate to the Study or FGK. Such documents would include, but would not be limited to, documents tending to show that the Study is flawed, shoddy, inaccurate, untruthful or scientifically implausible. If it is determined that the Study is any one of those things, then TTU's conduct during the course of the Study, as opposed to the statements of certain faculty members and administrators, will have been the cause of the damage to FGK and the Fitzgerald family.

[1] As the sponsor of the Study, FGK reviewed some of TTU's files related to the Study as part of TTU's effort to respond to a public records request. Those files reflect several instances where Dr. Mohr gave written approvals and received funded research payments through the end of 2017, when the Study was completed.

If you have any questions, please call me at (931) 881-3893.

Sincerely,

Joseph M. DePew
General Counsel

cc: Tommy C. Fitzgerald, Fitzgerald Glider Kits (*via e-mail*)
Thomas Brewer, Associate Vice President, Strategic Research Initiatives, Tennessee Tech University (*via e-mail*)
Mark Davis, Academic Support Associate, Civil & Environmental Engineering, Tennessee Tech University (*via e-mail*)
Darrell Hoy, Ph.D., Interim Dean, College of Engineering, Tennessee Tech University (*via e-mail*)
Christy Killman, Faculty Senate President, Tennessee Tech University (*via e-mail*)
Karen Lykins, Chief Communication Officer, Tennessee Tech University (*via e-mail*)
Benjamin Mohr, Ph.D., Chair & Associate Professor, Civil & Environmental Engineering, Tennessee Tech University (*via e-mail*)
Andrew Smith, Professor, English Department, Tennessee Tech University (*via e-mail*)
Bharat Soni, Ph.D., Vice President for Research & Economic Development, Tennessee Tech University (*via e-mail*)

MEMORANDUM

TO: Christy Killman, President TTU Faculty Senate
Melissa Geist, Faculty Representative, TTU Board of Trustees
Julia Gruber, President, AAUP

FROM: Darrell Hoy, Interim Dean, College of Engineering D. Hoy

DATE: 02/16/2018

SUBJECT: Request for Your Groups to Continue to Urge President Oldham to Publically Suspend TTU Support for the Results of the Fitzgerald Study and Letter to Congresswoman Dianne Black

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On behalf of the College of Engineering, I would like to request your assistance, as elected representatives of the TTU faculty, to continue to urge President Oldham to immediately and publically suspend TTU support of the results of the Fitzgerald testing, and withdraw the letter sent to Congressman Dianne Black on June 15, 2017, which contained assertions based on the aforementioned testing. The suspension of this support and withdrawl of the letter would be temporary, pending the results of the internal and external investigation.

By not publically suspending the support for the Fitzgerald testing and the letter to Congressman Black, pending the results of the investigations, the University is effectively remaining in support of these studies by their non-response. This lack of a public response has, and is continuing to do significant damage to the reputation of this Institution and in particular, the College of Engineering.

I contend that the evidence placed into the public arena and public docket of the EPA by both Fitzgerald and TTU themselves, cast sufficient doubt that the burden of proof is now on President Oldham to show why the administration continues to lend its tacit support to the Fitzgerald testing and his letter to Dianne Black.

Furthermore, as clearly revealed in the questioning of Associate Vice-President Tom Brewer and Vice-President Bharat Soni during the Faculty Senate meeting on Jan 29, 2018 (minutes available on the faculty Senate website) that no qualified, credentialed engineering faculty member (1) oversaw the testing, (2) verified the data or calculations of the graduate student, (3) wrote or reviewed the final report submitted to Fitzgerald, or (4)

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wrote or reviewed the letter submitted to Dianne Black with the farfetched, scientifically implausible claim, that remanufactured truck engines met or exceeded the performance of modern, pollution-controlled engines with regards to emissions.

Since no qualified, credentialed engineer was involved, the work performed is by definition not a scientific research study and therefore afforded the protections offered by TTU Policy 780 "Misconduct in Research". Furthermore, there is no policy that prevents the President from putting the University's support of this testing on hold, pending the results of an official investigation.

The damage already done and continuing to be done to the reputation of the University is significant, and as an institution, we cannot afford to wait weeks and months until these investigations are completed. The recent article on the front page of the New York Times (published on 15 February 2018) referred to the "engineering experts" on the Fitzgerald study. The study was, of course, not conducted by engineering experts at all, yet the damage to our College has already been done.

Since I did not start in my current position until August, 2017, after the Fitzgerald testing had been completed and the letter had been sent to Dianne Black, I first learned about this issue via a Nov. 10, 2017 article in the Washington Post. As more negative press and questions began arising in the national and local media, I became increasingly concerned as I learned more about the details of the testing and claims that had been made in the letter. On Dec. 22, 2018, in a cellphone conversation with President Oldham, I mentioned the fact that several faculty in the College had raised concerns in this regard. In a follow-up phone call the next day to his Chief of Staff, Lee Wray, I further emphasized that I did not believe that the University could defend this study. On Jan. 23, 2018, myself and Associate Dean Vahid Motevalli met with Lee Wray and Karen Lykins (Director of the Office of Communications & Marketing. During this meeting, we expressed our grave concerns about the Fitzgerald project, including the devastating five-page critique of the "flawed TTU study" that appeared in the public docket of the EPA by the Environmental Defense Fund (EPA-HQ-OAR-2014-0827) on January 5, 2018. I concluded the meeting by urging (almost begging) that the Administration immediately suspend support for the project, pending an internal investigation. In a follow-up meeting, with Chief of Staff Lee Wray on Jan. 26, 2018, he confirmed that he had delivered the message to the President, the President had considered my input, but that they also had other input supporting the study. On the following Monday, Jan. 29, 2018 the members of the Faculty Senate from the College of Engineering proposed a draft resolution to the Senate, which after modification, became the Faculty Senate Resolution that was approved by a vote of 33 to 1, and was sent to the President on Tuesday, Jan. 30, 2018. Item 2 in this Resolution stated: "Issue a letter, signed by the President, withdrawing all Tennessee Tech support from the study, pending the results of the aforementioned investigation". In his response, the President declined to issue such a letter, and based on his email yesterday, Feb. 15, 2018, addressed to "Faculty/Staff", he is maintaining that position.

I realize this memo and the facts that I have brought to light may be a "professional suicide" with regard to my position as Interim Dean. However, if that is what it takes to help force a more

active response from the University and stop the damage to the College, I do it willingly and without hesitation.

Civil and Environmental Engineering

TENNESSEE TECH

TO: Dr. Philip Oldham, President

FROM: Dr. Benjamin Mohr, Department of Civil and Environmental Engineering

DATE: January 25, 2018

SUBJECT: Withdrawal as Principal Investigator

Effective immediately, I withdraw as the Principal Investigator of the current research project funded by Fitzgerald, along with any implicit support of statements that have been publicly released by the university. While my role has been largely administrative, I can no longer be associated in any way with this research project. I had no role in (nor prior knowledge of) the dissemination of results via letter by yourself and Mr. Tom Brewer, and subsequently included in an EPA petition. I have verbally expressed my displeasure regarding the matter to Mr. Brewer and the conflict of interest this has created. I indicated that this would likely lead to "bad press" and is not consistent with the typical release of information for industry-sponsored projects. All this time, I have been reassured that the university was working on a plan to combat the negative publicity and feedback. However, I can no longer sit back and wait for a response, which I may or may not agree with.

In addition, a graduate student has been caught in the middle of this dilemma. In early January, I (along with another member of the graduate student's committee) met with Mr. Brewer and stated that we do not support the student writing a thesis. A change from a thesis to non-thesis was largely due to our concerns over placing our names on what would ultimately become a public document. As such, concerns over the handling of data and the subsequent release have been made known over the past few months.

~~Back to the beginning when I agreed as PI in signing the project proposal (which I reviewed, but did not write), it was my~~ understanding that the intent of the project was to perform relative comparisons of emissions from two classes of diesel engines (having had previously conducted research regarding NO_x, SO_x, and other environmental contaminants). Other portions of the project (e.g., legal issues and economic analysis) were subcontracted to other units within Tennessee Tech. The emissions data were never intended to be used as absolutes, nor directly compared to EPA standards. Any subsequent analyses regarding engine modifications, or similar, would then be conducted by qualified individuals in engine performance. Upon conclusion of the project, perhaps a peer-reviewed journal article would have been submitted. This is ultimately not how the results were used.

Furthermore, I was not given the opportunity to review any research reports prior to their submission to the industry sponsor. While I am listed as the PI at the top of the Phase I research report, I did not contribute nor review the report prior to dissemination. In addition, on the Phase II report, I am not listed as PI, instead Mr. Brewer is listed as PI (see attached). Again, I was not given the opportunity to comment on this report. While I do not necessarily refute the reports, I do not believe the conclusions drawn are objective or support statements made in the aforementioned letter and included in the EPA petition. In my opinion, this violates any and all academic and research principles, possibly including Tennessee Tech Policy 780.

I have done my best throughout my academic career to support the university to the best of my ability; however, I am an academic and have no interest in the political role this project has played. The reputation of the College of Engineering and myself have been damaged by our unwilling involvement in a political fight. While I have faith that the data collected is valid, the results have been misrepresented and improperly handled. As such, I am withdrawing as PI and I encourage the university to withdraw its public statements until further information can be gathered.

Civil and Environmental Engineering

TENNESSEE TECH

TO: Dr. Bharat Soni, Office of Research and Economic Development

FROM: Dr. Benjamin Mohr, Department of Civil and Environmental Engineering

DATE: January 27, 2018

SUBJECT: Violation of Tennessee Tech Policy 780 Misconduct in Research

Following my prior letter dated January 25, 2018 and sent to President Oldham, as requested, this letter serves as a formal allegation of research misconduct against Mr. Tom Brewer pursuant Tennessee Tech Policy 780. The research misconduct is in regards to the Fitzgerald Glider Kits industry sponsored project. I regret that this situation has elevated to this point, but it does not appear that the university is poised to stem the damage caused by these actions.

When I agreed as PI in signing the project proposal (which I reviewed, but did not write), the intent of the project was to perform ***relative*** comparisons of emissions from two classes of diesel engines (having had previously conducted research regarding NO_x, SO_x, and other environmental contaminants). This was to be a ***preliminary*** investigation guiding future research outside the scope of the original proposal. Other portions of the project (e.g., legal issues and economic analysis) were subcontracted to other units within Tennessee Tech. The emissions data were never intended as absolutes, nor directly comparable to EPA standards. Any subsequent analyses regarding engine modifications, or similar, would then be conducted by qualified individuals in engine performance. Upon conclusion of the project, perhaps a peer-reviewed journal article would have been submitted. Regardless, it was my intent that objective results would be submitted to the industry sponsor according to accepted practice. However, this is ultimately not what happened.

Per my letter on January 25, 2018, I have withdrawn as the Principal Investigator (PI) of the research project, along with any implicit support of statements that have been publicly released by the university. I had no role in (nor prior knowledge of) the dissemination of results via letter dated June 15, 2017 to Congressman Diane Black and signed by President Oldham and Mr. Brewer. I did not become aware of this letter until approximately November 1, 2017. I do not agree with statements made in this letter. The letter includes falsification by omissions of scope, methodology, and non-supporting data (e.g., NO_x). For example, the letter states "…research showed that optimized and remanufactured 2002-2007 engines and OEM certified engines performed equally as well and in some instances out-performed the OEM engines." While the data shown do appear to support this claim, NO_x results were completely omitted (i.e., falsification by omission). Lastly, the intent of the project was never to drawn direct comparisons to EPA emissions, which the letter specifically states "[t]he results of the emissions test were compared with the 2010 EPA emissions standards…" as well as in Table 1, "NO_x: None of the vehicles met the standard." This is not simply a difference of opinion in the interpretation of results; this is a violation of research principles by misrepresenting (standard versus non-standard preliminary testing) and withholding data. I had verbally expressed my displeasure regarding the matter to Mr. Brewer and the conflict of interest this has created. I indicated that this would likely lead to "bad press" and is not consistent with the typical release of information for industry-sponsored projects. I should have withdrawn from this project earlier; yet, I have been reassured on multiple occasions that the university was working on a plan to combat the negative publicity and feedback, either by clarification of intent and scope or retraction of explicit support. For example, in response to an email inquiry, I forwarded the email to Mr. Brewer on 11/13/2017, which Dr. Soni ultimately forwarded to Karen Lykins with the statement, "…Karen will handle this request. […] Karen will take care of that and follow-up." I do not take accusations against upper administrators lightly but was unsure of appropriate options, until the publication of Policy 780 on January 1, 2018. Additionally, I can no longer sit back and wait for a response, which by all accounts, I may not agree with. The longer the wait, the more damage occurs.

Mr. MCNERNEY. Dr. Miller, I'm not a scientist—or I am a scientist. I forget sometimes. That's the scientific method. But would you trust the conclusions of a study like that?

Dr. MILLER. Let's just say if I was putting myself in the shoes of the State in an enforcement case and I had to go to court with that kind of study as proof, I'd be looking for a way to get out. You know, I kind of call it like the alien experiment. They took a probe, they stuck it in a smokestack, and they looked at it and they said, gosh, it's just as clean as a modern engine. That just doesn't pass muster.

Mr. MCNERNEY. Well, Dr. Miller, do you have any response to the fact that this study has been pivotal to the efforts by Fitzgerald Glider Kits, the glider industry, and the Trump Administration's EPA in trying to justify the rationale for repealing the glider provisions that limit productions of glider vehicles?

Dr. MILLER. Well, you know, it certainly made it into EPA's proposal. They cited it when proposing to reinstate the glider kit loophole. And it certainly made the press, so, yes, it got attention. We're talking about it today.

Mr. MCNERNEY. We are. Thank you, Mr. Chairman, I yield back.

Mr. ABRAHAM. Thank you. Dr. Babin?

Mr. BABIN. Thank you, Mr. Chairman. I appreciate it. I appreciate all you witnesses.

I do have several questions here. I'd like to start with Mr. Long. In your experience with the trucking industry, how do you think gliders promote recycling and the smart use of fossil fuels?

Mr. LONG. Sure, thanks. Let me say thank you for your interest in small-business trucking issues. It's really greatly appreciated.

Mr. BABIN. Yes, sir. Proud to do it.

Mr. LONG. Yes, we've seen rates that gliders can recycle millions of pounds of steel each year. Our members who use them report that they've saved a mile per gallon, as much as a mile per gallon on fuel efficiency, which, over the course of a year, can translate to 3,000 gallons of diesel fuel. These are all issues that I think have gotten a little bit lost in the conversation about the overall public health impacts.

But another one that I want to touch on is something that no one's really addressed at all and that's the taking owner-operators off the road, pricing them out of the industry is taking the most experienced and safe drivers off the road. They're going to be replaced with young, inexperienced drivers who are certainly not going to be operating as safely, and you will probably see crash rates go up. So I think that's another public health consideration people need to take into account when talking about this. It's a much bigger picture than simply an EPA study and a Tennessee Tech study.

Mr. BABIN. Yes. Okay. Thank you. And then one more. Your story about Loren Hunt really resonated with me. It's a great example of innovation and the American dream, and I wanted to ask you. Is Loren's experience unique or do others in the trucking business experience similar challenges that he did?

Mr. LONG. Loren's story came to us a while ago. Since we started telling our members that we would be participating in this event

and since we've been getting more engaged in the glider issue in general, we've been getting more and more stories like his.

Mr. BABIN. Yes.

Mr. LONG. We've had members just this week send us their cost estimates for refurbishing or repairing new trucks with the new technology and they let us know that it costs tens of thousands of dollars, but they're also unable to make any money off that truck because it's been in the garage so long. So we've been getting a slow stream of stories about this, and I anticipate because of today we'll probably be getting even more.

Mr. BABIN. Okay. All right. Thank you very much, Mr. Long.

Mr. LONG. Sure. Thank you.

Mr. BABIN. I appreciate it. Now, following that up about recycling, Dr. Belzer, what type of data or information was excluded in the EPA's phase 2 regulatory impact analysis that should have been considered to ensure its reliability when used to influence policy and regulations?

Dr. BELZER. Well, in this context, EPA has guidance on the conduct of regulatory impact analyses just like OMB does. EPA's guidance directs the components of the agency to conduct a proper analysis of the incremental costs and benefits of every, you know, material provision of a rule. That's been in EPA's own guidance for a decade or two. They didn't follow that in this case, so what you have in the 1,100-page analysis you just don't have anything there. And I can't tell you why that's true. It's a provision that's a significant one. If it were not a significant one, we would not be talking about it. But it wasn't subjected to analysis that we would normally expect.

If I had been working in the Office of Information and Regulatory Affairs in 2016, I would have advised the Administrator to return the rule because the analysis was significantly incomplete. They know how to do it correctly. There's no mystery about that. These are not complicated analytic questions.

Mr. BABIN. Okay. And then lastly, in your strawman RIA you state that as a result of the phase 2 final rule, the glider industry would be destroyed and employment losses are highly plausible. Can you give us an idea of how many American jobs will be lost as a result of this rule?

Dr. BELZER. Actually, I think that's difficult to do, and there are problems with counting job losses in a regulatory impact analysis. That is a complicated matter in economics and one that—the way to go about this is actually to count them—try to estimate them separately, not to count them as benefits and costs or one or the other. It is difficult to do because you don't know to what extent the people working in the glider manufacturing business, where they would go. That has to be estimated to see what happens to them. In a full employment economy, they would go elsewhere.

Mr. BABIN. Right.

Dr. BELZER. In a less-than-full employment economy, we don't know what's going to happen to them. And many of these jobs are located in rural areas where the alternatives may not be as rich as they are, let's say, in New England.

Mr. BABIN. Well, thank you very much. I appreciate it. And I yield back, Mr. Chairman.

Mr. ABRAHAM. Thank you, Dr. Babin.

Mr. Weber?

Mr. WEBER. And I don't know where to start. Don't start? Okay. Mr. Chairman, I yield back. At least I'm not a scientist. I'm just saying.

I have a hypothetical scenario, which I want each of you all to answer yes or no to. It's a question that's pretty simple. Let's say a cell phone company wants to test which phone produces data faster, an Apple iPhone or a Samsung Galaxy. Samsung reaches out to the phone company and says we can help you figure out which one's faster. Samsung will supply you with two iPhones and two Galaxies. We suggest you process this particular data and complete the test within this time frame.

The cell phone company, without contacting Apple, okay, conducts the test in accordance with Samsung's suggestions, finding, surprise of all surprises, that the Samsung is 10 times faster. The cell phone company then markets to you, the consumer, that the Samsung Galaxy is hereby declared 10 times faster than the Apple iPhone according to that study. If you were made aware of the circumstances of that cell phone study, would you trust that cell company's marketing statement that the Samsung was 10 times faster than the iPhone? Ms.—is it Tsang?

Ms. TSANG. Yes, Congressman.

Mr. WEBER. Would you trust that study?

Ms. TSANG. I can only speak to the legal requirements related to the rulemaking unfortunately.

Mr. WEBER. Are you also a scientist?

Ms. TSANG. I am, not.

Mr. WEBER. I am just kidding. No. So Mr. Long?

Mr. LONG. No.

Mr. WEBER. Dr. Miller?

Dr. MILLER. On your assumption that that's what EPA did, I would say no, that would be wrong.

Mr. WEBER. All right.

Dr. MILLER. EPA did not do that.

Mr. WEBER. Do you carry an iPhone or a Samsung?

Dr. MILLER. I've done both. Actually, I do have both.

Mr. WEBER. Okay. Dr. Belzer?

Dr. BELZER. I tend to distrust all marketing, so I would treat this claim the same way I'd treat all other claims.

Mr. WEBER. You say you can or can't?

Dr. BELZER. I would distrust all of it.

Mr. WEBER. All marketing?

Dr. BELZER. All marketing claims——

Mr. WEBER. Okay.

Dr. BELZER. —in the same way that I often have a skeptical regard to preambles of regulation——

Mr. WEBER. So that means your wife tells you what to buy.

Dr. BELZER. No, not on technology.

Mr. WEBER. No? Okay. I'm just checking. Well, look, it seems very interesting to me. We've got older—by the way, Mr. Long, you'd be interested in this. I owned an air-conditioning company for 35 years, sold it a year ago. We dealt with the EPA on refrigerant requirements and all kinds of stuff, had trucks and the whole nine

yards. Some friends of mine at church got me into the hotshot business. I ran a trucking company for a short time until I ran for the Texas Legislature, and then I couldn't keep building it. So I've been down those roads. I've been TxDOT'ed, USDOT'ed, and everything else, so I have trucking industry experience. Does this set a precedent where no older engines are able to be used for anything, antique cars? Are we afraid of that? What do you think, Mr. Long?

Mr. LONG. No, because drivers will just continue to use their current engines or they'll buy used trucks with older engines as well.

Mr. WEBER. Well, sure. Shouldn't we really be reluctant to change what small-business owners are allowed to do—of which I was one of—allowed to do without knowing that we for sure have enough reliable information/studies? Shouldn't we really be reluctant to change that?

Mr. LONG. Absolutely, and I think our members would say that accounts for all trucking policies, not just this one.

Mr. WEBER. Dr. Miller, would you agree that we absolutely need enough concise concrete evidence before we change this?

Dr. MILLER. I think we have it. And to your earlier question about do you think it affects antique car owners? No, it doesn't. Those are old cars. There's no question about that. We're talking about——

Mr. WEBER. But they use old engines.

Dr. MILLER. Old cars with old engines.

Mr. WEBER. And these are old engines that go in new trucks. And if you read——

Dr. MILLER. Right, but those are the first certificates of ownership, titles transferred for those gliders. You don't have that with an antique car. It wouldn't be covered.

Mr. WEBER. Well, if you read what the EPA was claiming—and, by the way, I was on the Environmental Reg Committee there in Texas before I got demoted to Congress, and Gary Palmer was right. We don't know what causes asthma, but we have reduced our NOx and greenhouse gases a lot, and we have an increase in asthma. So are we maybe too worried without that proof I'm talking about?

So what is it—how many more studies should we go through? Does that include an economic impact study in your opinion, Dr. Miller? Should we have an economic impact study? I know you all talked about it's hard or maybe Dr. Belzer said it's hard to make that calculation. But before we interrupt that business practice, shouldn't we have a study in that regard as well?

Dr. MILLER. I would assert that we have that information. We have the cost of essentially post-2010 engine emissions control, and that's from 2000.

Mr. WEBER. Yes.

Dr. MILLER. We have that cost, which is essentially what presumably one could use as a basis for a cost of—to the glider industry. It's about $670 per engine. People may think that's low, so double it, triplet, you know, say it's about $2,000. That's fine because if you're interested in small businesses, if we allowed that amount of emissions from glider kits that could be controlled for less than $2,000, in my region we're already controlling small businesses that start at $2,000 per ton of——

Mr. WEBER. Where's your region?

Dr. MILLER. It's the Northeast, so we're talking New York, New Jersey——

Mr. WEBER. Okay.

Dr. MILLER. —and apparently the rich folks of New England—I don't know. So——

Mr. WEBER. I notice you're not wearing a bowtie and he is.

Dr. MILLER. I'm actually from Texas——

Mr. WEBER. I got you.

Dr. MILLER. But putting that aside, these are cost savings, I will say, for folks who are using pre-emission control. I don't disagree with that. They're simpler engines. They're dirtier engines, they're simpler engines, they're easier to maintain, but those cost savings aren't absolute. Those are cost shifts. They are cost shifts to public health impacts. You talk about the incidence of asthma going up but pollution going down. I take that as there are more people with asthma, so it's more important to address the pollution that's affecting those people. So I take that as even more of a reason to move forward.

On the small-business side, we're already controlling or asking small businesses in our region to control at costs well above what it looks like it would cost to bring glider kits up to modern pollution standards. That's going to have impacts on people's jobs. We have to meet these standards to protect public health.

Mr. WEBER. Well, we're going to disagree about that.

Mr. Chairman, I'm well over my time, so thank you very much for your indulgence.

Mr. ABRAHAM. You're welcome.

I thank the witnesses for their valuable testimonies and Members for their questions.

The record will remain open for two weeks for additional comments and written questions from Members. This hearing is adjourned.

[Whereupon, at 11:45 a.m., the Subcommittees were adjourned.

Appendix I

Answers to Post-Hearing Questions

ANSWERS TO POST-HEARING QUESTIONS

Responses by Dr. Paul J. Miller

HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

"Examining the Underlying Science and Impacts of Glider Truck Regulations"

Dr. Paul J. Miller, Deputy Director & Chief Scientist. Northeast States for Coordinated Air Use Management (NESCAUM)

Questions submitted by Rep. Charlie Crist, House Committee on Science, Space, and Technology

1. **A brief discussion of air quality impacts on asthma occurred during the hearing with some assertion that increasing rates of asthma somehow diminish the significance of the air quality improvements we have made in the past 40 years.**

    a. **Can you please respond to the assertion that was made at the hearing? Is it correct?**

It would be incorrect to infer that there is no relationship between air quality and asthma based on an increasing prevalence of asthma as a disease and decreasing levels of air pollution in the U.S.

    b. **Please describe the relationship between asthma and air quality.**

According to the U.S. Centers for Disease Control and Prevention (CDC), "The cause of asthma is largely unknown[.]"1 What is well known is that children and others who have asthma as a disease, whatever the cause, are at risk of suffering asthma attacks by inhaling substances known to trigger asthmatic symptoms. Inhaling air pollution (i.e., poor air quality) is one known trigger of asthma episodes in those who have asthma.

The CDC notes, "Air pollution is one of the most underappreciated contributors to asthma episodes. Children with asthma are particularly vulnerable to ozone, even at levels below the Environmental Protection Agency's current standard. Pollution from truck and auto exhaust also raises the risk of asthma symptoms."[1] With the rising prevalence of asthma as a disease, continuing progress in improving air quality remains important because the affected population at risk of suffering from pollution-triggered asthma attacks has increased over time.

[1] CDC National Asthma Control Program, *America Breathing Easier* (undated). Brochure available at https://www.cdc.gov/asthma/pdfs/breathing_easier_brochure.pdf, p. 6 (accessed October 8, 2018).

2. **You noted that absent federal regulation, it was possible that more states would take steps to protect public health by regulating the operation of glider trucks on their roads, including possibly banning glider kits with pre-2010 engines.**

    a. **Please describe the implications you would expect to see if individual states were to ban glider trucks from operating on their roads.**

If EPA does not have the authority to regulate glider kits as "new" vehicles under the Clean Air Act (a view I do not share), then states would not be pre-empted by federal law from regulating them. Because a number of states, including California and many in the Northeast Corridor, continue to violate national air quality standards, and on-road diesel trucks emit a significant portion of air pollutants contributing to those problems, a number of these states could seek to address excess pollution from glider trucks not meeting modern engine emission limits (e.g., pre-2010 engines without selective catalytic reduction controls and diesel particulate filters). If a number of states seek to limit the operation of the dirtiest glider kits on their roads, I would expect the pollution load from these vehicles with "pre-emission" engines to be concentrated in states where no such limits exist. It may also be possible that owners/operators of these types of glider trucks will be unable to access or deliver loads in states banning their use, or to transit through such states in delivering their loads elsewhere.

    b. **Please share any other measures states might consider to protect the public health of its citizens from glider vehicles.**

Assuming states are not pre-empted from regulating glider kits as "used" vehicles, multiple regulatory options may be pursued apart from a ban of glider kits with "pre-emission" engines. This could include differing emission standards across jurisdictions not equivalent to 2010 or later engine standards, or control of one type of pollutant and not another (e.g., requiring diesel particulate filters for fine particulates, but not selective catalytic reduction for nitrogen oxides). Ultimately, states and local authorities could pursue multiple approaches giving rise to numerous varying regulatory requirements across the country.

Where bans that apply equally to both intra- and inter-state trucks are considered, the state would need to consider its interest in protecting its citizens from harmful air pollution emitted by gliders in relation to the regulation's impacts on interstate commerce. However, I would not expect states to ban all glider kits, but instead to narrowly focus on glider trucks with "pre-emission" (i.e., uncontrolled) diesel engines. Glider trucks having installed engines meeting current emission standards (2010 and later engines) would continue to operate. As the majority of trucks in interstate commerce today are not gliders with pre-2010 engines, the overall potential impact of a targeted glider ban on the movement of goods in interstate commerce would not be clearly excessive in relation to the substantial public health harm created by their much higher emissions.

Appendix II

Additional Material for the Record

LETTER SUBMITTED BY RANKING MEMBER JOHNSON

LAMAR S. SMITH, Texas
CHAIRMAN

EDDIE BERNICE JOHNSON, Texas
RANKING MEMBER

Congress of the United States
House of Representatives
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
2321 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6301
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September 26, 2018

Inspector General Arthur A. Elkins Jr.
Environmental Protection Agency (EPA)
Office of Inspector General
Washington, D.C. 20460

Dear Inspector General Elkins:

We are writing to you with serious concerns about the factual basis for a notice of proposed rulemaking entitled *"Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits,"* published in the Federal Register by former EPA Administrator Scott Pruitt on November 16, 2017.[1] As part of this proposed repeal, EPA cited a "Petition for Reconsideration of Application of the Final Rule Entitled 'Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium-and Heavy-Duty Engines and Vehicles—Phase 2 Final Rule' to Gliders," that was received from Fitzgerald Glider Kits, LLC, Harrison Truck Centers, Inc., and Indiana Phoenix, Inc. on July 10, 2017.[2] The petitioners cited a Fitzgerald-funded study conducted by Tennessee Technological University (TTU) that they claimed had determined glider engines performed on par with or better than conventional engines. The petition included, as an attachment, a letter from Philip B. Oldham, President of TTU, and Thomas Brewer, Associate Vice President for Strategic Research Initiatives and Executive Director of the Tennessee Center for Intelligent Mobility (TCIM) at TTU, to Representative Diane Black summarizing the results of that study.[3] In August 2017, TTU held a press conference announcing the launch of the TCIM, described as a public-private partnership housed at the Fitzgerald Technology Complex.[4] Then

[1] "Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits," ACTION: Proposed rule. AGENCY: Environmental Protection Agency (EPA). Federal Register / Vol. 82, No. 220 / November 16, 2017 / Proposed Rules, accessed here: https://www.gpo.gov/fdsys/pkg/FR-2017-11-16/pdf/2017-24884.pdf

[2] "Petition for Reconsideration of Application of the Final Rule Entitled 'Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium-and Heavy-Duty Engines and Vehicles—Phase 2 Final Rule' to Gliders," Tommy C. Fitzgerald, President, Fitzgerald Glider Kits, LLC, Dustin Petersen, Shareholder, Harrison Truck Centers, Inc., and Dane Keener, General Manager, Indiana Phoenix, Inc., July 10, 2017, accessed here: https://www.epa.gov/sites/production/files/2017-07/documents/hd-ghg-fr-fitzgerald-recons-petition-2017-07-10.pdf

[3] Letter from Philip B. Oldham, President of Tennessee Technological University (TTU) and Thomas Brewer, Associate Vice President of the Center for Intelligent Mobility (TCIM) to Representative Diane Black, Reference: Tennessee Tech University – Summary of Heavy Duty Truck Study and Evaluation of the Phase II Heavy Duty Truck Rule, June 15, 2017, (See Exhibit 1, page 9), accessed here: https://www.epa.gov/sites/production/files/2017-07/documents/hd-ghg-fr-fitzgerald-recons-petition-2017-07-10.pdf

[4] "Tennessee Tech, TCAT Livingston, Fitzgerald companies announce new partnership," Tennessee Tech News, Tennessee Technological University, August 7, 2017, accessed here: www.tntech.edu/news/releases/tennessee-tech,-tcat-livingston,-fitzgerald-companies-announce-new-partnership

EPA Administrator Scott Pruitt met with the owners of Fitzgerald Glider Kits in May 2017 and cited the TTU study in the agency's November 2017 notice of proposed rulemaking.[5]

Actions by EPA's leadership, particularly those that may endanger the environment and the public's health, must be based on scientific facts, not false, misleading or deceptive data. According to the EPA's own study, glider vehicles can emit 43 times more nitrogen oxides (NOx) and 55 times more particulate matter (PM) than conventionally manufactured trucks.[6] Exposure to these chemicals has also been shown to increase the likelihood of developing lung cancer, chronic lung disease, heart disease, as well as exacerbating severe asthma attacks and causing premature deaths. Despite conclusions suggesting that glider vehicles emitted similar levels of pollutants as conventional vehicles, it now seems clear from an abundance of publicly available information that the TTU glider study, used by EPA to help justify its proposed glider repeal rule, cannot be trusted.

We urge you to investigate both the scientific basis for the study's conclusions and the efforts taken to use this questionable study by Fitzgerald Glider Kits, individuals at Tennessee Tech University, and senior officials at the EPA as a justification for repealing the glider rule. By any objective assessment the testing measures used and the conclusions reached in the TTU study should warrant extreme scrutiny and skepticism.

Among the many questionable aspects that have already been publicly disclosed about the TTU glider study:

The TTU glider study was not independent. Fitzgerald Glider Kits, the largest glider kit manufacturer in the United States, paid $70,000 to Tennessee Tech to conduct the study which was completed in June 2017.[7] In August 2017, TTU and Fitzgerald announced a public-private partnership to develop the Tennessee Tech Center for Intelligent Mobility (TCIM), which was supposed to be completed in 2018 and housed at the Fitzgerald Industrial Park.[8] One of the TTU faculty members involved in the glider testing is a TTU Motorsports Faculty Advisor.[9] The

[5] See: "Who Is the E.P.A. Administrator Scott Pruitt Meeting With? A Detailed Schedule," New York Times, October 3, 2017, page 267, accessed here: https://www.nytimes.com/interactive/2017/10/03/us/politics/document-Pruitt-Sked-and-McCarthy-Sked.html and "Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits," ACTION: Proposed rule. AGENCY: Environmental Protection Agency (EPA). Federal Register / Vol. 82, No. 220 / November 16, 2017 / Proposed Rules, accessed here: https://www.gpo.gov/fdsys/pkg/FR-2017-11-16/pdf/2017-24884.pdf

[6] "Chassis Dynamometer Testing of Two Recent Model Year Heavy-Duty On-Highway Diesel Glider Vehicles," National Vehicle & Fuel Emissions Laboratory (NVFEL), Environmental Protection Agency (EPA), Ann Arbor, Michigan, November 20, 2017, accessed here: http://www.documentcloud.org/documents/4608504-EPA-Chassis-Dynamometer-Testing-of-Two-Recent.html

[7] Tennessee Technological University, Annual Report 2015-2016, Office of Research, (page 42, PI - Benjamin Mohr, "Environmental & Economic Study of Glider Kit Assemblers," Fitzgerald Glider Kits, $70,056.00), accessed here: https://www.tntech.edu/assets/userfiles/resourcefiles/13847/1476976572_2015-16%20Annual%20Report_FINAL.pdf

[8] See: Laura Militana, "Tennessee Tech Center for Intelligent Mobility announced," *Herald-Citizen*, August 7, 2017, accessed here: http://herald-citizen.com/stories/tennessee-tech-center-for-intelligent-mobility-announced,22605 and "Tennessee Tech, TCAT Livingston, Fitzgerald companies announce new partnership," *Tennessee Tech News*, Tennessee Technological University, August 7, 2017, accessed here: www.tntech.edu/news/releases/tennessee-tech,-tcat-livingston,-fitzgerald-companies-announce-new-partnership

[9] See LinkedIn page of Mark Davis, Academic Support Associate at Tennessee Technological, former TTU Motorsports Faculty Advisor and current Academic Support Associate for the TTU Motorsports program, accessed

former TTU graduate student who conducted the testing for the glider study is now the Executive Director of the TTU Motorsports team.[10] Fitzgerald Glider Kits (FGK) and Fitzgerald Collision & Repair (FCR) are among the two dozen sponsors of TTU Motorsports.[11] The TTU glider study was paid for by FGK and the tests were conducted in a FCR facility. The multiple relationships between Tennessee Tech and Fitzgerald pose financial conflicts-of-interest that raise serious questions about the independence of the TTU Fitzgerald-funded glider study.

The TTU glider study was not conducted in an accredited laboratory. The TTU glider study was conducted at an unaccredited FCR facility in the town of Rickman, Tennessee. It is unclear why TTU chose to conduct the glider testing at a Fitzgerald-owned facility when they had a Memorandum of Understanding (MOU) with the Department of Energy's Oak Ridge National Laboratory's (ORNL's) Fuels, Engines, and Emissions Research Center (FEERC).[12]

No credentialed scientist or engineer oversaw the glider study. Dr. Darrell Hoy, the TTU Interim Dean of the College of Engineering blasted the multiple flaws with the TTU study in a February 2018 memorandum sent to the President of the TTU Faculty Senate. The memo highlighted the fact that "no qualified, credentialed engineering faculty member (1) oversaw the testing, (2) verified the data or calculations of the graduate student [who conducted the testing] [or] (3) wrote or reviewed the final report submitted to Fitzgerald...."[13] [*Emphasis in the original*]. Although Dr. Benjamin Mohr was listed as the Principal Investigator (PI) of the study, he largely played an administrative role. Mark Davis, who provided support for the study is listed as an "Academic Support Associate" at TTU and according to his LinkedIn page his highest academic credential is a high school diploma, with no formal science education listed.[14] Thomas Brewer, the Associate Vice President for Strategic Research Initiatives at TTU, who essentially ran the glider study, said that he attended all of the glider tests. He was hired by TTU to act as a liaison between the university and the automotive industry and Brewer told TTU Faculty that he was personally responsible for bringing the Fitzgerald glider study request to Tennessee Tech.[15] Prior to joining TTU, Brewer was President of the Tennessee Automotive

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here: https://www.linkedin.com/in/metalbydesign/ and "Tennessee Tech Motorsports team roster set for 2018-2019," Tennessee Tech News, Tennessee Technological University, September 7, 2018, accessed here: https://www.tntech.edu/news/releases/tennessee-tech-motorsports-team-roster-set-for-2018-2019

[10] See LinkedIn page of Justin Swafford, Executive Director at TTU Motorsports, accessed here: https://www.linkedin.com/in/justin-swafford-2a5abb80/

[11] Tennessee Tech Motorsports, "Thank you to our Sponsors!" page, accessed here: http://www.ttumotorsports.com/index.html

[12] See: Fitzgerald Collision and Repair (FCG) Freightliner Facility, accessed here: https://fitzgeraldcollision.com/freightliner-facility/, EPA MEMORANDUM, Subject: EPA Teleconference with Tennessee Tech University Regarding Glider Test Report, November 13, 2017, accessed here: https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0827-2416 and Fuels, Engines, and Emissions Research Center (FEERC), Oak Ridge National Laboratory (ORNL), accessed here: https://www.ornl.gov/ntrc/research-areas/fuels-engines-emissions.

[13] MEMORANDUM, From: Darrell Hoy, Interim Dean, College of Engineering, To: Christy Killman, President TTU Faculty Senate, Melissa Geist, Faculty Representative, TTU Board of Trustees and Julia Gruber, President, AAUP [TTU Chapter], SUBJECT: "Request for Your Groups to Continue to Urge President Oldhanm to Publically Suspend TTU Support for the Results of the Fitzgerald Study and Letter to Congresswoman Dianne Black," Feb. 16, 2018, accessed here (p.217): https://www.nytimes.com/interactive/2018/02/15/us/politics/15reg-doc.html

[14] See the LinkedIn page of Mark Davis, accessed here: https://www.linkedin.com/in/metalbydesign/ and his TTU faculty information, accessed here: https://www.tntech.edu/engineering/departments/cee/facultystaff/

[15] TTU Faculty Senate Business Meeting, January 29, 2018, accessed here: www.tntech.edu/assets/usermedia/facultysenate/minutes-and-notes-2017-2018/Fac_Sen_2018-1-29_min__B_.pdf

Manufacturers Association (TAMA).[16] Mr. Brewer has a B.S. degree in Business Administration and no scientific credentials.[17]

A graduate student analyzed the glider test data at a Fitzgerald facility. A first-year TTU graduate engineering student analyzed the test data collected for the glider study.[18] The student and Mark Davis, who provided support for the testing, were both officials on the Fitzgerald-sponsored TTU Motorsports team at the time of the tests and today. The former graduate student is now the Executive Director of the TTU Motorsports team.

The Fitzgerald facility where the glider trucks were tested did not have suitable testing equipment. The Fitzgerald facility where the glider trucks were tested did not have proper equipment to test the glider engines for emissions of particulate matter (PM). TTU faculty involved in the testing told the EPA that they "visually inspected" the engine exhaust in an attempt to determine how much particulate matter was emitted.[19] Mr. Brewer told the TTU Senate that they used a hand-held device normally used for field tests to check for particulate matter (PM) and that he believes that this was completely appropriate.[20] However, a memorandum on the Fitzgerald glider study from six TTU faculty noted that the summary of the TTU glider study submitted by Mr. Brewer included: (1) no details on the specifics of the test vehicles; (2) no information on test cycles, tests conditions, test loads, and test fuels; (3) no information on the testing facilities; (4) no information on emission tests protocols; and (5) no meaningful data on the pollutants of interest, raising serious issues about the quality of the study. The Memo also mentioned that "TTU did not measure PM levels." and that the "tests were performed without the participation of qualified TTU researchers."[21]

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[16] See Tom Ballard, "Tom Brewer bringing automotive industry expertise to Tennessee Tech," *Teknovation.biz,* Undated, accessed here: http://www.teknovation.biz/2014/11/20/tom-brewer-bringing-automotive-industry-expertise-tennessee-tech/ and LinkedIn page for Tom Brewer, accessed here: https://www.linkedin.com/in/thomas-brewer-4a499516/

[17] TTU Faculty Senate Business Meeting, January 29, 2018, accessed here: www.tntech.edu/assets/usermedia/facultysenate/minutes-and-notes-2017-2018/Fac_Sen_2018-1-29_min__B_.pdf

[18] See LinkedIn page of Justin Swafford, accessed here: https://www.linkedin.com/in/justin-swafford-2a5abb80/ and TTU Faculty Senate Business Meeting, January 29, 2018, accessed here: https://www.tntech.edu/assets/usermedia/facultysenate/minutes-and-notes-2017-2018/Fac_Sen_2018-1-29_min__B_.pdf

[19] EPA MEMORANDUM, Subject: EPA Teleconference with Tennessee Tech University Regarding Glider Test Report, November 13, 2017, accessed here: https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0827-2416

[20] TTU Faculty Senate Business Meeting, January 29, 2018, accessed here: https://www.tntech.edu/assets/usermedia/facultysenate/minutes-and-notes-2017-2018/Fac_Sen_2018-1-29_min__B_.pdf

[21] MEMORANDUM, To: Christy Killman, President of the TTU Faculty Senate, From: Corinne Darvennes, Professor, Department of Mechanical Engineering, Ahmed ElSawy, Chairman, Department of Manufacturing and Engineering Technology, et. al., RE: Fitzgerald Glider Study, February 5, 2018, accessed here: https://www.tntech.edu/assets/usermedia/facultysenate/minutes-and-notes-2017-2018/Fitzgerald_Glider_Study_Memo_2-5-2018.pdf

The testing results appear nonsensical and defy logic. The Memorandum to the President of the TTU Faculty Senate from Darrell Hoy, the TTU Interim Dean of the College of Engineering, said the glider study's summary results included the ***"farfetched, scientifically implausible claim, that remanufactured truck engines met or exceeded the performance of modern, pollution-controlled engines with regards to emissions."***[22] [*Emphasis added*].

The summary of the study falsified and omitted critical data. Dr. Mohr, the Principal Investigator (PI) of the TTU glider study, is Chairman of TTU's Department of Civil & Environmental Engineering.[23] Dr. Mohr filed a scientific research misconduct complaint with TTU, in which he said the letter sent to Rep. Diane Black from TTU President Oldham and Mr. Brewer summarizing the glider study's results "includes falsification by omissions of scope, methodology, and non-supporting data."[24]

The PI removed his name from the study because of ethical concerns. In a letter to TTU President Oldham on January 25, 2018, PI Dr. Mohr withdrew his name from association with the TTU glider study funded by Fitzgerald. He wrote that "I do not believe the conclusions drawn are objective or support statements made" in either the letter to Rep. Diane Black or included in the petition to the EPA to repeal the glider rule from Fitzgerald Glider Kits.[25]

The PI returned his funding to Fitzgerald Glider Kits because of ethical concerns. The glider study's PI, Dr. Benjamin Mohr, returned his portion ($12,494.93) of the $70,000 Fitzgerald paid TTU to conduct the glider study. "Significant time was spent researching environmental and emissions related literature, as well as communicating with project staff," wrote Dr. Mohr. "However, despite devoting appropriate time to this testing project, ethically and morally I cannot retain the previous summer salary associated with this project."[26]

The PI filed a scientific research misconduct complaint with TTU. In his official scientific misconduct complaint filed with the university, Dr. Mohr wrote that, "The misuse of results to support political opinions is a dangerous precedent that should worry all university employees."[27] It is important to note that this summary of the test results that Dr. Mohr and other

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[22] Memorandum from Darrell Hoy, Interim Dean, College of Engineering, Tennessee Technological University to Christy Killman, President TTU Faculty Senate, et. al., RE: Fitzgerald Glider Study, February 16, 2018, accessed here (p.218): https://www.nytimes.com/interactive/2018/02/15/us/politics/15reg-doc.html

[23] Benjamin Mohr, Ph.D., Chair, Civil & Environmental Engineering, Tennessee Technological University, accessed here: https://www.tntech.edu/engineering/departments/cee/facultystaff/benjamin-mohr

[24] Letter from Dr. Benjamin Mohr, Department of Civil and Environmental Engineering to Dr. Bharat Soni, Office of Research and Economic Development, SUBJECT: Violation of Tennessee Tech Policy 780 Misconduct in Research, January 27, 2018, accessed here: https://www.documentcloud.org/documents/4378485-Combatting-Pollution-in-Diesel-Trucks-and-the.html#document/p260

[25] Letter from Dr. Benjamin Mohr, Department of Civil and Environmental Engineering to Dr. Philip Oldham, President, Tennessee Technological University, January 25, 2018, accessed here: www.documentcloud.org/documents/4378485-Combatting-Pollution-in-Diesel-Trucks-and-the.html#document/p259/a426413

[26] Letter to Dr. Leslie Crickenberger, Human Resources, Tennessee Technological University from Dr. Benjamin Mohr, Department of Civil and Environmental Engineering, Tennessee Technological University, SUBJECT: Reimbursement of Summer Salary, February 2, 2018.

[27] Letter from Dr. Benjamin Mohr, Department of Civil and Environmental Engineering to Dr. Bharat Soni, Office of Research and Economic Development, SUBJECT: Violation of Tennessee Tech Policy 780 Misconduct in

TTU faculty have criticized is the same data used by the EPA in its notice of proposed rulemaking regarding the repeal of the glider rule.[28]

Tennessee Tech warned EPA not to reference the flawed study. In February 2018, the President of TTU wrote to then EPA Administrator Scott Pruitt informing him that TTU experts had "questioned the methodology and accuracy of the [glider] report" and asked the Agency to "withhold any use or reference to said study pending the conclusion of our internal investigations."[29] Similar letters were sent to Rep. Black and Fitzgerald Glider Kits, which continues to defend the scientific conclusions of the TTU glider study.

Tennessee Tech has failed to make its scientific misconduct review public. According to the summary of a February 19, 2018, TTU Faculty Senate meeting Dr. Sharon Huo, Associate Provost and Professor of Structural Engineering in the College of Engineering is serving as the Research Integrity Officer for the glider study misconduct investigation.[30] The summary of that meeting makes clear that according to the university's own policy a review should be completed within 60 days or 120 days if a full investigation is necessary. It has now been more than 200 days since that meeting occurred, and Tennessee Tech has not released any information regarding the status of the scientific misconduct complaint filed by Dr. Benjamin Mohr.[31]

Fitzgerald has sought to block TTU from releasing the full study and its test data. Although TTU temporarily suspended all activity with Fitzgerald, the General Counsel for Fitzgerald Glider Kits wrote to the President of Tennessee Tech in February 2018 and argued that the Fitzgerald funded glider study and any of its related test results were "protected from disclosure" under Tennessee law regarding the confidentiality of research records and materials, including "sponsored research" conducted at public universities.[32]

Research, January 27, 2018, accessed here: www.documentcloud.org/documents/4378485-Combatting-Pollution-in-Diesel-Trucks-and-the.html#document/p260

[28] "Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits," ACTION: Proposed rule. AGENCY: Environmental Protection Agency (EPA). Federal Register / Vol. 82, No. 220 / November 16, 2017 / Proposed Rules, accessed here: https://www.gpo.gov/fdsys/pkg/FR-2017-11-16/pdf/2017-24884.pdf

[29] Letter from Philip B. Oldham, President, Tennessee Technological University to EPA Administrator Scott Pruitt, Reference: Tennessee Tech University – Summary of Heavy Duty Truck Study and Evaluation of the Phase II Heavy Duty Truck Rule," February 19, 2018, accessed here: https://apps.washingtonpost.com/g/documents/national/tennessee-tech-presidents-letter-disavowing-the-universitys-glider-truck-study/2782/; Similar letters were also sent to Rep. Diane Black and Fitzgerald Glider Kits.

[30] See Dr. Sharon Huo information, accessed here: https://www.tntech.edu/engineering/departments/cee/facultystaff/

[31] "TTU Faculty Senate Meeting with the [TTU] President," p. 3. Fitzgerald Glider Kits Issue, February 19, 2018, Tennessee Technological University, accessed here: https://www.tntech.edu/assets/usermedia/facultysenate/minutes-and-notes-2017-2018/Fac_SEn_2018-2-19_notes__P_.pdf

[32] See: TTU Faculty Senate Business Meeting, February 5, 2018, accessed here: www.tntech.edu/assets/usermedia/facultysenate/minutes-and-notes-2017-2018/Fac_Sen_2018-2-5_min__B_.pdf and letter to Phlip B. Oldham, President, Tennessee Tech University and Kae Carpenter, University Counsel, Tennessee Tech University from Joseph M. DePew, General Counsel, Fitzgerald Glider Kits, February 26, 2018, accessed here: https://www.nytimes.com/interactive/2018/02/15/us/politics/15reg-doc.html and 2014 Tennessee Code, Title 49 – Education, Chapter 7 - Postsecondary and Higher Education Generally, Part 1 - Miscellaneous Provisions, § 49-7-120 - Confidentiality of research records and materials, Universal Citation: TN Code § 49-7-120 (2014), accessed here: https://law.justia.com/codes/tennessee/2014/title-49/chapter-7/part-1/section-49-7-120

The EPA used the flawed TTU study to help justify its proposed repeal of the glider rule. Due to a ruling by the DC Circuit Court of Appeals, the EPA's efforts to repeal the glider rule have been put on hold.[33] However, Acting EPA Administrator Andrew Wheeler issued a memo that directed the EPA's Office of Air and Radiation "to move as expeditiously as possible on a regulatory revision" regarding the repeal of the glider rule.[34] As noted above, the specific reference to the Tennessee Tech glider study in EPA's proposed repeal of the glider rule warrants a careful and complete examination. Reversing or revising EPA policies that put the public's health in harm's way should be based on valid scientific evidence not political favors for specific industries.

The proposed repeal of the glider rule is a serious and important issue that may impact the health and safety of the public in significant and harmful ways. Given the many issues identified above, we do not believe EPA can rely on the TTU study to justify the repeal of the glider rule. We ask your office to prioritize an investigation into the TTU glider study, particularly how and why it was used by EPA in its proposed rulemaking on the glider truck repeal rule.

If your staff has any questions or would like to discuss this request in more detail please have them contact Douglas Pasternak on our Minority staff at (202) 226-8892.

Thank you for your attention to this important matter.

Sincerely yours,

Eddie Bernice Johnson
Ranking Member
Committee on Science, Space & Technology

Donald S. Beyer, Jr.
Ranking Member
Subcommittee on Oversight

Suzanne Bonamici
Ranking Member
Subcommittee on Environment

Jerry McNerney
Subcommittee on Oversight

[33] Timothy Cama, "Court blocks EPA policy against enforcing truck pollution rule," The Hill, July 18, 2018, accessed here: http://thehill.com/policy/energy-environment/397687-court-blocks-epa-policy-against-enforcing-truck-pollution-rule

[34] EPA Memorandum, "Withdrawal of Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles," July 26, 2018. https://www.epa.gov/sites/production/files/2018-07/documents/memo_re_withdrawal_of_conditional_naa_regarding_small_manufacturers_of_glider_vehicles_07-26-2018.pdf

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