Case No. 18-1192

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

STATE OF CALIFORNIA, by and through XAVIER BECERRA, ATTORNEY GENERAL and CALIFORNIA AIR RESOURCES BOARD, STATE OF DELAWARE, STATE OF ILLINOIS, STATE OF MAINE, STATE OF MARYLAND, by and through BRIAN FROSH, ATTORNEY GENERAL and MARYLAND DEPARTMENT OF THE ENVIRONMENT, COMMONWEALTH OF MASSACHUSETTS, STATE OF MINNESOTA, by and through MINNESOTA POLLUTION CONTROL AGENCY, STATE OF NEW JERSEY, STATE OF NEW YORK, STATE OF NEW MEXICO, STATE OF NORTH CAROLINA, STATE OF OREGON, COMMONWEALTH OF PENNSYLVANIA, by and through JOSH SHAPIRO, ATTORNEY GENERAL and PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, STATE OF RHODE ISLAND, STATE OF VERMONT, STATE OF WASHINGTON, and DISTRICT OF COLUMBIA,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, and ANDREW K. WHEELER, Acting Administrator, United States Environmental Protection Agency,

Respondents.

APPENDIX TO
EMERGENCY MOTION FOR SUMMARY VACATUR, OR IN THE ALTERNATIVE, FOR STAY PENDING JUDICIAL REVIEW

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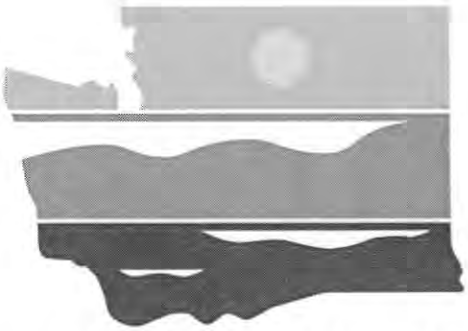
State of Washington Department of Ecology Air Quality Program Concerns about Adverse Health Effects of Diesel Engine Emissions White Paper by Harriet Ammann, PHD DABT and Matthew Kadlec, PhD DABT (December 3, 2008)



Department of Ecology Air Quality Program

Concerns about Adverse Health Effects of Diesel Engine Emissions White Paper

December 3, 2008

Publication No. 08-02-032

Prepared by

Harriet Ammann, PhD DABT

and

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If you need this publication in another format, please contact the Air Quality Program at (360) 407-6800. If you have a hearing loss, call 711 for Washington Relay Service. If you have a speech disability, call 877-833-6341.

Acknowledgements

The authors thank Leslie Keill Stanton, Katherine Himes, Tami Dahlgren and Melanie Forster for help with the text of this report

Introduction

Beginning in the 1950s, the adverse health effects of diesel exhaust particles have received increasing public and scientific attention. Many published scientific studies show that diesel exhaust significantly affects public health. Diesel exhaust particles may affect the health of all who breathe them. However, they are especially problematic for people with heart or circulatory problems and people with lung disease. Exposure to diesel exhaust can result in both immediate and long-term health effects. These effects range from cardiopulmonary, immune, endocrine, and developmental and reproductive impairments to lung- and certain other types of cancer.

Because the Department of Ecology is tasked with developing policies related to diesel sources, the Air Quality Program has developed this document to summarize our position on the current regulatory guidelines available for diesel. This paper gives an overview of the health concerns about diesel emissions by exploring diesel exhaust's:

- Composition
- Human exposure
- Adverse health effects
- Health-protective exposure guidelines

A list of publications cited in this report begins on page 16.

This paper also explains our rationale for selection of the California Environmental Protection Agency Office of Environmental Health Hazard Assessment cancer potency estimate to evaluate the carcinogenic risk associated with ambient concentrations of diesel exhaust particles, and for our selection of the United States Environmental Protection Agency (USEPA) reference concentration and equivalent California Environmental Protection Agency-Office of Environmental Health Hazard Assessment reference exposure level to evaluate the non-carcinogenic effects.

Composition of diesel exhaust

The characteristics of exhaust emitted from the combustion of diesel fuel vary according to the combustion conditions. Diesel exhaust is a complex mixture composed of particulate and gaseous components. Important gaseous components include carbon dioxide (because of its 'greenhouse' effect), carbon monoxide, sulfur oxides, nitrogen oxides, and 18,000 identified volatile and semivolatile hydrocarbon compounds. Carbon

particles adsorb the majority of these compounds, which may enhance their ability to become lodged in lung tissues. Over 98% of the particles are less than 2.5 microns in diameter, and approximately 94% of those particles are less than 1 micron in diameter (California Air Resources Board, 1998). The hydrocarbon compounds adhere to these minute carbon particles during the combustion process.

The diesel exhaust particles component consists mainly of elemental carbon particles with large surface area, which adsorb numerous hydrocarbons. These hydrocarbons include carcinogenic polycyclic aromatic hydrocarbons, aldehydes, and other chemical agents. Diesel exhaust particles can also undergo atmospheric transformation after they have been emitted. For example, polycyclic aromatic hydrocarbons adhered to carbon particles may react with hydroxyl radicals in the air, and create highly mutagenic and carcinogenic nitro-polycyclic aromatic hydrocarbons (Cohen and Nikula, 1999).

The amount and composition of diesel exhaust also varies depending on the kind of engine, its mode of operation, its degree of wear, maintenance, load, and the type and the sulfur content of the fuel among other factors. The amount of sulfur in diesel fuel is one of the most critical components in determining the amount of particles in the exhaust. Sulfur in fuel combusts to sulfur dioxide, which combines with the water of combustion to form sulfurous and sulfuric acid droplets. Much of the ultrafine particles measured in the PM2.5 fraction are formed after exhaust leaves the tailpipe, and condenses around such sulfate cores (Kittelson and Abdul-Khalek, 1999). Use of low sulfur or ultra-low sulfur fuel decreases fine particle emissions considerably. Kittleson and Abdul-Khalek estimate that total particle emissions can be reduced by about half with the removal of sulfur from fuels.

Exposure

Determining people's exposure to air pollution is the most challenging task in assessing risk. This is due to the vagaries of air movement, differences in contribution of sources, and effects of topography, as well as human activity patterns and proximity to sources. However, scientists began to develop methods for discriminating diesel particles from other kinds of smoke in the early 1980s, and they have continued to improve and expand these methods ever since, resulting in better estimates of diesel exhaust exposure.

Some people have greater exposure to diesel exhaust than others mainly due to closer proximity to sources. Those near major roadways (within 300 meters) are especially exposed. This is of obvious importance to schools, day-care centers and hospitals close to major roadways because children and the sick are more vulnerable than average persons.

Health data are available from studies of workers in various industries, such as railroad, tunnel, heavy equipment and trucking. Exposure in working conditions studies varies by job category. This allows investigators to classify exposures as high, medium, or low or no exposures. They can then examine these exposure classifications to determine their

relationship to the number of lung cancer cases in each job category. Since these studies were mostly retrospective, investigators did not measure actual exposure concentrations but estimated exposure concentrations after the fact.

Adverse health effects

In this section, we give a technical overview of the range and scope of adverse effects associated with diesel exhaust exposure along with examples from scientific literature. This is not an exhaustive review. Readers seeking more information should refer to recent systematic reviews such as the USEPA Office of Research and Development *Health Assessment Document for Diesel Engine Exhaust,* published in 2002, and to other publications discussed in the following section.

Diesel exhaust exposure appears to cause respiratory system and circulatory system health impairments. The associations between diesel exhaust exposure and respiratory health impairment endpoints are stronger than for circulatory system impairments. However, because more people suffer from cardiovascular diseases than respiratory diseases, the population-level public health impact is greater for cardiac and circulatory problems. Likewise, research shows an association between diesel exhaust exposure and lung cancer, but the greater prevalence of both cardiovascular and respiratory diseases related to diesel exposures may be more important from a population-wide public health viewpoint. This is because these disease conditions result in illness and death for a larger portion of the population than lung cancer.

People may be more susceptible to diesel exhaust based on their age and their state of health. Many Washingtonians are members of a sensitive age group or have one or more medical conditions aggravated by air pollution. The Washington State Department of Health's Health of Washington State report informs that about 9.1% of Washington's adult residents had asthma , and there were 3117 deaths from lung cancer in Washington State in 2005 (WDOH 2007). Also, in 2006, 7734 Washingtonians died of coronary heart disease (WDOH, 2007).

Diesel exhaust particles irritate respiratory membranes and causes inflammation, allergic reactions, and worsening of allergic reactions to other allergens such as pollen or dust mites. Inhalation of diesel particles enhance the effect of allergens inhaled with or shortly after breathing in the particles (Kobayashi 2000; Steerenberg et al. 1999; Ichinose et al. 2004), and elicits allergic responses to diesel particles themselves (Walters et al., 2001; Hao et al. 2003). Animals exposed in their mother's womb to diesel particles and extracts from them show increased tendency towards allergic reaction (Watanabe and Ohsawa, 2002).

Human reactions to airborne allergens are similar to those observed in animals. Diesel exhaust particles enhance reactions to airborne allergens (Bartra et al., 2007; Dávila et al., 2007). Studies of humans exposed to diesel particles for short periods of time have shown increased airway responsiveness (Nordenhäll et al. 2001), respiratory symptoms (Rudell

et al., 1996), biochemical markers of allergic response (Wichmann, 2007), and markers of inflammation (Nordenhäll et al., 2000; Salvi et al., 1999; Salvi et al., 2000). Researchers have also observed an association between exposure and inflammation of the airways (Nightingale et al., 2000), enhancement of allergic response to other allergens such as dust mite and pollen (Fujieda et al., 1998; Svartengren et al., 2000; Fahy et al., 2000) and worsening of asthma (Pandya et al., 2002).

People with lung disease such as asthma, chronic bronchitis, or emphysema who are exposed to diesel may experience a worsening of their symptoms. People with asthma may have an immediate reaction such as an asthma attack. Over time, exposure may lead to more severe disease, with permanent airway changes, more severe asthma attacks, and symptoms requiring more medical intervention. Children who develop asthma as a result of exposure to air pollutants are more susceptible to developing serious chronic obstructive lung disease like emphysema or chronic bronchitis in later life. Animal data show that inhalation of diesel particles increases airway responsiveness (Ishihara and Kagawa, 2003), causes inflammation and increases markers for inflammation (Fujimaki et al., 2001). Asthma attacks are more frequent and more severe and the disease progresses towards greater remodeling of the airways with increased exposure to diesel exhaust (Finkelman et al., 2004; Chalupa et al., 2004; Zmirou et al., 2004; Nicolai et al., 2003; Sénéchal et al., 2003).

Diesel exhaust contains chemicals that react with ultraviolet light in sunlight to form ozone, which has also been shown to decrease lung growth and function in children, initiate asthma, and make asthma worse (Peters et al., 2004). Epidemiological studies have found associations with respiratory effects and lung function decrements in children living near roadways. The California Children's Health Study has found occurrence of new asthma cases, not only exacerbation of asthma in children exposed to particulate air pollution including diesel particulates (Peters et al. 2004; Gauderman et al. 2004). Exposure to ozone formed from the action of UV light on hydrocarbons (in part from diesel engine emissions) and nitrates formed in high temperature combustion, including that which occurs in diesel engines, also decrease lung function (Lewis et al., 2005; Peters et al., 2004).

Diesel exhaust affects the immune system by lowering resistance to infectious organisms like viruses and bacteria. It also inhibits the cells that cleanse the airways, allowing pathogenic organisms more chances to get established and cause infections. When people are exposed to diesel exhaust and infectious organisms at the same time, they are more likely to get pneumonia, influenza, or other respiratory infections. Inhalation of diesel particles inhibits respiratory defenses against infectious organisms (Castranova et al., 2001; Yang et al, 2001; Harrod et al., 2003), changes lung function (Dai et al., 2003), alters pulmonary immunity against infectious organisms (Yin et al., 2002; Yang et al, 2001), and inhalation of diesel particles increases susceptibility to infectious agents (Yang et al. 2001).

People with heart or circulatory problems who are exposed to diesel may be more likely to suffer a heart attack or stroke; or to have symptoms like chest pain, fatigue, or extreme

weakness related to impending cardiovascular events. Controlled exposures of animals to diesel exhaust and road aerosols containing diesel exhaust indicate it affects the cardiovascular system. For instance, diesel exhaust particles worsened cardiac arrhythmias induced by short period ischemia/ reperfusion in rats (Yokota et al., 2004). Spontaneously hypertensive rats responded to inhaled diesel exhaust at realistic exposure concentrations with prolonged elevated heart rate and prolonged PQ interval (assessed by electrocardiography), an index of atrio-ventricular node sensitivity in a concentration-dependent manner, indicating that the pacemaker function of the heart was affected (Campen et al., 2003).

Diesel exhaust exposure has been implicated in diminished reproductive performance. Epidemiological studies have noted reduced sperm quality in men with exposure to air pollution, primarily diesel exhaust. One of these studies investigated semen quality in men employed at highway tollgates. While sperm count, and serum levels of follicle stimulating hormone and testosterone were within normal limits in exposed men compared to an age-matched unexposed group, sperm function (total motility, forward progression and other sperm kinetics) were significantly lower in the exposed men (DeRosa et al., 2003). Other studies have found that episodes of air pollution, including diesel exhaust, were associated with decreased sperm quality in exposed young men in the Czech Republic, compared to a matched, unexposed control group (Selevan et al., 2000; Rubes et al., 2005).

Diesel exhaust exposure has been implicated in disruption of normal sexual differentiation during fetal development. For example, one study found the odds of baby boys having cryptorchidism *i.e.*, undescended testes (one of the most common congenital malformations in males) are 2. 42 higher (95% confidence interval = 1.06-5.55) among babies of fathers exposed to diesel exhaust before conception than among babies of fathers without preconception diesel exhaust exposure (Kurahashi et al., 2005). A number of studies in rats and mice have shown that diesel exhaust disrupts endocrine function, affecting reproduction and development. Male animals exposed in the womb during critical windows of development seem to be more sensitive to diesel exhaust than females (Tsukue et al. 2004). While female mice do have reduction of an essential protein related to oöcyte development (Tsukue et al. 2004), male pups whose mothers were exposed had a decreased ability to produce proteins essential to development of testes and other male reproductive structures (Yoshida et al. 2002). Mothers exposed to both filtered or to total exhaust had higher levels of testosterone and lower levels of progesterone in contrast to the normal increase in both hormones during pregnancy, indicating that both gaseous exhaust and particles could be involved. In pups exposed in the wombs of these dams, differentiation of the ovaries, testes and thymus were delayed and disrupted (Watanabe and Kurita, 2001).

Epidemiological studies of truck drivers, railroad employees, heavy equipment operators and other types of workers with chronic exposure to diesel exhaust particles, and of members of the public, have found associations with chronic diseases, including lung cancer (Boffetta et al., 2001; Dawson and Alexeeff 2001; Larkin et al., 2000; Nyberg et al., 2000; Saverin et al., 1999; Bruske-Hohlfeld et al., 2000; Steenland et al., 1998;

Stayner et al., 1998; Bhatia et al., 1998; Lippsett and Campleman, 1999), bladder, and soft tissue cancers (Lee et al., 2003; Crosignani et al. 2004; Nyberg et al., 2000; Seidler et al., 1998; Zeegers et al., 2001),

Studies show an association between exposure to diesel exhaust and lung cancer, as well as cancers of the bladder and soft tissues (Guo et al., 2004). The immune suppressing effects of diesel exhaust can also increase the susceptibility to cancer among those exposed. Several extensive and detailed reviews have been conducted on the body of literature relating long-term exposure to diesel exhaust particles and lung cancer (California EPA, 1998; USEPA, 2002; Cohen and Nikula, 1999). In addition, over 40 studies conducted among those populations exposed to diesel exhaust have found increased rates of lung cancer associated with diesel exhaust particles exposure (Cohen and Nikula, 1999). Occupational studies conducted in railroad workers and truck drivers have consistently found increased lung cancer risk, even after adjusted for smoking. Similar studies conducted among bus garage workers and dock workers also demonstrate increased lung cancer risks, although these findings are not as consistent as the railroad workers and truck drivers (Cohen and Nikula, 1999).

Recent studies further support associations between occupational exposure to diesel exhaust particles and increased risk of lung cancer (Boffeta et al., 2001; Larkin et al., 2000). Other studies also show diesel exhaust can be responsible for lung cancer, as well as cancers of the bladder and soft tissues (Sydbom et al. 2001; International Agency for Research on Cancer, 1989; World Health Organization International Programme on Chemical Safety, 1996; USEPA, 2002).

The review conducted by Boffetta and Silverman (2001) examined the human epidemiological literature regarding bladder cancer and occupational exposures to diesel exhaust. These authors evaluated 35 studies, and performed a meta-analysis of 12 of these studies. The ratio of the risk of disease or death among the exposed to the risk among the unexposed, known as the relative risk, ranged from 1.1 to 1.3, suggesting a 10 to 30% increase in potential risk for developing bladder cancer in some occupationally exposed people (Boffetta and Silverman, 2001).

Experimental animal studies have been done to determine how diesel exhaust affects systems that are shared across animal species; since deliberate exposure of human subjects to concentrations of substances that can do permanent harm is unethical. Studies with animals have involved inhalation exposure to known amounts of diesel exhaust particles or whole diesel exhaust. These studies indicated a proportional relationship between the amount of exposure and adverse effects (dose-response) in tissues, organs and multi-organ systems. Such controlled studies on animals have also been used to investigate the mechanisms by which diesel exhaust causes injury. The animals used in these experiments have been generally healthy, raised in optimum conditions, and not exposed to other toxic agents. Therefore, the effects can be attributed to the experimental exposure itself. Since there is less incidence of measurable changes in the healthy homogeneous populations of animals than would be expected in a heterogeneous population of humans (that varies in susceptibilities by age, gender, genetic background and state of health), the exposure (dose) in animal studies is set considerably higher than

typical human exposure in order to create a discernable effect. Conversely, human populations in epidemiological studies are often large and varied in their susceptibilities, so effects, possibly related to diesel exhaust exposure, have been be detected at far lower levels of exposure than those in the animal studies. In addition, dose-response relationships determined from animal studies have been interpolated to lower levels to give additional information on biological effects in the range of doses experienced by humans.

The carcinogenic effects of diesel exhaust in the lung have been extensively studied and in laboratory animals, using a range of different species, exposure periods, and exposure pathways. The California Environmental Protection Agency Office of Environmental Health Hazard Assessment and the USEPA have reviewed a large number of animal studies, including ones with mice, rats, monkeys, and hamsters. These studies have covered a range of exposures and observation periods from a few hours to greater than two years (or the life expectancy) of the animals. For example, rats and hamsters exposed to diesel soot for two years developed lung tumors (Brightwell et al. 1989). Hyperplastic foci (precursors to neoplastic or carcinogenic changes) resulting from DNA damage became prominent in the lungs of rats exposed to diesel exhaust, increasing over a twelve-month exposure. Persistent oxidative stress and inflammation seem to play an important role in carcinogenesis that occurs after a long latent period (Iwai et al. 2000). Short-term exposure to mouse lung changed the expression of certain genes related to defenses against oxidative stress (Risom et al., 2003). Chronic inhalation rat studies have consistently shown increases in lung tumors associated with exposure to diesel exhaust particles at levels equal to or greater than 2.2-mg/m^3. Significant associations between lower diesel exhaust particles exposure levels (0.35 to 2.2-mg/m^3) and lung tumors in rats were not consistently observed. Gender differences in rat tumor rates could not be definitively established. Diesel exhaust particle exposure has not been shown to increase lung tumors in either monkeys or hamsters.

Summary of adverse effects

In summary, exposure to diesel exhaust is associated with increased incidence and prevalence of respiratory and cardiovascular diseases as well as lung cancer and possibly other types of cancers such as cancers of the bladder and soft tissues. The immune suppressing effects of diesel exhaust can also increase the susceptibility to cancer among those exposed. Some people with asthma, allergic rhinitis, and certain acute and chronic respiratory and cardiovascular disorders are prone to increased effects of these conditions secondary to elevation of diesel exhaust exposure. Diesel exhaust exposure heightens susceptibility to respiratory infections, and is associated with hormonal imbalances, reproductive impairments and developmental abnormalities.

As stated above, although cancer risk is of great concern to the public, cardiac and respiratory effects of diesel exposure have a larger public health impact because they cause death and illness for a greater number of people.

Health protective exposure guidelines

In this section, we briefly summarize the conclusions of systematic literature reviews of diesel-effects toxicology and epidemiology studies conducted by six different organizations. In 1989, the International Agency for Research on Cancer, and in 1996 the World Health Organization's International Programme on Chemical Safety reached the same conclusion that diesel engine exhaust is "probably carcinogenic to humans." Fifteen of the substances in diesel exhaust particles are listed by the International Agency for Research on Cancer as carcinogenic to humans, or as probable or possible human carcinogens. In 1988, the National Institute for Occupational Safety and Health concluded that diesel exhaust particulate matter is a "potential occupational carcinogen." In 1998, the State of California also concluded a likely "causal association of diesel exhaust exposure with lung cancer" in humans; and in 2000, the National Toxicology Program concluded diesel exhaust particulate matter is "reasonably anticipated to be a carcinogen." Currently, the USEPA Integrated Risk Information System database states that diesel exhaust is "likely to be carcinogenic to humans." Although USEPA has not yet adopted a cancer unit risk factor for diesel exhaust particles, it is clear that exposure to diesel exhaust particles is associated with carcinogenesis in both humans and animals.

The International Agency for Research on Cancer review of diesel exhaust evaluated animal and human studies pertaining to lung cancer and found that rat and mice studies showed increased incidence in lung tumors related to exposure concentrations. The International Agency for Research on Cancer also concluded that studies conducted in hamsters and monkeys did not show increases in lung tumor incidence associated with exposure, although study design issues precluded firm conclusions. Similar to the USEPA and California EPA, the International Agency for Research on Cancer found that the human epidemiological data provided limited evidence regarding the association between diesel exhaust particles exposure and lung cancer. They concluded that the laboratory animal evidence was sufficient to conclude diesel exhaust particulate matter is carcinogenic in experimental animals. Overall, the International Agency for Research on Cancer judged diesel exhaust to be a probable human carcinogen in Group 2A (IARC, 1989).

In 1996, the International Programme on Chemical Safety stated that diesel exhaust was a probable human carcinogen and developed a unit risk factor of 3.4×10^{-5} $(\mu g/m^3)^{-1}$. This factor is the upper 95% confidence interval limit of cancer risk apparently associated with lifelong continuous exposure to 1-$\mu g/m^3$ of diesel particulate matter.

In 2002, the USEPA Office of Research and Development published their *Health Assessment Document for Diesel Engine Exhaust*. It states that diesel exhaust is "likely to be carcinogenic to humans by inhalation at any exposure condition. This characterization is based on the totality of evidence from human, animal, and other supporting studies." The USEPA reviewed numerous epidemiologic studies and concluded that many have shown increased lung cancer risks among workers in certain occupations. The relative risks or odds ratios in this systematic review ranged from 1.2 to 2.6. The *Health Assessment Document for Diesel Engine Exhaust* (USEPA ORD,

2002) also noted that two independent meta-analyses show smoking-adjusted relative risk increases of 1.35 and 1.47. Taking this information together, the USEPA analysts selected a relative risk of 1.4 as a reasonable estimate of risk in these diesel exhaust-exposed workers, which is equivalent to an additional lifetime lung cancer risk of 2% more than the average risk in the whole U.S population. The *Health Assessment Document* gives a possible range of upper-bound risk of 1×10^{-3} $(\mu g/m^3)^{-1}$ to 1×10^{-5} $(\mu g/m^3)^{-1}$ for lifetime diesel exhaust exposure; however, to date the USEPA has not promulgated a specific point unit risk factor. To provide a perspective of the potential significance of the lung cancer hazard, the *Health Assessment Document* summarized the estimated possible unit risk factor ranges (10^{-5} to 10^{-3} per $\mu g/m^3$ "as well as lower and zero risk"). It clarified this by stating:

> *"Lower risks are possible and one cannot rule out zero risk. The risks could be zero because (a) some individuals within the population may have a high tolerance to exposure from [diesel exhaust] and therefore not be susceptible to the cancer risk from environmental exposure, and (b) although evidence of this has not been seen, there could be a threshold of exposure below which there is no cancer risk."*

The California Environmental Protection Agency Office of Environmental Health Hazard Assessment completed a comprehensive health assessment of diesel exhaust in 1998 that formed the basis for a decision by the California Air Resources Board to identify particles in diesel exhaust as a toxic air contaminant that may pose a threat to human health. The assessment included review of in vitro, animal experiments and more than 30 epidemiology studies, and performed an epidemiological meta-analysis of these studies to assess potential and actual human health effects from exposure to diesel exhaust.

The California Environmental Protection Agency Office of Environmental Health Hazard Assessment and USEPA also systematically reviewed studies of diesel exhaust-adverse health effects, and, although both the California Environmental Protection Agency and USEPA concluded that diesel exhaust is a carcinogen, only the California Environmental Protection Agency developed a quantitative estimate of risk. The California EPA evaluated several options for developing a quantitative risk estimate, and considered both human and animal studies as the basis for the final value.

The California Environmental Protection Agency concluded that the human epidemiological data provided a more solid basis for deriving a unit risk factor for two main reasons. First, the uncertainties associated with extrapolating the laboratory rat data to humans are relatively large. Factors such as differing particle clearance mechanisms, the presence or absence of an effect threshold, and the likely presence of multiple carcinogenic agents or possible multiple mechanisms can potentially influence toxic outcomes and the exposure-response relationship. Second, a number of human epidemiological studies have been conducted and provide sufficient information on potential dose-response relationships.

The California Environmental Protection Agency focused on two studies as being especially useful for developing a range of unit risk factors for lung cancer. These are the nationwide studies of lung cancer risks for U.S. railroad workers. A case control study (Garshick et al., 1987) was used to determine the coefficient of the logistic relationship of the odds of lung cancer for the duration of the worker's exposure to diesel exhaust. The other Garshick study (1988), a cohort study, was used to calculate a relative hazard of lung cancer for increasing duration of worker exposure, using a proportional hazards model. The case-control study had information on smoking rates, while the cohort study has a smaller confidence interval for the risk estimates. Larkin and others (Larkin et al., 2000) examined the extent to which smoking may have confounded the risk of the cohort study by developing adjustment factors based on the distribution of job-specific smoking rates. After considering differences in smoking rates between workers exposed and unexposed to diesel exhaust, the authors concluded that there were still elevated lung cancer risks attributable to diesel exposure among these workers.

Subsequently, Garshick and others (2004) concluded that because shop workers who had no exposure were included in the cohort, their presence in the study diluted the effect of diesel exhaust. The California Environmental Protection Agency therefore excluded them from their analysis. Exposures of other workers, specifically train workers, were sufficiently low that their lung burden was assumed to be proportional to atmospheric exposures. Data from these studies were supplemented with more refined exposure profiles for US railroad workers collected by Woskie et al. (1988 a, b) and combined with different assumptions regarding exposure concentrations and the effect of exposure time and worker age. Exposure measures for 1982-83 (Woskie et al., 1988 a,b) showed that the train workers considered in the analysis all experienced approximately the same average concentration of 50-$\mu g/m^3$, (rounded) which could be used for determining the cancer unit risk factor.

The California Environmental Protection Agency Office of Environmental Health Hazard Assessment calculated several cancer unit risk factor values based on these studies and different dose-response models and model assumptions. They determined that the model using linear and quadratic continuous covariates, age and calendar year was most satisfactory for calculating slope for relative risk per year of exposure. This slope of 0.015 yr^{-1} (95% confidence interval: 0.0086-0.022), when divided by the intermittency correction (0.033) and the assumed constant concentration (e.g. 50-$\mu g/m^3$ for 29 years) and multiplied by attained age provided the excess relative hazard to determine the increase of lung cancer rates for the life table calculation of a cancer unit risk factor. Because the populations studied were healthy male workers, it was not possible to quantify the risk to women, children or other more susceptible individuals. Therefore, the California EPA used the 95% upper confidence interval limit on the slope of the dose-response curve in male workers.

These studies were conducted nationally among U.S. railroad workers. Garshick and others (1988) conducted a case-control study that obtained death certificates for over 15,000 railroad workers who died in 1981. From this group, 1256 individuals who died of lung cancer were matched with individuals of the same age but who died of natural

causes. Results from a multivariate analysis found a relative risk of 1.55 (95% confidence interval = 1.09, 2.22) for workers with over 20 years of exposure to diesel exhaust. Garshick and other's (1988) study was one involving a cohort of approximately 55,000 railroad workers who were between the ages of 40 and 62 in 1959. Approximately 25% of this cohort included "unexposed" individuals who worked as clerks or signal tenders during the study period (1959 to 1980).

The Scientific Review Panel (California Air Resources Board, 1998) recommended the final unit risk factor (3.0×10^{-4} $(\mu g/m^3)^{-1}$) selected by the California Environmental Protection Agency Office of Environmental Health Hazard Assessment. In their report, the Panel considered the California EPA findings in light of several other quantitative cancer analyses.

When considering causality inference based on epidemiological studies, it is essential to know that these studies seek to find a real association between incidence of a disease or harmful endpoint and exposure to an agent, such as a toxic substance. While such studies can be carefully designed to address if an association is linked to the exposure being observed, and not some other event or concurring exposure, they can still only assure that the association is real. A single study cannot determine whether the exposure observed causes the effect observed. To infer a causal relationship between exposure and effect, scientists use certain guidelines sometimes referred to as the Hill criteria after Sir Austin Bradford Hill, who wrote about factors that contribute to the judgment that a specific exposure causes a specific harmful endpoint (Hill 1965). While not every one of the Hill criteria need to be fulfilled to infer a causal relationship between an exposure and a disease, the presence of multiple criteria strengthens the judgment of causality, as in the case of the available evidence on diesel exhaust. Both the Office of Environmental Health Hazard Assessment and the USEPA evaluated the human lung cancer-diesel exhaust particles exposure association using modified Hill criteria (Hill, 1965; Rothman, 1986):

- *Temporal relationship (the exposure occurs before the effect is observed)* – The Office of Environmental Health Hazard Assessment stated that the diesel lung cancer studies clearly meet this criterion since all of the subjects were exposed prior to contracting cancer. USEPA also stated clearly that this criterion has been met, however, they noted that a latency analysis had not been conducted on many of the studies reviewed in the *Health Assessment Document for Diesel Engine Exhaust* (USEPA ORD 2002);

- *Strength of the association (magnitude of the relative risk or odds ratio)* – USEPA concluded that the relative risks from the lung cancer studies – ranging between 1.2 to 2.6 – are weak to moderate. Nonetheless, USEPA stated that although more confidence can be given to relative risks that are stronger, the low values observed between diesel and lung cancer should not be constituted to rule out the causal link. Similarly, the California Environmental Protection Agency Office of Environmental Health Hazard Assessment found that although the relative risk of diesel exhaust particles-associated lung cancer was low, it was

similar in range to other significant health outcomes such as environmental tobacco smoke-associated cardiovascular disease (relative risk ranges from 1.3 to 2.08) and environmental tobacco smoke-associated lung cancer (relative risk range from 1.2 to 1.9);

- *Exposure-response relationship (the association of exposure concentrations to the incidence of an effect); and cessation of exposure (a particular disease outcome should be reduced if exposure to a causative agent ends)* – Since exposure in occupational diesel exposure epidemiology studies has been estimated primarily through job classifications instead of monitored workplace diesel exhaust particles concentrations, it is more difficult to show exposure-response relationships. However, the California Environmental Protection Agency Office of Environmental Health Hazard Assessment pointed to a number of studies where subgroups with the longest durations of exposure experienced the highest risks. USEPA also found that the lack of exposure information in the occupational studies severely limits the confidence in the dose-response relationship. However, they also found that "significant dose-response (using duration of employment as a surrogate) was observed in various studies for railroad workers,… truck drivers… transportation/heavy equipment operators,… and dock workers."

- *Consistency of findings (the effect is seen consistently across studies)* – USEPA found increased lung cancer in a number of human studies conducted among diesel exhaust particles exposed populations. They stated that findings from two recent meta-analyses demonstrated a consistent, positive relationship between diesel exposure and lung cancer, even though the original data reflected significant heterogeneity. The California Environmental Protection Agency Office of Environmental Health Hazard Assessment also conducted a meta-analysis that found a consistent positive association between occupational exposures and lung cancer. They noted a large degree of consistency among the worker studies such as truck drivers, railroad workers, equipment operators, although the results are not always statistically significant;

- *Biological plausibility (the effect is coherent with current biological knowledge of the effects of the exposure agent)* – Both USEPA and the California Environmental Protection Agency Office of Environmental Health Hazard Assessment summarized evidence supporting biological plausibility as:
  a) Evidence that diesel exhaust particles cause lung cancer in laboratory animal studies,
  b) Evidence that diesel exhaust particles contain mutagenic and carcinogenic substances such as polycyclic aromatic hydrocarbons and nitrosamines,

  Additional evidence cited by the California EPA included the fact that diesel exhaust particles contain compounds that occur in other carcinogenic mixtures such as cigarette smoke and coke oven emissions. Similarly, USEPA cited evidence of tumorigenicity associated with the organic components of diesel

exhaust particles, as well as DNA adducts found in blood samples of occupationally exposed workers;

- *Consideration of alternate explanations (ruling out confounders)*
  a) *The possibility that the association is due to bias* – the California Environmental Protection Agency Office of Environmental Health Hazard Assessment considered the effect of confounding factors (e.g., smoking), recall bias, and selection bias. In brief, they concluded erroneous conclusions resulting from factors like smoking and asbestos exposure were unlikely since the association between diesel exhaust particles and lung cancer is actually strengthened in studies that control for exposures to these substances. The California EPA also stated that exposure misclassification probably occurs in these studies, but would result in a bias toward the null. Exposure was determined through job classifications obtained from unions or facility records. Relatives or others were not asked directly if the subjects were "exposed to diesel," and were therefore unlikely to bias cancer victim exposure towards diesel. Selection bias was also a possibility, since the healthy worker effect is likely to influence the results. However, the California EPA found that this type of selection bias would also result in a bias towards the null, and was not sufficient to explain the increase lung cancer rates observed in the studies.
  b) *The likelihood that the findings are due to chance* – the California EPA noted that the majority of the occupational studies resulted in positive findings and that if the association was due to chance, the findings would represent a more even "distribution of risks above and below unity." In addition, other reviews have also demonstrated the consistency in positive results among the range of human epidemiological studies conducted in diesel exhaust exposed populations (Cohen and Nikula, 1999); and

- *Specificity of association (implying that a specific agent is associated with only one disease).* When specificity of an association is found, it provides more support for a causal relationship. However, absence of specificity in no way negates a causal relationship because toxic outcomes often have multiple factors influencing them: Future research will not find a one-to-one relationship between exposure to each component of diesel exhaust and any single type of toxic effect.

In summary, the California Environmental Protection Agency Office of Environmental Health Hazard Assessment identified statistically significant increases in lung cancer from case-control studies in truck drivers, railroad workers, heavy equipment operators and self-reported diesel exhaust exposure. Other more recent studies have supported the association between occupational exposures to diesel exhaust particles and lung cancer (Boffetta et al., 2001).

The 1998 the California Environmental Protection Agency Office of Environmental Health Hazard Assessment health assessment of diesel exhaust established a chronic reference exposure level of 5-$\mu g/m^3$ for chronic non-cancer health effects, and proposed a

range of values for the upper confidence interval limit of the unit risk factor to be used for risk assessment. The *Health Assessment Document for Diesel Engine Exhaust* (USEPA ORD 2002) report also established a chronic non-cancer health effects exposure guidance, the reference concentration of 5-$\mu g/m^3$ based on human epidemiological studies and animal bioassays.

Recommended risk-based diesel exhaust particles concentration levels

Although the cancer unit risk factor values presented by several agencies and researchers reflect some uncertainty, the estimated unit risk factors range from 1.4×10^{-2} to 3.9×10^{-4} per $\mu g/m^3$. This indicates some consistency among the estimates relative to many unit risk factor estimates for other chemicals. The authors base their recommendations primarily on reviews conducted by other agencies, particularly the USEPA and the California Environmental Protection Agency Office of Environmental Health Hazard Assessment. The Department of Ecology will apply the cancer unit risk factor developed by the Office of Environmental Health Hazard Assessment, 3.0×10^{-4} $(\mu g/m^3)^{-1}$ (an excess of three cancer cases in an exposed population of 10,000 per 1-$\mu g/m^3$ of diesel particles breathed) in diesel particle risk assessments. Accordingly, the Department will use the California Environmental Protection Agency inhalation slope factor of 1.1-mg/kg-day to evaluate the potential carcinogenic risk associated with diesel exhaust particles. This is consistent also with the California Air Resources Board Scientific Review Panel's unit risk factor "reasonable estimate" of 3.0×10^{-4} $(\mu g/m^3)^{-1}$. The unit risk factor is the upper-bound additional lifetime cancer risk (in addition to those risks already existing without exposure to the carcinogen in question) estimated to result from continuous life-long exposure to an agent at a concentration of 1-$\mu g/m^3$ air. The California Air Resources Board Scientific Review Panel's unit risk factor "reasonable estimate" of 3.0×10^{-4} is equivalent to a negligible risk (risk *de minimis*) concentration of 0.003-$\mu g/m^3$. Risks that are negligible and too small to be of societal concern are usually assumed to have probabilities less than 10^{-6}.

Even the least exposed Washingtonians are likely to be exposed to higher diesel particulate contrarians than 0.003-$\mu g/m^3$, but overall most Washingtonians' average daily exposures to diesel exhaust particles are probably less than 5-$\mu g/m^3$ – the non-cancer respiratory effects guideline concentration. Some evidence for this is provided in the USEPA's 2002 National-Scale Air Toxics Assessment data tables. The tables contain USEPA's concentration estimates of diesel particulate matter arising from on-road sources and non-road sources in each of Washington's census tracts. The overall median concentrations of diesel particulate matter estimated to arise from on-road sources was 0.355-$\mu g/m^3$, and from non-road sources was 0.601-$\mu g/m^3$. These sum to a total concentration of 0.956-$\mu g/m^3$. USEPA used an exposure model to develop estimates of how much diesel particulate matter people are actually exposed to. Their estimate of median exposure in Washington was 0.249-$\mu g/m^3$.

USEPA' estimate of median diesel exposure concentration in Washington corresponds to an apparently non-negligible upper-bound additional lifetime cancer risk of 75 per million (using the California Environmental Protection Agency inhalation unit risk factor), but an evidently safe non-cancer respiratory hazard (Hazard quotient = 0.109, using 5-$\mu g/m^3$ as a 24-hour time-weighted average to evaluate the non-carcinogenic effects. A hazard quotient lower than one is below the level of concern). Referring to the National-Scale Air Toxics Assessment data tables, the census tract USEPA found to have Washington's highest exposure to diesel exhaust would have a corresponding upper-bound additional lifetime cancer risk of 1226 per million, but a hazard quotient of just 0.817. The census tract USEPA estimated to have the lowest diesel exposure would have a corresponding upper-bound additional lifetime cancer risk of 7 per million and a hazard quotient of 0.005.

The models USEPA used in the National-Scale Air Toxics Assessment may not be able to discern risks to people located next to high-traffic roadways, truck stops, rail yards or other areas where higher diesel exhaust particles concentrations occur, despite the fact that some people live, work, attend school, or other sustained activities, near such sources. In fact, some people are routinely exposed to diesel exhaust particles levels exceeding the 5-$\mu g/m^3$ guideline. For example, the average diesel exhaust particles concentrations have been estimated to be around 10-$\mu g/m^3$ in the maximally impacted, high-traffic area of the Duwamish valley in south Seattle (US Department of Health and Human Services, 2008), but this area is smaller than individual census tracts in the same area.

Consistent with both USEPA and the California Environmental Protection Agency Office of Environmental Health Hazard Assessment, Ecology will use a reference concentration of 5-$\mu g/m^3$ as a 24-hour time-weighted average concentration to evaluate the non-carcinogenic effects associated with diesel exhaust particles. As mentioned above, the Department will use the California Environmental Protection Agency inhalation unit risk factor of 3×10^{-4} $(\mu g/m^3)^{-1}$ and slope factor of 1.1-mg/kg-day to evaluate the potential carcinogenic risk from diesel exhaust particles.

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II.

Diesel Retrofit Funding Summary – State and Federal Funds Cheat Sheet, Mike Boyer of WA Department of Ecology (May 2015)

Diesel Retrofit Funding Summary – State and Federal Funds Cheat Sheet
Updated May, 2015
Contact: Mike Boyer, WA Dept. of Ecology

Total State School Bus Funds = $28,890,000
Total State Other Funds = $19,330,000
Total State Funds = $48,220,000

Total Federal Funds = $4,509,099

Total State and Federal Funds = $52,729,099

A list of all Washington State diesel awards is available at:
http://teams/sites/AQ/CDP/default.aspx

Sources: Listed in chronological order for receiving award.

Source: Motor Vehicle Account
Amount: $23,550,000
Fiscal Period: July 1, 2003 thru June 30, 2008
Distribution: Quarterly
Recipient: Ecology and Local Clean Air Agencies
Language Summary:
1) 85% must be used to retrofit school buses with exhaust emission control devices or to provide funding for fueling infrastructure necessary to allow school bus fleets to use alternative, cleaner fuel. [As amended by ESSHB 1303, Sec. 102 (2), (a), 2007 Legislative Session: In addition, funding may be directed for other publicly or privately owned vehicles.];
2) 15% may be used to reduce vehicle air contaminant emissions and clean up air pollution, or reduce and monitor toxic air contaminants.
Reference: Established by ESSB 6072, Sec. 1, 2003 Legislative Session; Fees authorized by RCW 46.12.080, RCW 46.12.170, and RCW 46.12.181; Distribution and use defined by RCW 70.94.017

Source: Local Toxics Control Account
Amount: $2,000,000
Fiscal Period: July 1, 2005 thru June 30, 2007
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Appropriation provided emission reduction projects for local governments to retrofit public sector diesel engines with exhaust emission control devices or to make other modifications or operational changes, including cleaner fuels, to allow public sector fleets to reduce their emissions. (Local governments determined by legislative staff to include: cities, counties, public utilities, transit authorities, and port authorities.)
Reference: ESSB 6094, Sec. 325, 2005 Legislative Session

Source: Local Toxics Control Account
Amount: $2,330,000 Local Governments Retrofits
Fiscal Period: July 1, 2007 thru June 30, 2009
Recipient: Ecology
Distribution: Lump Sum
Language Summary: Appropriation provided solely for local governments to retrofit public sector diesel engines. [As amended by ESSHB 1303, Sec. 102 (2), (a), 2007 Legislative Session: In addition, funding may be directed for other publicly or privately owned vehicles.];
Reference: OFM Budget, Sec. 3045, For the Department of Ecology, Reduce Health Risks from Toxic Diesel Pollution (08-4-024); Use defined by RCW 70.94.017

Source: Local Toxics Control Account
Amount: $4,840,000
Fiscal Period: July 1, 2007 thru June 30, 2009
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Appropriation provided solely for school bus diesel retrofits for local school districts.
Reference: OFM Budget, Sec. 3045, Reduce Health Risks from Toxic Diesel Pollution (08-4-024)

Source: Local Toxics Control Account
Amount: $2,500,000
Fiscal Period: July 1, 2007 thru June 30, 2009 – 2008 Supplemental Budget
Recipient: Ecology
Distribution: Lump Sum
Language Summary: Appropriation provided solely for clean diesel projects, other than school buses, as described in RCW 70.94.017(2)(a) and may be distributed to air pollution control authorities. [As amended by ESSHB 1303, Sec. 102 (2), (a), 2007 Legislative Session: In addition, funding may be directed for other publicly or privately owned vehicles.];
Reference: ESHB 2765, Chapter 328, Laws of 2008 (partial veto),60th Legislature, 2008 Regular Session, Capital Budget, Supplemental Appropriations, Effective 4/01/08, Sec 3007, For the Department of Ecology, Reduce Health Risks from Toxic Diesel Pollution (08-4-024), (1); Use defined by RCW 70.94.017

Source: Local Toxics Control Account
Amount: $500,000
Fiscal Period: July 1, 2007 thru June 30, 2009– 2008 Supplemental Budget
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Appropriation provided solely for clean diesel school bus projects for local school districts, which the Department may use for the purposes of RCW28A.160.205.
Reference: ESHB 2765, Chapter 328, Laws of 2008 (partial veto),60th Legislature, 2008 Regular Session, Capital Budget, Supplemental Appropriations, Effective 4/01/08, Sec 3007, For the Department of Ecology, Reduce Health Risks from Toxic Diesel Pollution (08-4-024), (2)

Source: DERA 2008 State Allocation
Amount: $295,320 (Federal contribution)
Fiscal Period: Federal Fiscal Year 2008 (Received funds in October, 2008.)
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Congress appropriated funds under section 793 of the Energy Policy Act of 2005. State program funds may be used to establish grant and loan programs for clean diesel projects using verified and/or certified retrofit technologies and EPA approved idle reduction technologies. States with existing clean diesel funding programs may elect to include emerging diesel emission reduction programs in their grant and loan programs. EPA may be flexible and approve alternative projects that reduce diesel emissions.

Source: American Recovery and Reinvestment Act (ARRA) 2009
Amount: $1,733,000
Fiscal Period: Federal May 30, 2009 through September 30, 2010
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Congress appropriated funds under section 793 of the Energy Policy Act of 2005. State program funds may be used to establish grant and loan programs for clean diesel projects using verified and/or certified retrofit technologies and EPA approved idle reduction technologies. States with existing clean diesel funding programs may elect to include emerging diesel emission reduction programs in their grant and loan programs. EPA may be flexible and approve alternative projects that reduce diesel emissions.

Source: DERA 2009
Amount: $352,800 (Federal contribution)
Fiscal Period: Federal Fiscal Year 2009 (Received funds in July of 2010.)
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Congress appropriated funds under section 793 of the Energy Policy Act of 2005. State program funds may be used to establish grant and loan programs for clean diesel projects using verified and/or certified retrofit technologies and EPA approved idle reduction technologies. States with existing clean diesel funding programs may elect to include emerging diesel emission reduction programs in their grant and loan programs. EPA may be flexible and approve alternative projects that reduce diesel emissions.

Source: DERA 2010 State Allocation
Amount: $352,800 (Federal contribution)
Fiscal Period: Federal Fiscal Year 2010 (Received funds in March 2011.)
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Congress appropriated funds under section 793 of the Energy Policy Act of 2005. State program funds may be used to establish grant and loan programs for clean diesel projects using verified and/or certified retrofit technologies and EPA approved idle reduction technologies. States with existing clean diesel funding programs may elect to include emerging diesel emission reduction programs in their grant and loan programs.

Source: DERA 2009 National Request for Assistance
Amount: $875,972 (Federal contribution)
Fiscal Period: Federal Fiscal Year 2009 (Received funds in April, 2010)
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Congress appropriated funds under section 793 of the Energy Policy Act of 2005. EPA granted award strictly to install idle reduction technologies (engine pre-heaters and cabin heaters) on school buses.

Source: Air Pollution Control Account – Capital Diesel Funds
Amount: $1,000,000
Fiscal Period: July 1, 2009 through June 30, 2011 (2010 Supplemental Budget)
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Reducing Diesel Particles in Tacoma: This appropriation is provided contingent on Ecology working with the Port of Tacoma to establish a diesel idling reduction program. Ecology shall report to the Legislature by December 1, 2010, on the progress of the diesel idling reduction program and other efforts to reduce diesel emissions in Tacoma.

Source: DERA 2011 State Allocation
Amount: $288,740 (Federal contribution)
Fiscal Period: Federal Fiscal Year 2011
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Congress appropriated funds under section 793 of the Energy Policy Act of 2005. State program funds may be used to establish grant and loan programs for clean diesel projects using verified and/or certified retrofit technologies and EPA approved idle reduction technologies. States with existing clean diesel funding programs may elect to include emerging diesel emission reduction programs in their grant and loan programs.

Source: DERA 2011 National Request for Assistance
Amount: $400,000 (Federal contribution)
Fiscal Period: Federal Fiscal Year 2011
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Congress appropriated funds under section 793 of the Energy Policy Act of 2005. EPA granted award strictly to install retrofit diesel oxidation catalysts on on-road construction vehicles and off-road construction equipment.

Source: Local Toxics Control Account – Capital Diesel Funds
Amount: $7,000,000
Fiscal Period: July 1, 2011 thru June 30, 2013
Recipient: Ecology
Distribution: Lump Sum
Language Summary: Diesel Emissions Reduction
Reference: OFM Budget, Sec. 3028, For the Department of Ecology, Diesel Emissions Reduction

Source: Local Toxics Control Account – Capital Diesel Funds
Amount: $4,500,000
Fiscal Period: July 1, 2013 thru June 30, 2015
Recipient: Ecology
Distribution: Lump Sum
Language Summary: Diesel Emissions Reduction
Reference: OFM Budget, Sec. 3064, For the Department of Ecology, Diesel Emissions Reduction

Source: DERA 2015 State Allocation
Amount: $212,067 (Federal contribution)
Fiscal Period: Federal Fiscal Year 2015
Distribution: Lump Sum
Recipient: Ecology
Language Summary: Congress appropriated funds under section 793 of the Energy Policy Act of 2005. State program funds may be used to establish grant and loan programs for clean diesel projects using verified and/or certified retrofit technologies and EPA approved idle reduction technologies.

Source: Local Toxics Control Account – Capital Diesel Funds
Amount: $1,000,000
Fiscal Period: July 1, 2015 thru June 30, 2017
Recipient: Ecology
Distribution: Lump Sum
Language Summary: Diesel Emissions Reduction
Reference: OFM Budget, Sec. 3055, For the Department of Ecology, Diesel Emissions Reduction

Source: Local Toxics Control Account – Operating Diesel Funds
Amount: $141,378
Fiscal Period: July 1, 2017 thru June 30, 2017
Recipient: Ecology
Distribution: Lump Sum
Language Summary: Diesel Emissions Reduction
Reference: OFM Budget, Sec. ????, For the Department of Ecology, Diesel Emissions Reduction

Source: Volkswagen Consent Decree
Amount: $112,700,000 ($103,900,000 for 2.0 liter vehicles; $8,800,000 for 2.0 liter vehicles)
Fiscal Period: Starts
Recipient: Ecology
Distribution: One third in first year; one third in second year; one third in third year
Language Summary:

Diesel Emissions Reduction

Funding Summary

Source	Amount	Period	Eligible Vehicles/Equipment	Status
MVA	$23,550,000	03-08	School Bus Retrofits	Funds Expended
LTCA	$2,000,000	05-07	Local Governments	Funds Expended
LTCA	$2,330,000	07-09	Public Vehicles	Funds Expended
LTCA	$4,840,000	07-09	School Bus Retrofits & Replacements	Funds Expended
LTCA	$2,500,000	08-09	Public/Private Vehicles	Funds Expended
LTCA	$500,000	08-09	School Buses	Funds Expended
DERA-08	$295,320	08-09	Public/Private Vehicles	Funds Expended
ARRA	$1,733,000	08-11	Public/Private Vehicles	Funds Expended
DERA-09	$352,800	09-11	Public/Private Vehicles	Funds Expended
DERA-09	$875,972	10-11	School Buses – Idle Reductions	Funds Expended
DERA-10	$352,800	10-11	Public/Private Vehicles	Funds Expended
APCA	$1,000,000	09-11	Public/Private Vehicles - Tacoma	Funds Expended
DERA-11	$288,740	11-12	School Bus Replacements	Funds Expended
LTCA	$7,000,000	11-13	Public/Private Vehicles	Funds Expended
LTCA	$4,500,000	13-15	Public/Private Vehicles	Active
DERA	$212,067	15-17	Idle Reduction for School Bus	Active
LTCA	$1,141,378	15-17	Port Projects & Idle Reduction for School Bus	Active
Totals	**$53,869,077**	**03-17**		

III.

Federal Register, Vol. 80, No. 133, Part II EPA Department of Transportation (July 13, 2015)

FEDERAL REGISTER

Vol. 80 Monday,
No. 133 July 13, 2015
Book 2 of 3 Books
Pages 40137–40766

Part II

Environmental Protection Agency

40 CFR Parts 9, 22, 85, et al.

Department of Transportation

National Highway Traffic Safety Administration

49 CFR Parts 512, 523, 534, et al.

Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2; Proposed Rule

circumvent the current emission standards.

(1) Background Under the Clean Air Act

EPA notes that under the anti-tampering provisions of the Clean Air Act, and under EPA's regulatory requirements applicable to rebuilding engines (see 40 CFR 86.004–40), rebuilt engines must continue to comply with emission standards applicable to the model year for which they were originally certified. These regulations specifically apply to rebuilt engines independent of the vehicle into which they are installed or reinstalled. As a general matter, EPA has considered the question of whether the vehicle into which the rebuilt engine is installed is a "new motor vehicle" separately from the status of the engine. The use of a rebuilt or other previously used engine in an otherwise newly manufactured vehicle (such as a glider kit) does not keep the vehicle from being "new" under the Clean Air Act. (Or, phrased positively, a newly manufactured vehicle remains "new" even if a rebuilt engine is installed in it.) This issue became of increased practical import with the advent of separate vehicle (*i.e.* non-engine) standards for GHGs in the Phase 1 rule. Thus, before MY 2014, EPA did not have separate standards for vehicles over 14,000 lbs GVWR. However, EPA Phase 1 GHG vehicle standards apply for new MY 2014 and later vehicles over 14,000 lbs. Thus, EPA generally considers glider kits to be subject to the Phase 1 vehicle standards, and to have been subject to them from the advent of the Phase 1 program.

However, with respect to engines installed in glider kits, an EPA Phase 1 provision in 40 CFR 1037.150(j) provided an exception allowing the use of used or rebuilt engines [878] that were certified to model year 2013 or earlier (or model year 2015 or earlier for spark ignition engines). The effect of this transition provision during Phase 1 was to allow glider kits to use engines not certified to meet the engine GHG or fuel consumption standards, although the glider kits were still required to have an EPA *vehicle* certificate with respect to GHG emissions. In addition, another provision of Phase 1 in 40 CFR 1037.150(c) exempted gliders and glider kits produced by small businesses from the need to obtain a vehicle certificate, but did not include such a blanket exemption for non-small business gliders and glider kits. Thus, depending on the size of the business producing the glider kit, gliders and glider kits may currently be subject to the requirement to obtain a vehicle certificate prior to introduction into commerce as a new vehicle.

(2) Proposed Amendment to EPA Vehicle Standards

EPA is proposing to end both 40 CFR 1037.150 provisions. EPA's proposed program would generally treat glider vehicles the same as other new vehicles. As a result, glider vehicles would have to be certified to the Phase 2 vehicle standards, which (among other things) would require a fuel map for the actual engine in order to run GEM. In other words, manufacturers producing glider kits would need to meet the applicable GHG vehicle standards and, as part of its compliance demonstration, would need to have a fuel map for each engine that would be used.

EPA is proposing this provision because we believe there has been adequate time for glider manufacturers to transition to a compliance regime. Moreover, as noted more fully below, with increased numbers of glider kits being produced, perpetuation of the interim exemption from Phase 1 would turn a transition provision into an on-going loophole. Nevertheless, EPA is proposing to replace this provision with a limited allowance for small business manufacturers as described in the proposed 40 CFR 1037.635. EPA is also proposing new definitions of "glider vehicle" and "glider kit" in 40 CFR 1037.801 that are generally consistent with the common understanding of these terms as meaning new chassis with a used engine or designed to accept a used engine.

(3) Proposed Change to EPA Engine Standards

EPA is also proposing to amend its rules to require that engines used in glider vehicles must be certified to the standards applicable to the calendar year in which assembly of the glider vehicle is completed. This requirement would apply to all pollutants, and thus would encompass criteria pollutant standards as well as GHG standards. Used or rebuilt engines could be used, as long as they had been certified to the same standards as apply for the calendar year of glider vehicle assembly. For example, if assembly of a glider vehicle was completed in calendar year 2020, the engine standards applicable to MY 2020 engines would have to be satisfied. (If the engine standards for model year 2020 were the same as for model years 2017 through 2019, then any model year 2017 or later engine could be used.)

EPA is proposing to amend these rules because, with the advent in MY 2007 of more stringent HD diesel engine criteria pollutant standards, continuation of provisions allowing rebuilt and reused engines to meet earlier MY criteria pollutant standards results in unnecessarily high in-use emissions. GHG emissions from these engines also are controllable. As more glider kits are produced, EPA believes that these emissions should be controlled to the same levels as other new engines.

Since EPA has already justified the criteria pollutant emission standards for heavy duty diesel engines pursuant to CAA section 202 (a)(3)(C), it is not clear that any further justification for applying those standards to engines used in glider kits is needed. The GHG engine standards for Phase 1 have likewise already been justified, and the proposed Phase 2 engine standards' justification is set out in Section II above. If any further justification is required, EPA notes that the emission benefits of applying current criteria pollutant standards would be substantial, and at low cost. Glider vehicle production is not being reported to EPA, and we cannot determine precisely how much of an emission impact these vehicles are having. Nevertheless, since the current standards for NO_X and PM are at least 90 percent lower than the most stringent previously applicable standards, we can be certain that the NO_X and PM emissions of any glider vehicles using pre-2007 engines are at least ten times as high as emissions from equivalent vehicles being produced with brand new engines.[879] Thus, each glider vehicle that is purchased instead of a new vehicle with a current MY engine results in significantly higher in-use emissions. EPA recognizes that the environmental impacts of gliders using 2010 and later engines would be much smaller, and requests comment on whether we should treat such gliders differently than gliders using older engines.

These emission impacts are being compounded by the increasing sales of these vehicles. Estimates provided to EPA indicate that production of glider vehicles has increased by an order of magnitude from what it was in the 2004–2006 time frame—from a few

[878] Most glider vehicles being produced today are assembled with rebuilt engines. However, it is also possible to use previously used engines that are not rebuilt.

[879] The NO_X and PM standards for MY 2007 and later engines are 0.20 g/hp-hr and 0.01 g/hp-hr, respectively. The standards for MY 2004 through 2006 engines were ten times these levels, and earlier standards were even higher.

hundred each year to thousands.[880] While the few hundred glider vehicles produced annually in the 2004–2006 timeframe may have been produced for arguably legitimate purposes such as salvaging powertrains from vehicles otherwise destroyed in accidents, EPA believes the tenfold increase in glider kit production since the MY 2007 criteria pollutant emission standards took effect reflects an attempt to circumvent these more stringent standards and (ultimately) the Clean Air Act.

The cost for manufacturers to comply with the vehicle-based GHG standards is similar for gliders as for other new vehicles. Similar to EPA's analysis of emissions above, although we cannot precisely quantify the cost of complying with the proposed engine requirements for criteria pollutant standards because it is dependent on which engines would be used and which would have otherwise been used, EPA nevertheless believes that cost-effectiveness (dollars per ton) of the proposed requirement relative to any pre-2007 engine would be similar to the cost-effectiveness of the NO_X and PM standards for current model year engines, which EPA has already found to be cost effective.

The agencies (as well as the broader SBAR Panel) are, however, concerned about adverse economic impacts on small businesses that assemble gliders and build glider kits, and we recognize that production of a smaller number of gliders by these small manufacturers may be appropriate for salvaged engines or other non-circumvention purposes. Therefore, EPA is proposing a new provision that would preserve its regulatory status quo for existing small businesses, but cap annual production based on recent sales. Thus, a limited number of glider kits produced by small businesses would not have to meet the GHG vehicle standards, and could use rebuilt or used engines provided those engines were certified to the year of the engine's manufacture. For example, an existing small business that produced between 100 and 200 glider vehicles per year would be allowed to produce up to 200 glider vehicles per year under without having to certify them to the GHG standards, or re-certifying the engines to the now-applicable EPA standards for criteria pollutants and GHGs (so long as the engine is certified to criteria pollutant standards for the year of its manufacture). To be eligible for this provision, EPA is also proposing that no small entity could produce more than 300 glider vehicles in any given model year without certifying (or recertifying) to any EPA standards. EPA believes that this level reflects the upper end of the range of production that occurred before significant circumvention of the 2007 criteria pollutant standards began. We request comment on the appropriate caps (including the appropriate magnitude of the caps) and on whether any other special provisions would be needed to accommodate glider kits. EPA also requests comment on whether we should allow larger manufacturers to produce some limited number of glider kits.

(4) Lead Time for Amended Standards

EPA is proposing that this requirement for gliders to meet engine and vehicle standards applicable to other new vehicles and engines take effect on January 1, 2018. EPA believes this provides sufficient time to "permit the development and application of the requisite control measures" (CAA section 202 (a)(3)(D)) because compliant engines are available today, although manufacturers would need several months to change business practices to comply. EPA also solicits comment on whether an earlier or later compliance date would be appropriate. We also request comment on whether we should include a production limit if we provide additional lead time in the Final Rule.

(5) Legal Authority and Definitions Under the Clean Air Act

With respect to statutory authority under the Clean Air Act, EPA notes first that it has broad authority to control all pollutant emissions from "any" rebuilt heavy duty engines (including engines beyond their statutory useful life). See CAA section 202(a)(3)(D). EPA is to give "appropriate" consideration to issues of cost, energy, and safety in developing such standards, and to provide necessary lead time to implement those standards. As noted above, if a used engine is placed in a glider kit, the engine would be considered a "new motor vehicle engine" because it is being used in a new motor vehicle (as explained in the following paragraph). See CAA section 216(3). With respect to the vehicle-based GHG standards, there is no question that the completed glider is a "motor vehicle" under the Clean Air Act (as well as under NHTSA's safety provisions). Some in the trucking industry have questioned whether a glider kit (without an engine) is a motor vehicle. However, EPA considers glider kits to be incomplete motor vehicles, and EPA has the authority to regulate incomplete motor vehicles, including unmotorized chassis.

Under the CAA, it is also important that "new" is determined based on legal title and does not consider prior use. Thus, glider kits that have a new vehicle identification number (VIN) and new title are considered to be "new motor vehicles" even if they incorporate previously used components. Note that under the Clean Air Act, EPA would not consider the fact that a vehicle retained the VIN of the donor vehicle from which the engine was obtained determinative of whether or not the vehicle is new.

The CAA also defines "manufacturer" to include any person who assembles new motor vehicles. EPA is proposing to revise its regulatory definitions of these terms in 40 CFR 1036.801 and 1037.801 to more clearly reflect these aspects of the CAA definitions—that glider kits are "new motor vehicles", previously used engines (whether rebuilt or not) installed into glider kits are "new motor vehicle engines", and any person who completes assembly of a glider is a "manufacturer". EPA also notes that under the existing 40 CFR 1037.620, glider kit assemblers would generally be considered to be secondary vehicle manufacturers. That section, which EPA is proposing to redesignate as 40 CFR 1037.622, allows secondary vehicle manufacturers that have a valid certificate or exemption to receive incomplete vehicles (such as glider kits) from OEMs.

To further clarify that EPA considers both glider kits and completed glider vehicles to be motor vehicles, EPA is proposing to add a clarification to our definition of "motor vehicle" in 40 CFR 85.1703 regarding vehicles such as gliders that clearly are intended for use on highways, consistent with the CAA definition of "motor vehicle" in CAA section 216 (2). The regulatory definition presently contains a provision stating that vehicles lacking certain safety features required by state or federal law are not "motor vehicles". This caveat needs a proper context: Is the safety feature one that would prevent operation on highways. If not, absence of that feature does not result in the vehicle being other than a motor vehicle. The proposed amendment would consequently make clear that vehicles that are clearly intended for operation on highways are motor vehicles, even if they do not have every safety feature. (EPA is also considering whether to simply eliminate the clause "or safety features required by state and/or federal law" from the regulatory definition.) This clarifying provision would take effect upon promulgation.

[880] "Industry Characterization of Heavy Duty Glider Kits", MacKay & Company, September 30, 2013.

IV.

Letter from Attorneys General of California, New York, Connecticut, Illinois, Maryland, Massachusetts, New Mexico, North Carolina, Oregon, Pennsylvania, Vermont, and Washington to EPA Docket Center, on Comments on Proposed "Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits," 82 Fed. Reg. 53, 442 (January 5, 2018)

Attorneys General of California, New York, Connecticut, Illinois, Maryland, Massachusetts, New Mexico, North Carolina, Oregon, Pennsylvania, Vermont, and Washington

January 5, 2018

EPA Docket Center (EPA/DC)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave, NW
Washington, DC 20460

Via https://www.regulations.gov

Re: Comments on Proposed "Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits," 82 Fed. Reg. 53,442

Attention: Docket No. EPA-HQ-OAR-2014-0827

The Attorneys General of California,[1] New York, Connecticut, Illinois, Maryland, Massachusetts, New Mexico, North Carolina, Oregon, Pennsylvania, Vermont, and Washington (the States) submit these comments in opposition to the United States Environmental Protection Agency's (EPA) proposal to repeal those provisions of the final rule entitled "Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2," 81 Fed. Reg. 73,478 (October 25, 2016) and 82 Fed. Reg. 29,761 (June 30, 2017) (correcting table), that apply to glider vehicles, glider engines, and glider kits (hereinafter, the Glider Rule). *See* 82 Fed. Reg. 53,442 (November 16, 2017) (Proposed Repeal). Gliders are heavy duty vehicles where a used or refurbished engine is incorporated into a new vehicle chassis. These trucks are typically manufactured alongside of, and sold as, new trucks.[2]

EPA's Proposed Repeal rests on a legally untenable reinterpretation of the Agency's duty to regulate harmful air pollutants from "new motor vehicles" and "new motor vehicle engines," which conflicts with the language, history and purpose of section 202(a)(1) of the Clean Air Act (CAA), and the CAA as a whole. 42 U.S.C. §§ 7401, *et seq*. Further, EPA uncritically accepts the contentions of a few glider manufacturers that were soundly rejected in the 2016 rulemaking, and ignores its own economic and environmental analysis from the Glider Rule. In doing so, EPA proposes to act arbitrarily and capriciously, without providing any good reason or substantial justification for its reversal of position.

Simply put, gliders are a pollution menace that, unless properly regulated, threaten to undermine the entire national program to reduce harmful emissions from heavy duty vehicles and engines. By way of example, in the record for the Glider Rule, EPA estimated that: 500

[1] The California Attorney General submits these comments pursuant to his independent power and duty to protect the environment and natural resources of the State. See Cal. Const., art. V, § 13; Cal. Gov. Code, §§ 12511, 12600-12612; *D'Amico v. Bd. of Medical Examiners*, 11 Cal.3d 1, 14-15 (1974).

[2] *See, e.g.*, http://trucks.fitzgeraldgliderkits.com/ (including "fully built" trucks)(last viewed 1/4/18); https://www.fitzgeraldgliderkits.com/what-is-a-glider-kit/ ("a complete unit ready to go")(last viewed 1/4/18); http://www.dtnaglider.com/Features.aspx ("factory built alongside new trucks")(last viewed 1/4/18).

non-compliant gliders produce the same total amount of harmful particulate matter (PM) and oxides of nitrogen (NOx) emissions as do 20,000 fully compliant vehicles; and 5,000 non-compliant gliders produce the same PM and NOx as 200,000 fully compliant 2014 Class-8 tractors.[3] In that same record, EPA estimated that a single model year of unregulated glider PM pollution would result in up to 1,600 premature deaths.[4] Additionally, many of the States, including California, Illinois, New Mexico, New York, and Oregon have nonattainment areas for NOx, PM, or both; and EPA also found that the Glider Rule would assist states in complying with national ambient air quality standards (NAAQS) for these and other harmful pollutants.[5] EPA's Proposed Repeal, however, discusses none of these consequences of reversing course and deregulating glider production.

Rather, EPA predicates its Proposed Repeal on an erroneous, legally unjustified "reinterpretation" of its congressionally-mandated duties under Section 202(a)(1). As explained in section II, *infra*, EPA's new interpretation is legally indefensible: it fails to comport with the plain language, context and purpose of the CAA provisions at issue. Moreover, EPA's purported reasons for its reinterpretation—including the same narrow view of the CAA that the Supreme Court rejected in *Massachusetts v. EPA*—crumble under any level of examination. Additionally, as set forth in section III, ignoring its own robust scientific evidence and myriad factual findings underpinning the Glider Rule that demonstrate the harm to public health and welfare caused by glider emissions has legal consequence for EPA's Proposed Repeal. Because EPA has failed to present any rational connection between those facts and the Proposed Repeal, its proposed action is arbitrary and capricious and, if finalized, would violate the Administrative Procedure Act.

Therefore, the States urge EPA adhere to the intent of Congress and to the Agency's duty to protect the health and welfare of our residents and all Americans, by abandoning its unlawful and irresponsible Proposed Repeal.

I. THE GLIDER RULE IS ESSENTIAL TO REDUCE HARMFUL EMISSIONS FROM HEAVY-DUTY VEHICLES

A. Background to the Glider Rule

Found within Title II of the CAA, regarding regulation of mobile sources of pollution, section 202(a)(1) compels EPA to establish and revise emission standards for any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines that in the Administrator's judgment "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). Section 202(a)(3)

[3] EPA FAQ about Heavy-Duty Glider Vehicles and Glider Kits, July 2015, EPA-420-F-25-904 ("EPA Glider FAQ"), p. 2.

[4] Response to Comments for Joint Rulemaking, EPA-426-R-16-901 (August 2016) (Phase 2 RTC) at 1877.

[5] 81 Fed. Reg. at 73,522-73,523, 73,856 (Phase 2 Standards "will be helpful" to states with $PM_{2.5}$ and ozone NAAQS compliance).

requires standards for heavy-duty vehicles or engines to "reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available" for the relevant model year standards. 42 U.S.C. § 7521(a)(3)(A)(i).

EPA's duty to regulate heavy duty truck emissions is integral to the CAA's express purpose of protecting the Nation's air resources so as to promote "public health and welfare." *See* 42 U.S.C. § 7401(b)(1). Emissions from heavy-duty vehicles contribute greatly to a number of serious air pollution problems, including the health and welfare effects related to so-called "conventional" or "criteria" pollutants such as PM, NOx, ozone, sulfur dioxide, and volatile organic compounds. 66 Fed. Reg. 5,002, 5,005 (January 18, 2001). EPA has documented these adverse effects to include: premature mortality, increased risk of lung cancer, aggravation of respiratory and cardiovascular disease, changes to lung tissues and structures, chronic bronchitis, and decreased lung function; crop and forestry losses; substantial visibility impairment in many parts of the U.S.; and the acidification, nitrification and eutrophication of water bodies. *See, e.g., id.* at 5,006.[6] EPA estimated in 2001 that as of 2007, heavy-duty vehicles would account for 28-34 percent of mobile source NOx emissions and 20-38 percent of mobile source PM emissions, especially in urban areas such as Sacramento, Washington, D.C., Los Angeles, Hartford, and Santa Fe. *Id.* at 5,006-5,007. Heavy-duty vehicle emissions also can disproportionately impact urban areas already economically disadvantaged. *Id.* at 5,007. EPA also has determined that emissions reductions from heavy-duty vehicles and engines are a critical component of achieving and maintaining compliance with NAAQS. *Id.* at 5,006.

Pursuant to its section 202(a)(1) authority, and consistent with the overarching purpose of the CAA to protect public health and welfare, EPA has regulated criteria pollutant emissions from heavy-duty on-highway engines and vehicles with increasing stringency. *See, e.g.,* 81 Fed. Reg. at 73,485, 73,522. In 2001, EPA issued diesel emission standards for heavy-duty on-highway engines that were phased in from the 2007 to 2010 model years. *Id.* at 73,522; *see also,* 66 Fed. Reg. 5,002 (Heavy-Duty Engine and Vehicle Standards requiring 100% of 2010 model year on-road heavy-duty diesel engines to have NOx exhaust control technology).

In 2009, EPA made an Endangerment Finding under its section 202(a)(1) authority, expressing its judgment that elevated concentrations of greenhouse gas (GHG) emissions in the atmosphere may reasonably be anticipated to "endanger public health or welfare." 74 Fed. Reg. 66,496 (Dec. 15, 2009); 42 U.S.C. § 7521(a)(1); *see Coalition for Responsible Regulation v. EPA,* 684 F.3d 102, 117-123 (D.C. Cir. 2012) (upholding both the Endangerment Finding and EPA's regulation of GHG emissions from motor vehicles).[7] Consistent with the Endangerment

[6] In particular, NOx is an ozone precursor that contributes to climate change, and it has been linked to asthma, especially in children. 81 Fed. Reg. at 73,522. PM poses many adverse health effects: cardiovascular and respiratory effects, reproductive and developmental effects including low birth weight and infant mortality, and carcinogenic, mutagenic, and genotoxic effects (for example, lung cancer mortality). *Id.* at 73,837.

[7] Harms associated with climate change caused by human emissions of GHGs, including from heavy duty vehicles, are widespread and complex, from increased death and illnesses related to increases in weather related events (heat waves, increased ozone pollution, and deaths associated with increased intensity in

Finding and in an effort to reduce GHGs emissions and fuel consumption for on-road heavy-duty vehicles, in 2011, EPA and the National Highway Traffic Safety Administration, on behalf of the U.S. Department of Transportation (NHTSA) implemented the Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium and Heavy-Duty Engines and Vehicles (Diesel GHG Program). 76 Fed. Reg. 57,106 (September 15, 2011). The Diesel GHG Program is a comprehensive two-phase course of action designed to address diesel engine contribution to climate change. *Id.* Phase 1 applied to several categories of medium and heavy-duty engines and vehicles in MY 2014-2018 (Phase 1 Standards). *Id.* at 57,108; 81 Fed. Reg. at 73,479.

Following two years of stakeholder meetings and fact finding, in 2015, EPA and NHTSA proposed Phase 2 of the Diesel GHG Program (Phase 2 Standards), comprised of additional technology-forcing standards applicable to various categories of medium and heavy-duty engines and vehicles phased in MY 2018 to MY 2027. 81 Fed. Reg. at 73,480-73,481. After additional meetings with stakeholders and responding to thousands of public comments, many from new heavy-duty truck manufacturers in support of the Glider Rule, EPA issued the final Phase 2 Standards on October 25, 2016. *See* 81 Fed. Reg. 73,478.[8]

The Phase 2 Standards included a number of changes and clarifications of rules respecting so-called "glider kits" and "glider vehicles." 81 Fed. Reg. at 73,512. Specifically, a "glider kit" is "a tractor chassis with frame, front axle, interior and exterior cab, and brakes." *Id.* It is "intended for self-propelled highway use, and becomes a glider vehicle [aka glider] when an engine, transmission, and rear axle are added." *Id.* at 73,513. Some or all of these drivetrain parts are used or rebuilt. The final manufacturer of the glider vehicle is typically a different manufacturer than the glider kit. *Id.* However, glider kit manufacturers generally know the final configuration of the glider vehicle, because in order for the glider vehicle to work, the wiring of the glider kit must be designed to match the configuration of the powertrain. *Id.* at 73,517.

In use for decades, gliders were originally intended as a way to salvage relatively new powertrains that were still operable from a truck chassis that had been irreparably damaged (e.g., in an accident) or to allow trucks with localized and minimal use to be updated. *See* 81 Fed. Reg. at 73,513. Prior to 2007, when emissions standards issued in 2001 became fully applicable, only about 300 gliders were being produced per year. Phase 2 RTC at 1883. EPA impliedly provided an interim exemption from the Phase 1 Standards to gliders and glider kits, by adopting 40 C.F.R. § 1037.150(j) that indicated "the general prohibition against introducing a vehicle not subject to current model year standards does not apply to MY 2013 or earlier engines." 81 Fed.

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severe weather events such as flooding, tornadoes, and hurricanes) to adverse impacts to property, habitat, and energy, transportation, and water resource infrastructure from extreme weather events and rising sea levels. *See* 81 Fed. Reg. 73,486.

[8] NHTSA did not include gliders in its Phase 1 or Phase 2 fuel consumption standards. 81 Fed. Reg. at 73,584-73,585. EPA and NHTSA treat gliders differently under their respective regulations. *Id.* As EPA noted in response to comments during the Phase 2 rulemaking that EPA's treatment of gliders should reflect principles in existing NHTSA regulations, NHTSA and EPA regulate gliders under different statutory authority and for different, albeit related, purposes. Phase 2 RTC at 1886. "More importantly," EPA noted, "such comments ignore the severe public health impacts of gliders vehicles." *Id.*

Reg. at 73, 513-14; Phase 2 RTC at 55-56, 62. However, after the promulgation of the Phase 1 Standards, EPA and NHTSA both "observed a sharp increase in glider sales, which suggests that gliders are being used more and more as a loophole to avoid purchasing engines that meet 2010 EPA emissions standards, and potentially to avoid NHTSA safety regulations."[9]

B. EPA Issued the Glider Rule to Close an Increasingly Abused, Pollution-Increasing Loophole That Harms Public Health and Welfare.

From 2004 onward, and especially after EPA promulgated the Phase 1 Standards, glider production increased rapidly from a few hundred per year in 2004 to approximately 10,000 per year by 2015. 81 Fed. Reg. at 73,943. Gliders are typically marketed and sold as "brand new" trucks with new legal titles. 81 Fed. Reg. at 72,514; 82 Fed. Reg. at 53,445; Phase 2 RTC at 55-56. However, most gliders use rebuilt engines originally manufactured before 2002 that lack the pollution control equipment required by the 2010 heavy duty truck standards for conventional pollutant control. 81 Fed. Reg. at 73,942-72,943. While this may result in upfront cost savings to the buyer, any extra costs of a compliant glider will be recouped by greater fuel savings within the first few years.[10] More importantly from a public health perspective, preventing the harm that non-compliant glider emissions cause would offset any upfront cost savings. *See, e.g.,* 81 Fed. Reg. at 73,943 ("removal of all unrestricted glider vehicle emissions from the atmosphere would yield between $6 to $14 billion in benefits annually.").[11] In promulgating the Glider Rule, EPA found that most gliders have NOx and PM emissions that are between 20-40 times higher than current MY vehicle engines. 81 Fed. Reg. 73,942-73,943. Even gliders using relatively recent engines—produced in 2007 or later—have NOx and PM emissions at least 10 times higher than current engines. *Id.* at 73,942. An EPA study in 2017 corroborates the emissions results that EPA found in promulgating the Glider Rule: NOx emissions from gliders with pre-2002 engines were *43 times higher* than conventionally built 2014 and 2015 tractors under highway cruise conditions, and 4 to 5 times higher in conditions of transient operations.[12]

EPA's review of the record when promulgating the Glider Rule led it to conclude that glider manufacturing had become, and would continue to be, an industry dependent on a regulatory loophole that harms human health.[13] Consequently, EPA established the Glider Rule

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[9] EPA Glider FAQ, p. 1.

[10] Comments by California Air Resources Board at pp. 23-24, 38-39 (citing Phase 2 RTC at 1885,1878-879). Additionally, compliant gliders also are less expensive than most new compliant trucks; thus upfront cost savings of non-compliant gliders are no justification for the Proposed Repeal. *See id.*

[11] EPA estimated that the PM and ozone reductions from Phase 1 Standards alone will result in benefits from $1.3 to $4.2 billion in 2030. 81 Fed. Reg. 73,492.

[12] Chassis Dynamometer Testing of Two Recent Model Year Heavy-Duty On-Highway Diesel Glider Vehicles, November 20, 2017, Docket No.: EPA-HQ-OAR-2014-0827-2417 (Chassis Dynamometer Testing Study) at p. 3.

[13] *See* 81 Fed. Reg. at 73,942-43. *See also*, Comments by California Air Resources Board, §§ 1.4 and 1.5.

to balance the legitimate salvage purpose gliders originally served with its mandate to protect public health and the environment.[14] The Glider Rule caps sales of gliders/kits with non-compliant engines in phases, to allow the glider market to transition into selling only gliders/kits compliant with the Phase 2 Standards.[15] In 2017, glider manufacturers could sell gliders/kits using non-compliant engines, up to the number sold during the highest year of production between 2010 and 2014. Starting in January 2018, engines in gliders would have to meet GHG and criteria pollutant emission requirements for the year of the glider assembly, subject to an exception allowing them to sell 300 gliders per year with non-compliant engines. 81 Fed. Reg. 73,518. Beginning in MY 2021, all gliders, including those using engines exempted under the transition period, must meet the Phase 2 Standards.[16] Additionally, under the Glider Rule, glider kit manufacturers must certify that the engines intended for the kits meet the Phase 2 Standards. *Id.* at 73,515-73,517.

C. The Phase 2 Standards Record Shows That the Glider Loophole Resulted in Significant Harm to Public and Environmental Health and Created an Uneven Playing Field for Diesel Truck Manufacturers.

EPA found that each glider used in lieu of a new truck with controlled emissions "results in significantly higher in-use emissions of air pollutants associated with a host of adverse human health effects, including premature morality." 81 Fed. Reg. 73,943. EPA analyses of the impacts of glider vehicles on public health concluded that "without new restrictions, glider vehicles on the road in 2025 would emit nearly 300,000 tons of NOx and nearly 8,000 tons of diesel PM annually," noting that although gliders "would make up only 5 percent of heavy-duty tractors on the road, their emissions would represent about *one-third* of all NOx and PM emissions from heavy-duty tractors in 2025." Phase 2 RTC at 1875-1876 (original emphasis). The removal of these unrestricted glider emissions is estimated to yield between $6 and $14 billion in annual PM-related benefits. *Id.* at 1876. Further, EPA's own risk analysis indicated that $PM_{2.5}$-related exposures[17] from a single model year of 5,000-10,000 high polluting glider engines would result in 350 to 1,600 premature deaths, an estimate EPA called "significantly conservative." Phase 2 RTC at 1877; *see also* Comments by California Air Resources Board, § 1.5.2.

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[14] *Id.*

[15] 81 Fed. Reg. at 73,518, 73,941-73,946; *see also* 40 C.F.R. part 1037 (GHG heavy duty vehicle standards, which refer to 40 C.F.R. part 1036 (heavy duty engine standards); 40 C.F.R. part 86 (criteria pollutant standards).

[16] EPA also included a limited allowance to exempt gliders from the Phase 2 Standards altogether where the reused engines were newer or had very low mileage. 81 Fed. Reg. at 73,944.

[17] $PM_{2.5}$ particles are "'fine' particles with a nominal mean aerodynamic diameter less than or equal to 2.5 µm. 81 Fed. Reg. at 73,836. Their harm to human health when inhaled includes developmental, reproductive, carcinogenic, mutagenic, and genotoxic effects. *Id.*; see also, fn. 6, *supra*.

Additionally, a lack of regulation of gliders distorts the marketplace and tilts the playing field against heavy-duty truck manufacturers who have invested in developing pollution controls, since "glider sales now come at the expense of sales of fully compliant new trucks."[18] Both glider and major truck manufacturers estimated that without regulation, the glider industry would continue to grow. But as noted by several commenters, including much of the new truck/engine industry, continuation of the exemption for gliders threatened to undermine the goal of not only the Phase 2 Standards, but the earlier conventional pollutant standards as well, since glider emissions per vehicle are significantly higher than those from trucks required to meet all of the proposed 2017 heavy-duty vehicle emissions standards. *See* Phase 2 RTC at 1881; Glider FAQ, p. 2. In turn, this undercuts manufacturers who had made major investments to comply with current MY emissions standards.[19]

The Glider Rule became effective December 27, 2016, without any legal challenge. *See* 81 Fed. Reg. 73,478.[20] In particular, EPA noted in the Phase 2 RTC that "[n]o commenters disagreed with EPA's assessment of NOx and PM impacts." Phase 2 RTC, p. 1875. Following the Administration change, however, three glider manufacturers petitioned EPA for reconsideration of the Glider Rule, stating as grounds for reconsideration the very basis on which EPA has now premised its proposed reinterpretation of section 202(a)(1).[21] The factual basis for the three manufacturers' petition was a glider industry-funded June 2017 Tennessee Tech study that claims gliders emit fewer pollutants than EPA had found in its analysis.[22] One month later,

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[18] RTC at 1877; *see also* Comments of the Volvo Group, October 1, 2015, EPA-HQ-OAR-2014-0827-1290, pp. 62-67.

[19] *See e.g.*, Phase 2 RTC at 1877; EPA-HQ-OAR-2014-0827-1290, p. 63 "Such a gross expansion will threaten the ability of OEM dealers to compete in the marketplace with fully compliant products."

[20] EPA has been sued over other provisions of the Phase 2 Standards pertaining to emissions standards for trailer manufacturers.

[21] The petition for reconsideration by Fitzgerald Gliders et al. states EPA lacks section 202 authority to regulate gliders, because "the most significant parts of the vehicle – the engine, transmission, and typically the rear axle – are not new." Petition for Reconsideration filed July 10, 2017, p. 3, Docket No.: EPA-HQ-OAR-2014-0827-2373 (Glider Petition). Petitioners also claim glider kits are not within the CAA definition of "motor vehicle" because they are not "self-propelled." *Id.*

[22] Glider Petition, p. 5. As noted in the November 13, 2017 "Memo re: EPA Teleconference with Tennessee Tech Univ. Regarding Glider Test Report" by EPA's National Vehicle and Fuel Emissions Lab, Fitzgerald Gliders was involved in the Tennessee Tech study. Docket No.: EPA-HQ-OAR-2014-0827-2416. Fitzgerald also underwrites the Center for Intelligent Mobility at Tennessee Tech, which calls into question the study's value as unbiased research. https://www.tntech.edu/news/releases/tennessee-tech,-tcat-livingston,-fitzgerald-companies-announce-new-partnership (last viewed 1/4/18). As noted by the California Air Resources Board, the ability to assess the merit of the Tennessee Tech study, which was not peer-reviewed, is impeded by its lack of accompanying data and Tennessee Tech's later admission that "no particulate matter samples were collected during testing" undermines its assertions regarding PM emissions from gliders in particular. *See*, Comments by California Air Resources Board, § 1.5.2. Tennessee Tech also has not yet provided any information regarding the source, mileage, age, or

in August 2017, EPA announced its intent to revisit the Glider Rule. EPA published its notice of the Proposed Repeal on November 9, 2017, relying on the legal theory presented in the three glider-manufacturers' petition for reconsideration, and referring to the Tennessee Tech study. 82 Fed. Reg. at 53,444. The indefensible legal interpretations and self-serving study proffered by three representatives of an industry that has flourished based on the exploitation of a loophole in the regulation of harmful pollutants do not provide a reasoned basis for EPA's wholesale reversal of its position on the Glider Rule.

II. THE PROPOSED REPEAL IS PREMISED ON AN ERRONEOUS AND INVALID REINTERPRETATION OF EPA'S DUTIES UNDER CAA SECTION 202(A)(1).

A. EPA's 2017 Analysis.

EPA proposes to repeal the Glider Rule based its current view "that the statutory interpretations on which the [Glider Rule] predicated its regulation of glider vehicles, glider engines, and glider kits were incorrect." Specifically, EPA now asserts that glider vehicles are excluded from the term "new motor vehicles" and glider engines are excluded from the definition of "new motor vehicle engines" under CAA Section 216(3). 82 Fed. Reg. at 53,444. "Consistent with this interpretation," EPA states that it "has no authority to treat glider kits as 'incomplete' new vehicles under CAA section 202(a)(1). *Id.* The Administrator's proposed rationale for this is that EPA's prior reading "was not the best" and that:

> the Agency failed to consider adequately the most important threshold consideration: i.e., whether or not Congress, in defining 'new motor vehicle' for purposes of Title II, had a specific intent to include within the statutory definitions such a thing as a glider vehicle – a vehicle comprised both of new *and* previously owned components. See *Chevron [USA, Inc. v. NRDC, Inc.*, 467 U.S. 837,843 n.9 (1984)], ('Where the 'traditional tools of statutory construction 'allow one to 'ascertain[] that Congress had an intention on the precise question at issue,' that 'intention is the law and must be given effect.'). Where 'Congress has not directly addressed the precise question at issue,' and the 'statute is silent or ambiguous with respect to the specific issue,' it is left to the agency charged with implementing the statute to provide an 'answer based on a permissible construction of the statute.' *Id.* at 843. 82 Fed. Reg. at 53,445.

Applying *Chevron*, the Administrator concludes that, "in light of these principles, it is clear that EPA's reading of the statutory definition of 'new motor vehicle' in the Phase 2 rule fell short." *Id.* The basis for the Administrator's reinterpretation is not in the statute itself, since EPA admits up front that gliders fall within the definition of "new motor vehicle" and "new

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condition of the "OEM 'certified' engines" cited by Tennessee Tech as examples of the emissions performance for newer engines. November 13, 2017 Memorandum concerning meeting between EPA and Tennessee Tech, pp. 2-3, Docket No.: EPA-HQ-OAR-2014-0827-2416. Furthermore, as mentioned *supra*, testing in 2017 by EPA's National Vehicle & Fuel Emissions Laboratory corroborated EPA's findings in 2016, that gliders emit significantly more NOx and PM than do comparable conventionally-manufactured MY vehicles. Chassis Dynamometer Testing Study, p. 3.

motor vehicle engine" in CAA section 216(3).[23] Instead, the Administrator focuses on whether Congress specifically *intended* to cover gliders when it wrote the definitions applicable to CAA section 202(a)(1). EPA concludes "it is likely that Congress did not have in mind that the definition would be construed" as covering gliders, since they were not produced in any great number until recently. *Id.* EPA further "supports" this conclusion by turning to the Automobile Information Disclosure Act of 1958 (AIDA), which has definitions of "new motor vehicle" and "new motor vehicle" that the Agency argues "appear" to be the source of the definitions in the CAA, although "the legislative history of the 1965 CAA does not expressly indicate" this to be the case. *Id.* The AIDA is a consumer protection law that requires a label containing information such as the Manufacturer's Suggested Retail Price (MSRP) be affixed to the windshield or side window of new automobiles. 15 U.S.C. § 1232. "New" automobiles under AIDA are defined as passenger cars or station wagons for which "the equitable or legal title to which has never been transferred by a manufacturer, distributor, or dealer to an ultimate purchaser." 15 U.S.C. § 1231(c), (d). EPA alleges that the use of the AIDA definitions:

> serves to illuminate congressional intent. As with the Disclosure Act, Congress in the 1965 CAA selected the point of first transfer of 'equitable or legal title' to serve as a bright line – *i.e.*, to distinguish between those 'new' vehicles (and engines) that would be subject to CAA section 202(a)(1) and those existing vehicles that would not be subject. [. . .] it would seem clear that Congress intended, for purposes of Title II, that a 'new motor vehicle' would be understood to mean something equivalent to a 'new automobile' – *i.e.*, a true 'showroom new' vehicle. It is implausible that Congress would have had in mind that a 'new motor vehicle' might also include a vehicle comprised of new body parts and a previously owned powertrain.

Id. at 53,446. EPA deliberately misinterprets "new motor vehicle" to mean "a true, 'showroom new vehicle,'" even though the term "showroom new" is not used in the AIDA, the CAA, or defined anywhere by the Administrator. EPA replaces the regulatory definition of "new," which is based on the transfer of title, with the colloquial definition of "new," as in "never used." However, neither the AIDA nor the CAA provide any textual or factual support for EPA's interpretation, since both statutes define newness in terms of transfer of title rather than the age of any of the components. Instead, the Administrator appears to rely on the association between an MSRP sticker and a new car showroom, where one would not expect to purchase a vehicle with a refurbished engine. EPA goes on to conclude that based on "that structure and history, it seems likely that Congress" did not intend to regulate gliders and that "[a]t a minimum, ambiguity exists," leaving EPA "with the task of providing 'an answer based on a permissible construction of the statute.'" *Id., citing Chevron*, 467 U.S. at 843. EPA then concludes that neither glider vehicles, glider engines, nor glider kits would be covered under the CAA's definitions of "new motor vehicle," "new motor vehicle engine," or EPA's authority to regulate "incomplete" vehicles. *Id.*

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[23] 82 Fed. Reg. at 53,445 ("Focusing solely on that portion of the statutory definition that provides that a motor vehicle is considered 'new' prior to the time its 'equitable or legal title' has been 'transferred to an ultimate purchaser,' a glider vehicle would appear to qualify as 'new.'").

B. EPA's Analysis Attempts to Circumvent the Plain Language Reading of Sections 202 and 216 by Manufacturing Ambiguity Where None Exists.

1. The CAA's Plain Language Confirms That EPA's Original Interpretations of Sections 202 and 216 Reflect Congressional Intent to Regulate Gliders and Kits.

As EPA decided in 2016, the plain language of Sections 202 and 216 unambiguously compels it to regulate completed gliders (i.e., kits with engines) as new motor vehicles. Completed gliders are "motor vehicles" under the plain language of section 216(2), because they are self-propelled. 42 U.S.C. § 7550(2).[24] And when sold new, i.e., prior to the final transfer of title, they are "new motor vehicles" under the plain language in 216(3). 42 U.S.C. § 7550(3).[25] The engines installed in new gliders, although they have been used prior to being remanufactured, are "new motor vehicle engines" under the plain language of section 216, which defines "new motor vehicle engine" as 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*." *Id.* (emphasis added). As discussed above, gliders are sold with a new legal title. In its proposal, EPA correctly admits that pursuant to the plain language of section 216, which "provides that a motor vehicle is considered 'new' prior to the time its 'equitable or legal title has been 'transferred to an ultimate purchaser,' a glider vehicle would appear to qualify as 'new.'" 82 Fed. Reg. at 53,445.

Similarly, the plain language of section 202(a)(1), which specifies that EPA's emissions standards apply to the vehicle or engine during its useful life "whether such vehicles and engines are designed as complete systems or incorporate devices to prevent or control such pollution," reflects Congress' intent that EPA regulate emissions from "incomplete" motor vehicles, i.e., motor vehicles that are pieced together, such as gliders built from glider kits. 42 U.S.C. § 7521(a)(1).

In its notice of proposed action, EPA acknowledges the extensive case law holding that a *Chevron* step one analysis requires examination of the language relative to "the whole law, and to its object and policy." 82 Fed. Reg. 53,445, quoting *Dole v. United Steelworkers of Amer.*, 494 U.S. 26, 35 (1990), among others. It is a "fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme." *F.D.A. v. Brown & Williamson Tobacco Corp*, 529 U.S. 120, 132-133 (2000). Indeed, to find ambiguity, a court must "examine the meaning of [those] words or phrases in context and . . . '*exhaust* the traditional tools of statutory construction.'" *Sierra Club*

[24] Section 216(2) defines a "motor vehicle" as "any self-propelled vehicle designed for transporting persons or property on a street or highway." 42 U.S.C. 7550(2).

[25] Section 216(3) defines a "new motor vehicle" as ""motor vehicle the equitable or legal title to which has never been transferred to an ultimate purchaser." 42 U.S.C. 7550(3).

v. E.P.A., 551 F.3d 1019, 1026-27 (D.C. Cir. 2008)(quoting *Am. Bankers Ass'n v. Nat'l. Credit Union Admin.*, 271 F.3d 262, 267 (D.C. Cir. 2001)(emphasis added).

However, EPA does not engage in the required analysis at all. Rather, it concludes that the language is ambiguous because: (1) Congress likely did not have vehicles like gliders in mind when drafting because, although gliders existed, they were not widely produced; and (2) definitions in the AIDA *might* have inspired the drafting of section 216's definitions. Neither of these reasons relates to the language of section 216 itself, the other parts of the CAA, or the CAA's purpose, i.e., the required statutory analysis factors. *See, e.g.*, *Brown & Williamson Tobacco Corp*, 529 U.S. at 132. And, as explained below, neither argument is persuasive.

Under the required analysis, it is clear "by reference to the language itself, the specific context in which that language is used, and the broader context of the statute as a whole" that Congress contemplated regulating a vehicle as "new" irrespective of its engine age when it drafted section 216. *See Robinson v. Shell Oil Co.*, 519 U.S. 337, 341. Importantly, Congress did not define "engine" for purposes of CAA Title II. Nor did it constrain the definitions of "motor vehicle" or "new motor vehicle" in any way relating to the engine or even the vehicle's age. Under its definition of "motor vehicle," a vehicle with any engine – old or new – that propels the vehicle so that people or things can be transported on a street or highway is a "motor vehicle." 42 U.S.C. § 7550(2). And Congress made no carve out or proviso that only "motor vehicles" with engines that have never been used counted as such. Rather, any motor vehicle prior to sale (i.e., transfer of title) is a "new motor vehicle" under the Act, subject to regulation under 202(a)(1). 42 U.S.C. §§ 7521(a)(1), 7550(3).[26] The plain language is clear itself, and in the context of the Act as a whole. The argument that a glider is not a "new motor vehicle" because it lacks an engine before assembly is of no moment. As soon as the glider receives its engine, it becomes a motor vehicle under Title II, and prior to transfer of title, it is a "new motor vehicle." *See id.*

The statutory language reflects Congress' intent for breadth of coverage since it requires standards for: (1) new engines prior to title change; *and* (2) any "engine in a new motor vehicle." 42 U.S.C. § 7550(3). This language demonstrates Congress intended EPA to regulate emissions from any engine, not just new engines, in a new motor vehicle. Had Congress intended to restrict EPA's Section 202 authority to regulate "new vehicle motor engines" to "*new engines* in new motor vehicles," it would have limited the definition of "new motor vehicle engine" to the first category (new engines prior to title change). Under EPA's proposed interpretation of section 216(3), where a new engine can only be one that has never been sold before, the second category of engine – an engine in a new motor vehicle – is simply redundant of the first, which violates basic canons of statutory interpretation. *See Gustafson v. Alloyd Co., Inc.*, 513 U.S. 561, 574-75 (1995).

The surrounding provisions of the statute confirm this reading. EPA acknowledged in its notice of proposed repeal, "[a]s Title II currently reads, the term new motor vehicle; appears

[26] Whether or not there is ambiguity in the definition of "new motor vehicle" in other contexts, none exists in the context of gliders.

some 32 times, and in all but two instances, the term is accompanied by "new motor vehicle engine," indicating that, at the inception of Title II, Congress understood that the regulation of *engines* was essential to control emissions from "motor vehicles." 81 Fed. Reg. 53,443, n.3 (original emphasis).

Similarly, EPA's original view that it should regulate glider kits as *incomplete* new motor vehicles finds support in the provision of section 202(a)(1), which states that EPA's emissions standards shall apply to the vehicle or engine during its useful life "whether such vehicles and engines are designed as complete systems." Other parts of Title II also support this conclusion. Congress directed that emissions standards be implemented through regulation of the *manufacturer* of the new motor vehicle. *See, e.g.*, § 203(a)(1) (prohibiting "manufacturer of new motor vehicles or new motor vehicle engines" from selling such vehicles/engines without certificate of conformity); § 206(a)(1) (certification testing of motor vehicle must be submitted by "a manufacturer"). Congress plainly intended "manufacturer" to include multiple parties at different times throughout the vehicle's completion, defining "manufacturer" as "*any* person engaged in the manufacturing *or assembling* of new motor vehicles *or* new motor vehicle engines . . .." 42 U.S.C. § 7550(1) (emphasis added). Congress' use of "any" and "or" within the definition of manufacturer clearly show that it intended a manufacturer whose business is creating, rebuilding, and assembling incomplete new motor vehicles, like a glider kit maker, be responsible for such things as testing and certification of conformity. *See id.*

EPA's proposed reinterpretations of the CAA in this rulemaking unlawfully insert constraints on the definitions of "motor vehicle," "new motor vehicle," "new motor vehicle engine." and "manufacturer" that Congress did not include, thereby changing the meaning of Congress' definitions. *See Mohasco Corp. v. Silver*, 447 U.S. 807, 825 (1980)(agency "'interpretation' of the statute cannot supersede the language chosen by Congress"); *Motor & Equip. Mfrs. Ass'n v. E.P.A.*, 627 F.2d 1095, 1108 (D.C. Cir. 1979), *cert. denied*, 446 U.S. 952, 100 (1980) ("statute must be construed to avoid that result so that no provision will be inoperative or superfluous"); *see Brown & Williamson Tobacco Corp*, 529 U.S. at 132-133 (court must "interpret the statute 'as a symmetrical and coherent regulatory scheme,' and 'fit, if possible, all parts into a harmonious whole.'")(internal cite omitted); *see also, Tcherepnin v. Knight*, 389 U.S. 332, 336 (1967) (the Court construes terms broadly where the act at issue "clearly falls into the category of remedial legislation").

Furthermore, EPA's erroneous new reading of the statute would create a loophole whereby any manufacturer of new engines or vehicles ostensibly could legally skirt emissions control regulations applicable to "new motor vehicles" simply by including some used/refurbished parts in the engine installed in an otherwise brand new vehicle. EPA did not include any limitation on its new reading of the statute that would prevent this result, which would affect vehicles beyond heavy-duty trucks, as the definitions in section 216 apply to a wide array of cars and trucks. Under the Proposed Repeal, *any* car manufacturer willing to reconfigure its manufacturing process could insert a refurbished third-party engine into an otherwise new car body, and claim such a vehicle was not a "new motor vehicle" subject to

section 202(a)(1). This would obviously contradict the purpose of the CAA. In contrast, EPA's 2016 interpretations are consistent with the CAA's overarching purpose.[27]

2. The CAA's Overarching Purpose Affirms That EPA's 2016 Interpretations of Sections 202 and 216 Reflect Congressional Intent to Regulate Gliders and Kits.

Congress enacted the CAA "'to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population.'" *Chemical Mfrs. Ass'n. v. EPA*, 217 F.3d 861, 866 (D.C. Cir. 2000) (quoting CAA § 101(b)(1), 42 U.S.C. § 7401(b)(1)). Courts have oft noted that the CAA is "is one of the most comprehensive pieces of legislation in our nation's history" enacted specifically to address public health problem caused by air pollution. *Motor Vehicle Manufacturers Ass'n v. New York State Dep't of Envtl. Conserv*., 17 F.3d 521, 524 (2nd Cir. 1994) (CAA enacted "[i]n response to the serious public health problems caused by ozone and carbon monoxide and the enormous task of cleaning up the air we breathe"); *Bell v. Cheswick Generating Station*, 734 F.3d 188, 190 (3rd Cir. 2013)(CAA enacted "in response to evidence of the increasing amount of air pollution created by the industrialization and urbanization of the United States and its threat to public health and welfare.").

EPA's 2016 interpretation of its section 202(a)(1) duty – to regulate air emissions found to cause pose public health risks as including its duty to regulate gliders – is consistent with overarching purpose of the CAA to ensure the protection of public health and welfare from harmful air pollution. *See id.*

In contrast, EPA's newly proposed reinterpretations undermine the very purpose of the CAA to protect air quality and promote the public health and welfare, and EPA's duty to uphold and enforce the CAA. *See* 42 U.S.C. § 7401(b)(1); *Massachusetts v. EPA,* 549 U.S. at 532, citing 42 U.S.C. § 7521 ("EPA has been charged with protecting the public's 'health' and 'welfare'"). EPA's reinterpretations—which impair the CAA's purpose—are not permissible constructions of the statutes. Consequently, a court would not uphold them. *See Chevron,* 467 U.S. at 843.

C. EPA's Arguments in Support of Deference to its Flawed Reinterpretation Are Unfounded.

Instead of undertaking a complete *Chevron* analysis of the statutes' plain language and application in context of the Act, EPA's proposed reinterpretations rely on an argument that Congress' intent was ambiguous, thereby triggering a more deferential review of the "reasonableness" of the Agency's interpretation of the statute. EPA asserts two reasons why the statutory provisions are ambiguous as to gliders. Neither succeeds.

[27] EPA's original interpretations are also consistent with its treatment of remanufactured or refurbished locomotives and locomotive engines as "new." 40 C.F.R. § 1033.901.

1. EPA's Reinterpretation Relies on the Faulty Premise that Congress did not Draft the CAA to Adapt to Changes in Technology or Markets.

First, EPA supposes that when Congress defined "new motor vehicle" in Section 202, it "likely" did not envision the definition would apply "to a vehicle comprised of new body parts and a previously owned powertrain." 82 Fed. Reg. 53,445-46.

In material respects, this is the same rationale that EPA advanced to self-limit its section 202 authority to regulate greenhouse gases that the Supreme Court rejected in *Massachusetts v. EPA*, 549 U.S. 497, 532 (2007). EPA contended that when drafting section 202, Congress could not have envisioned a problem that arose years later such as greenhouse gas emissions. *Id.* The Court rejected this idea, finding that "[w]hile the Congresses that drafted § 202(a)(1) might not have appreciated the possibility that burning fossil fuels could lead to global warming, they did understand that without regulatory flexibility, changing circumstances and scientific developments would soon render the CAA obsolete." *Id*. The Court held that, "[t]he broad language of § 202(a)(1) reflects an intentional effort to confer the flexibility necessary to forestall such obsolescence." *Id*. (citing *Pennsylvania Dept. of Corrections v. Yeskey* 524 U.S. 206, 212 (1998)("the fact that a statute can be applied in situations not expressly anticipated by Congress does not demonstrate ambiguity. It demonstrates breadth.")(Internal quote omitted).

EPA's proposal to reinterpret section 202 in a way that fails to keep up with evolving air pollution problems (here, resulting from market changes in the glider industry) is contrary to the Court's view in *Massachusetts*; hence, it fails. Beyond EPA's rejection of the Supreme Court's instruction that the CAA should be read to cover issues about which Congress might not have been aware when drafting, EPA's Proposed Repeal contradicts the purpose of the Act that Congress clearly *did* have in mind: to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population.'" 42 U.S.C. § 7401(b)(1)). In advancing the Proposed Repeal, EPA is arguing, contrary to the Act's history and *Massachusetts*, that Congress intended to allow high-polluting vehicles to escape regulation entirely.

2. EPA's Claim that Section 216's Definitions Derived From the AIDA is Speculative and Immaterial.

EPA's second argument that section 216 is ambiguous is based on the connection that it assumes exists between the definition of "new motor vehicle" in CAA section 216 and the definition in the AIDA that requires dealers affix the MSRP to "showroom new" cars. 82 Fed. Reg. 53,445-46. It claims Congress must have used the AIDA as the basis for the CAA section 216 definitions because the AIDA predated the 1965 creation of CAA Title II and because they use similar language regarding transfer of title to ultimate purchaser. Further, EPA alleges that because it is clear the MSRP requirements in the AIDA only relate to "showroom new" vehicles – a definition EPA invents and fails to define, Congress must have intended "new motor vehicles" as used in CAA 216 and 202 only to relate to "showroom new" vehicles. *Id.*

However, EPA admits this is conjecture: "[w]hile the legislative history of the 1965 CAA does not expressly indicate that Congress based its definition of "new motor vehicle" on the definition of "new automobile" first adopted by the Automobile Information Disclosure Act of 1958, it seems clear that such was the case." 82 Fed. Reg. 53,445. Beyond EPA's admission there is no evidence that Congress based the section 216 definitions on those in AIDA, it provides no proof or analysis that would show gliders or kits not to be "new" under AIDA's definitions. Rather, it leaps from discussion of AIDA to the conclusion that Congress must have meant "showroom new" in drafting section 216's definitions, to further concluding that gliders are not "showroom new." 82 Fed. Reg. 53,446.

The AIDA's purpose is wholly different from that of the CAA. Congress enacted the AIDA to protect consumers from the bewildering "marketing jungle" created by car dealers. H.R. Rep. 85-1958 (June 24, 1958) at 2903. Specifically, it noted that, "the primary purpose of this bill is to disclose the manufacturer's suggested retail price of the new automobile [passenger car or station wagon] so that the buyer will know what it is. This information is not available now." *Id.* Congress crafted the AIDA, a specific, narrow law, to address a specific, narrow issue. It has no relation whatsoever to the significantly broader purpose of protecting public health and welfare from air pollution via one of the most comprehensive laws that Congress has enacted. *See Motor Vehicle Manufacturers Ass'n.*, 17 F.3d at 524. Comparison of the AIDA's definitions to section 216 is inapt.

Assuming *arguendo* that any ambiguity *could* be found, which it cannot, as discussed above, no grounds would support deference to EPA's reinterpretation. EPA's new self-limiting view of its section 202 responsibility abrogates the Supreme Court's determination in *Massachusetts v. EPA*, and spurns the CAA's objective to protect air quality and promote the public health and welfare. Indeed, the proposed reinterpretations require one to believe Congress intended to create a loophole for the use of old engines in new bodies as substitutes for new, compliant vehicles, even when that would vastly *increase* pollution, a result that directly conflicts with the stated purpose of the CAA.

III. THE PROPOSED REPEAL IS ARBITRARY AND CAPRICIOUS

A. Standard of Review

Even if EPA's proposed reinterpretation of CAA section 202(a)(1) were not clearly erroneous, rulemaking under the CAA or the Administrative Procedure Act (APA) will be reversed by a court where such action is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 42 U.S.C. § 7607(d)(9)(A); 5 U.S.C. § 706(2)(A); *see also Ethyl Corp. v EPA*, 51 F.3d 1053, 1064 (D.C. Cir. 1995) (holding that the standard of review under the CAA or the APA is "essentially the same under either Act."). When engaged in rulemaking, including the repeal of an existing rule, an agency must "examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made." *Motor Vehicle Mfrs. Ass'n of the United States v. State Farm Mut. Auto. Ins.Co.*, 463 U.S. 29, 43 (1983) (internal quotation and citation omitted); *Encino Motorcars LLC v. Navarro*, 136 S. Ct. at 2125.

An agency action is arbitrary and capricious "if it has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *State Farm*, 463 U.S. at 43. Although agencies are allowed to change an existing position, as EPA has done here, an agency cannot choose to not enforce laws of which it disapproves or ignore statutory standards in carrying out its duties. *State Farm,* 463 U.S. at 59 (Rehnquist, J., concurring in part and dissenting in part). Rather, agencies changing position must "'show that there are good reasons for the new policy.'" *Encino Motorcars*, 136 S.Ct. at 2126 (*citing FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009); *Smiley v. Citibank (South Dakota), N.A.*, 517 U.S. 735 (1996)); *see also Comcast Corp. v. FCC*, 600 F.3d 642, 658-59 (D.C. Cir. 2010) (applying arbitrary and capricious standard factors to an agency's changed interpretation of regulatory authority).

Further, an agency must "provide more substantial justification when 'its new policy rests upon factual findings that contradict those which underlay its prior policy; or when its prior policy has engendered serious reliance interests that must be taken into account. It would be arbitrary and capricious to ignore such matters.'" *Perez v. Mortgage Bankers Ass'n*, 135 S.Ct. 1199, 1209 (2015) (citation omitted). Any "unexplained inconsistency" between a rule and its repeal is "a reason for holding an interpretation to be an arbitrary and capricious change." *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005). In addition, an agency cannot suspend a validly promulgated rule without first "pursu[ing] available alternatives that might have corrected the deficiencies in the program which the agency relied upon to justify the suspension." *Public Citizen v. Steed*, 733 F.2d. 93, 103 (D.C. Cir. 1984).

B. EPA Has Failed to Acknowledge the Extensive Record Supporting the Glider Rule, Much Less Justify its Proposed Repeal.

As discussed above in Section II, due to its clearly erroneous interpretation of CAA section 202(a), EPA fails to provide a "good reason" for repealing the Glider Rule. *Encino Motorcars*, 136 S.Ct. at 2126. Additionally, the entirety of the Proposed Repeal and EPA's request for comment advances arguments regarding EPA's statutory authority to regulate gliders/kits that were made by stakeholders during the Glider Rule rulemaking, and were thoroughly discussed, vetted, and then rejected by EPA when it issued the Glider Rule. *See* 80 Fed. Reg. at 40,169-41,170, 40,527-40,530; Phase 2 RTC sections 1.3.1 and 14.2; 81 Fed. Reg. at 73,512-73,519, 73,941-73,946. Although the Proposed Repeal acknowledges that EPA intends to change its 2016 interpretation, EPA cites only to comments made by the glider industry during the Phase 2 Standards comment period and in its petition for reconsideration, and ignores the myriad and detailed bases for EPA's earlier rejections of these very same arguments. *See* 82 Fed. Reg. 53,443-53,447. EPA's action in reviving and seeking further comment on these previously rejected arguments, while ignoring the robust Glider Rule record that clearly addressed them, is arbitrary and capricious. *Fox Television Stations,* 556 U.S. at 515 ("a reasoned explanation is needed for disregarding facts and circumstances that underlay or were engendered by the prior policy.").

1. EPA's Failure to Explain Inconsistencies in the Record Pertaining to its Legal Analysis is Arbitrary and Capricious.

While an agency can change its interpretation of its legal authority, to the extent that its new interpretation is inconsistent with its prior interpretations, an acknowledgment of those inconsistencies and justification for the new interpretation is required, especially where the regulated community is relying on the existing rule. *Brand X*, 545 U.S. at 981; *Perez* 135 S.Ct. at 1209. Here, EPA merely acknowledges the fact that it is changing interpretation while ignoring completely EPA's own extensive record analyzing congressional intent supporting the Glider Rule interpretation, including section 202(a)(1)'s relationship with other provisions of the CAA; the alternative statutory bases EPA has to regulate gliders; and EPA's longstanding practice of regulating new vehicles with some rebuilt or refurbished parts.[28] This failure does not meet the requirement to acknowledge that inconsistencies exist, much less meet the requirement for "reasoned analysis" and discussion of these alternatives and is therefore arbitrary and capricious. *State Farm*, 463 U.S. at 4.

EPA has also failed to consider "serious reliance interests" that were created when it adopted the Glider Rule. *See Perez,* 135 S.Ct. at 1209. As discussed *supra*, Original Equipment Manufacturers (OEMs) have placed considerable reliance on the Glider Rule as being necessary to ensure a level playing field among heavy duty vehicle manufacturers under the Phase 2 Standards. Given that glider sales are now coming at the expense of fully compliant conventional trucks and the fact that a tiny percentage of glider emissions can dwarf the emissions of hundreds of thousands of compliant trucks, EPA must look for ways to correct the perceived deficiencies in its statutory authority. *Perez v. Mortgage Bankers Ass'n*, 135 S.Ct. at 1209; *Steed* 733 F.2d. at 103. EPA's failure in the Proposed Repeal to acknowledge the importance of the Glider Rule to the rest of the regulated industry, or to explain why it did not address its current supposed deficient authority under Section 202(a)(1) by considering the alternative statutory bases set forth in the Glider Rule rulemaking, is arbitrary and capricious under *Encino, Perez,* and *Steed*.

2. EPA's Proposed Adoption of the Glider Industry's Arguments Without Justification is Arbitrary.

The history of the Proposed Repeal itself evidences arbitrary decision making by EPA. As mentioned above in Section I, the Glider Rule was finalized in 2016 after years of stakeholder

[28] *See* Phase 2 RTC Sections 1.3.1 and 14.2; 81 Fed. Reg. 73,513-73,519 (discussing the clear congressional purpose of the CAA to control air pollutant emissions and drive technology, the relationship with NHTSA regulations of glider vehicles, the relationship to standards for incomplete vehicles, definitions of "manufacturer", the prohibition against acts that "cause" violations of emissions standards, EPA's authority under Sections 203(a)(3)(B), and 202(a)(3)(D) granting explicit authority to prescribe requirements of rebuilt heavy-duty engines; *see also*, Legal Memorandum Discussing Issues Pertaining to Trailers, Glider Vehicles, and Glider Kits under the Clean Air Act, Feb. 2016, EPA-HQ-OAR-2014-0827-1627.

meetings with all sectors of industry, and responding to thousands of public comments. The Glider Rule relied on extensive technical analyses by EPA, glider manufacturers, and OEMs regarding glider emissions, and it went into effect without legal challenge from either glider manufacturers or OEMs. However, after gaining a private meeting with the Trump Administration, three glider manufacturers submitted a Petition for Reconsideration of the Glider Rule, in which they recycled legal arguments they had made during the Glider Rule promulgation, and which EPA had considered and rejected.[29] EPA then published its notice of the Proposed Repeal, relying on the legal theory presented in the glider manufacturers' petition for reconsideration.

As part of the introduction for the Proposed Repeal, EPA cites to arguments raised by the glider manufactures about potential "benefits" of gliders on the grounds that they emit less, as alleged by the Tennessee Tech study submitted with the petition for reconsideration. 82 Fed. Reg. at 53,444. This industry-designed and funded study was not peer reviewed, and among other glaring deficiencies, it makes claims regarding PM emissions that it did not even test for, rendering its assertions questionable at best. *See* fn. 22, *supra*. In contrast, EPA staff recently released a report about glider emissions that corroborates EPA's initial glider emissions estimates supporting the Glider Rule.[30] Yet EPA cites to the Tennessee Tech study in the Proposed Repeal without any critical review or explanation about the differences in its results, as compared to the extensive and scientifically robust analysis conducted by EPA in 2016 and 2017. EPA has failed to acknowledge the severe and substantial health and environmental impacts supported by the Glider Rule record,[31] issues at the heart of the CAA's purpose and the Administrator's statutory responsibility.

The comments that EPA solicits as part of the Proposed Repeal further reflect arbitrary and capricious action, since the questions on which it seeks comment (the suitability of gliders for small businesses, whether "limiting the availability of glider vehicles could result in older, less safe, more-polluting trucks remaining on the road," and "whether glider vehicles produce significantly fewer emissions overall compared to the older trucks they would replace" as well as "the relative expected emissions impacts if the regulatory requirements at issue here were to be repealed or were to be left in place") were already asked and answered as part of the Glider Rule and notice and comment process 82 Fed. Reg. at 53,446-53,447, s*ee also* RTC to Phase 2 Rule Sections 1.3.1 and 14.2; 81 Fed. Reg. at 73,512-73,519, 73,941-73,946.

[29] See fn. 21, *supra*.

[30] Chassis Dynamometer Testing Study; see fn. 12, *supra*.

[31] The California Air Resources Board comment letter thoroughly discusses the technical merits and evidence provided by the various studies cited in the Glider Rule record and the Proposed Repeal.

3. EPA's Failure to Analyze the Economic and Environmental Impacts of the Proposal Repeal, Including States' Abilities to Comply with NAAQS, are Additional Reasons the Proposed Repeal is an Arbitrary and Capricious Action.

Two other aspects of the Proposed Repeal are further evidence of EPA's arbitrary and capricious failure to adequately explain how its Proposed Repeal rebuts the facts found during promulgation of the Glider Rule. First, EPA failed to address its many findings of health protectiveness, and assessment of costs and benefits that it set out in the Regulatory Impact Assessment (RIA) for the Glider Rule.

EPA's only attempt at satisfying its obligations to provide the RIA information is a three-page long memo titled "Assessment of Economic Factors Associated with Glider Vehicles" (Memo) dated Nov. 16, 2017. Docket No. EPA-HQ-OAR-2014-0827-2407. In the Memo, EPA expressly acknowledges that it "is not including a Draft RIA for this proposed rule." Memo, p. 1. The Administrator acknowledges that he reviewed and considered the RIA for the Phase 2 rulemaking (Phase 2 RIA). But this is all he says about the Phase 2 RIA. That RIA (docket no. EPA-HQ-OAR-2014-0827-2345) is more than 1,000 pages long, and its economic impact analysis includes, among other things, the quantified monetized non-GHG health and environmental impacts of the Phase 2 rule, including the Glider Rule. Phase 2 RIA, chapter 8.6. It discusses the changes in ambient concentrations of PM and ozone that will result from the Phase 2 standards, and the fact that it is "important to quantify the health and environmental impacts associated with the standards because a failure to adequately consider ancillary impacts could lead to an incorrect assessment of their costs and benefits." Phase 2 RIA, p. 8-41. It presents monetized benefits from reducing exposure to PM. *Id.* at ch. 8.6.1. EPA's failure to consider whether or how the Proposed Repeal would affect the health-related benefits and costs found in the Phase 2 RIA renders the Proposed Repeal arbitrary and capricious. The discretion the CAA accords EPA does not matter here, since the omission pertains to the Administrator's duty to protect public health and welfare. 42 U.S.C. § 7617(e)(2).

Additionally, the meager economic analysis provided with the Proposed Repeal includes determinations that it will not result in costs/impacts to consumer costs and energy use. Memo, p. 2. However, EPA based these determinations on *unverified* claims by the glider industry that glider engines have better fuel efficiency and maintenance costs than new compliant engines. *Id.* A determination based on unverified claims, particularly when they are counter-intuitive – old engines have better fuel efficiency – and belied by the Agency's earlier findings,[32] is arbitrary; especially when the claims are advanced by *the action's proponents.*

Second, it is clear from the notice of Proposed Repeal that EPA gave no consideration to the effect the repeal would have on the States' ability to meet the NAAQS, an aspect of the Phase 2 program that the Glider Rule considered. Specifically, EPA found that further NOx reductions would "assist[] states and local areas in attaining and maintaining the applicable ozone NAAQS." 81 Fed. Reg. at 73,522. Further, it found that, "the emissions reductions and

[32] *See, e.g.*, Phase 2 RTC at 1877-1879.

improvements in ambient $PM_{2.5}$ concentrations from this action [. . .] will be helpful to states as they work to attain and maintain the $PM_{2.5}$ NAAQS." *Id.* at 73,856. In the Proposed Repeal, EPA totally ignored these prior findings. See 82 Fed. Reg. at 53,442-49. EPA mentions NAAQS only once, in its justification why it need not comply with Executive Order 13045 and study the Proposed Repeal's effects on the protection of children (despite its admission that some of the benefits to children's health will be lost in repealing the Glider Rule). 82 Fed. Reg at 53,448. However, this mention is not a substitute for analysis;[33] as it does not approach the requisite consideration of EPA's previous findings that Phase 2 with the Glider Rule would assist the States with NAAQS compliance. Repeal of the Glider Rule will have the exact opposite effect on the States' abilities to meet the NAAQS requirements. Finalization of the Proposed Repeal would be arbitrary and capricious, and subject to reversal by courts, for any of the foregoing reasons.

IV. EPA CANNOT DEFENSIBLY MAKE THE ALTERNATIVE CHANGES TO THE GLIDER RULE ON WHICH EPA REQUESTS COMMENT.

In addition to requesting comment on repeal of the Glider Rule EPA also seeks comment on two alternative changes that could substantially weaken and undermine the Rule. 82 Fed. Reg. at 53,446-47. First, EPA asks whether it should increase the exemption for small manufacturers above the current limit of 300 glider vehicles per year. *Id.* Second, EPA seeks comment on whether it should extend the date of compliance for glider vehicles and glider engines, and if so by how long. *Id.* The CAA and the record from the Glider Rule foreclose either option.

In response to concerns expressed by small business manufacturers and assemblers, the Glider Rule carved out an exemption that allows such entities to produce up to 300 vehicles per year (or up to the highest annual production volume for calendar years 2010 through 2014, whichever is less) with engines meeting the criteria pollutant standards corresponding to the year of the engine. 40 C.F.R. § 1037.150(t)(1)(ii); *see also* 81 Fed. Reg. 73,518, 73,942, 73,944-45. EPA found that this 300-unit level "reflects the upper end of the range of production that occurred before significant avoidance of the 2007 criteria pollutant standards began." *Id.* at 73,944. EPA further found that:

> [G]iven this relief combined with other changes being made into the final regulations, any small businesses that have been focused on producing gliders for legitimate purposes will not be significantly impacted by the new requirements since they can use donor engines within their regulatory useful life for either age or mileage. See generally RIA Chapter 12.7.3. Only those small businesses that have significantly increased production to create new trucks to avoid the 2010 NOx and PM standards will have their sales significantly restricted.

[33] In fact, it appears that EPA copied and pasted language from the section regarding E.O. 13045 in its notice of proposed repeal of the Clean Power Plan, even forgetting to swap out "glider rule" for "CPP" in the last sentence.

Id. at 73,944-45. Further, EPA noted that commenters who had argued against any limit or proposed a higher limit during the 2016 rulemaking "did not address the very significant adverse environmental impacts of the huge increase in glider vehicle production over the last several years." *Id.* at 73,944.

The historical facts regarding the volume of glider production prior to their manufacture to evade emissions requirements are not subject to reasonable dispute. Further, the fact that increasing the exemption would increase the very pollution that EPA is required to control is well established by EPA's own testing. Thus, EPA cannot provide the required "good reason" for an expansion of the exemption or "a reasoned explanation . . . for disregarding facts and circumstances that underlay or were engendered by the prior policy." *Fox Television Stations*, 556 U.S. at 515.

EPA's second alternative, to delay the date of compliance for glider vehicles and glider engines, is similarly untenable. In relevant part, the CAA provides that "[a]ny regulation shall take effect after a period of time the Administrator finds necessary to permit the development and application of the requisite control measures, giving appropriate consideration to the cost of compliance within the period and energy and safety factors." CAA § 202(a)(3)(D); 42 U.S.C. §7521(a)(3)(D). Here, as EPA found, "no time is needed to develop and apply the requisite control measures for criteria pollutants because compliant engines are immediately available." 81 Fed. Reg. 73,518. Additionally, EPA noted that "manufacturers of compliant engines, and dealers of trucks containing those engines, commented that they are disadvantaged by manufacturing more costly compliant engines while glider vehicles avoid using those engines." *Id.* And, EPA noted the risks of "massive pre-buys" if compliance deadlines were lengthy. *Id.* For these reasons, the Glider Rule capped production of gliders using higher polluting engines starting January 1, 2017, and requires use of engines meeting Phase 1 Standards as of January 1, 2018. *Id.* at 73,942. EPA further noted that "[g]iven the severity of these [associated health] impacts, delaying these provisions cannot be justified by merely the potential for inconvenience to the industry." Phase 2 RTC at 1881. Simply put, there is no statutory basis for extending the January 1, 2018 compliance date, because the engines needed for manufacturers to comply are available.[34]

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[34] Nor would any other statutory provision authorize EPA to extend the January 1, 2018 compliance date or other later compliance dates. For example, Section 705 of the Administrative Procedure Act does not apply because, among other reasons: (a) the Glider Rule has already taken effect and (b) the Glider Rule has not been challenged in litigation. *See Safety-Kleen Corp. v. EPA*, No. 92-1629, 1996 U.S. App. LEXIS 2324, at *2-3 (D.C. Cir. Jan. 19, 1996) (per curiam); *see also Becerra v. United States Department of the Interior*, No. 17-CV-02376-EDL, 2017 WL 3891678, at *9 (N.D. Cal. Aug. 30, 2017); *California v. Bureau of Land Management*, No. 17-CV-03804-EDL, 2017 WL 4416409, at *8 (N.D. Cal. Oct. 4, 2017). Similarly, section 301 of the Clean Air Act "does not provide the Administrator with carte blanche authority to promulgate any rules, on any matter relating to the Clean Air Act, in any manner that the Administrator wishes." *Citizens to Save Spencer City v. EPA*, 600 F.2d 844, 873 (D.C. Cir. 1979). The general power of section 301 does not trump the specific statutory provisions of the Clean Air Act. *See Natural Res. Def. Council v. Reilly*, 976 F.2d 36, 40-41 (D.C. Cir. 1992); *see also Morales v. Trans World Airlines, Inc.*, 504 U.S. 374, 384 (1992).

CONCLUSION

The basis for the Proposed Repeal is an incorrect, unjustifiable reinterpretation of EPA's Congressionally-mandated duties in the CAA that violates its cardinal obligation to protect public health and welfare from harmful air pollution, and EPA has not articulated any valid basis for the Proposed Repeal. EPA should withdraw its Proposed Repeal and retain the Glider Rule in its entirety.

Sincerely,

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V.

Letter from Delaware State Attorney General of Delaware to Andrew Wheeler, U.S. Environmental Protection Agency re Request for Withdrawal or Administrative Stay of United States Environmental Protection Agency's "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles" (July 18, 2018)

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July 18, 2018

VIA EMAIL AND CERTIFIED MAIL

Andrew K. Wheeler
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Washington, DC 20004

Re: *Request for Withdrawal or Administrative Stay of United States Environmental Protection Agency's "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles"*

Dear Acting Administrator Wheeler:

In a letter dated July 13, 2018, the Attorney Generals of California, Connecticut, Illinois, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Vermont and Washington, and the Pennsylvania Department of Environmental Protection and the California Air Resources Board requested that you immediately withdraw or issue an administrative stay of the United States Environmental Protection Agency's unlawful de facto suspension of its duly promulgated regulation limiting the production of highly polluting glider vehicles and glider kits ("Glider Rule"). The Glider Rule is part of the Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2. 81 Fed. Reg. 73478 (Oct. 25, 2016). The unlawful de facto suspension refers to a "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles" issued by Susan P. Bodine, Assistant Administrator on July 6, 2018.

The Attorney General of Delaware joins that request for the reasons set out in the July 13th letter.

Sincerely,

FOR THE STATE OF DELAWARE

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Attorney General

By: _____

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VI.

Letter from Minnesota State Attorney General to Andrew Wheeler, U.S. Environmental Protection Agency re Request for Withdrawal or Administrative Stay of United States Environmental Protection Agency's "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles" (July 18, 2018)

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July 18, 2018

VIA EMAIL AND OVERNIGHT MAIL

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Re: *Request for Withdrawal or Administrative Stay of United States Environmental Protection Agency's "Conditional No Action Assurance Regarding Small Manufactures of Glider Vehicles"*

Dear Acting Administrator Wheeler:

In a letter dated July 13, 2018 ("Multistate Letter"), thirteen state attorneys general and two state agencies requested that the United States Environmental Protection Agency ("EPA") administratively stay or withdraw its recent final action regarding the Glider Rule. *See* Susan P. Bodine, Assistant Administrator, "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles" (July 6, 2018). For the reasons stated in the enclosed Multistate Letter, the State of Minnesota, by and through the Minnesota Pollution Control Agency, likewise respectfully requests that EPA immediately withdraw or administratively stay its recent final action regarding the Glider Rule. *See also* Fed. R. Civ. App. P. 18(a)(1).

Sincerely,

MAX KIELEY
Manager, Environmental & Natural
Resources Division
Assistant Attorney General

(651) 757-1244 (Voice)
(651) 297-4139 (Fax)

Attorney for the State of Minnesota, by and through the Minnesota Pollution Control Agency

Enclosure

ec: Susan P. Bodine, Assistant Administrator, Office of Enforcement and Compliance Assurance, EPA
Bill Wehrum, Assistant Administrator, Office of Air and Radiation, EPA

Attorneys General of California, Connecticut, Illinois, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Vermont, and Washington and the Pennsylvania Department of Environmental Protection and the California Air Resources Board

July 13, 2018

VIA EMAIL AND OVERNIGHT MAIL

Andrew K. Wheeler
Acting Administrator, United States
Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Ave N.W.
Washington, D.C. 20004

Re: *Request for Withdrawal or Administrative Stay of United States Environmental Protection Agency's "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles"*

Dear Acting Administrator Wheeler:

The Attorneys General of California, Connecticut, Illinois, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Vermont, and Washington, and the Pennsylvania Department of Environmental Protection and the California Air Resources Board (the "States") write to respectfully request that you immediately withdraw or issue an administrative stay of the United States Environmental Protection Agency's ("EPA's") unlawful de facto suspension of its duly promulgated regulation limiting the production of highly polluting glider vehicles and glider kits ("Glider Rule").[1] See Susan P. Bodine, Assistant Administrator, "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles" (July 6, 2018) ("de facto suspension" or "suspension").

As discussed below, EPA's de facto suspension of the Glider Rule is clearly unlawful. While framed as an exercise of enforcement discretion, EPA's action "amount[s] to an abdication of its statutory responsibility[y]"[2] to implement the Glider Rule and circumvents the substantive and procedural requirements that EPA must meet in order to modify a rule. Further, the action violates EPA's own longstanding policy against "no action assurances," and its practice of issuing such assurances only in narrow circumstances not applicable here, such as where there will not be an increase in environmental harm. Here, based on EPA's own data, the detrimental effect of EPA's suspension on public health and the environment will be dramatic. Therefore, absent quick action on your part to withdraw or stay EPA's de facto suspension, the States are prepared to take action in court.

[1] The Glider Rule is part of the Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2 (81 Fed. Reg. 73, 478 (Oct. 25, 2016)).
[2] See *Heckler v. Chaney*, 470 U.S. 821, 833, fn. 4 (1985).

The Glider Rule, proposed in 2015 and adopted in 2016 as part of the Phase 2 heavy-duty vehicle fuel efficiency and greenhouse gas emissions standards rulemaking, struck a compromise between the interests of small businesses that salvage and refurbish engines from damaged trucks and the severe public health and environmental impacts from these old, highly polluting engines.[3] After a yearlong transition period, glider manufacturers are subject to limits on the use of *non-emissions compliant* engines, based on historic sales of gliders for their original purpose—to salvage relatively new engines from damaged trucks.[4] The de facto suspension perversely incentivizes the more recent "tenfold increase in glider kit production since the [model year] 2007 criteria pollutant emission standards took effect," an increase that "reflects an attempt to avoid these more stringent standards and (ultimately) the Clean Air Act."[5]

The facts demonstrate that EPA is using a "no action" assurance here because it recognizes it cannot lawfully support an amendment of the Glider Rule. EPA as much as admits that it cannot go forward with its Proposed Repeal without developing a new rationale and evidence to support it, due to concerns raised by public comment.[6] EPA also admits that it must undertake notice and comment rulemaking to alter a duly promulgated rule, such as the Glider Rule—not just issue a memorandum.[7] Further, it is well established that EPA must have statutory authority for any changes it proposes, and particularly for modification of effective dates or compliance dates of rules already in effect.[8]

EPA supplies no good reasons to support its action. EPA's de facto suspension of the Glider Rule from July 2018 through July 2019 will allow the manufacturers of *non-emission compliant* glider vehicles and glider kits to raise their production to many times the level that would otherwise be permissible[9] without fear of enforcement by EPA. Based on data EPA relied on in adopting the Glider Rule in 2015, adding this number of gliders to our nation's roads would lead to hundreds of premature deaths[10] and well over one hundred thousand tons of NOx and diesel particulate matter ("PM") pollution.[11] Without acknowledging the increased risk of premature deaths and other public health and environmental harms the de facto suspension will cause, EPA contends that it will prevent economic harms to manufacturers. However, in addition to the fact that such economic harms are speculative (given that these manufacturers could still

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[3] See, e.g., 81 FR at 73944-45; see also Response to Comments, Appendix A, EPA-426-R-16-901 (Aug. 2016) at 1963, Figures A-2 and A-3 (charting the difference in emissions between gliders and other new trucks) (Attachment A).

[4] See Response to Comments, Appendix A, EPA-426-R-16-901 (Aug. 2016) at 1961, Figure A-1 (Attachment B). The data from 2000-2009 reflects the historic number of engines salvaged from damaged trucks, while the numbers post-2009 reflect glider manufacturers expansion into use of non-emissions compliant engines sourced from trucks that had not been damaged in accidents. See 81 Fed. Reg. at 73,943.

[5] 81 Fed. Reg. at 73,943.

[6] De Facto Suspension at 2.

[7] *Id.*

[8] EPA should be well aware of these requirements, having been reminded of them recently by the Court of Appeals for the D.C. Circuit. See *Clean Air Council v. Pruitt*, 862 F.3d 1, 4 (D.C. Cir. 2017); see also *Natural Resources Defense Council v. National Highway Traffic Safety Administration*, -- F.3d --, 2018 WL 3819321 at *12 (2d Cir. June 29, 2018) (holding that an agency may not alter a rule without notice and comment, nor does an agency have any inherent authority to stay a final rule).

[9] See Response to Comments, Appendix A, EPA-426-R-16-901 (Aug. 2016) at 1964.

[10] *Id.* at 1877 (5,000-10,000 additional gliders would emit enough particulate matter pollution to cause 350 to 1,600 premature deaths).

[11] *Id.* at 1875-1876.

produce emission compliant trucks[12]), unsupported and unquantified, EPA failed to consider the far greater economic consequences of the health impacts of increased glider sales—consequences EPA itself estimated to be, on average, from $300,000 to $1,100,000 *for each non-emissions compliant additional glider sold.*[13]

Further, EPA has not met any of the procedural requirements for the suspension of a rule. No proposal was put to the public and no comment was sought. No data or analysis accompanied EPA's arbitrary suspension. Indeed, the memoranda constituting the action were not even released publicly until three days after their issuance. And, the dates of the memoranda indicate that this decision was made with less than a single day's consideration.

EPA cannot avoid these legal requirements by elevating form over substance and seeking to paint its action as an unreviewable exercise of enforcement discretion. EPA's decision not to apply the limitations to any gliders for the next twelve months is a sweeping "abdication of its statutory responsibilities," not an exercise of enforcement discretion. EPA's action also clearly violates its own longstanding "*Policy Against 'No Action' Assurances*," which dates to the Reagan Administration.[14] The 1984 policy expressly states that it "applies in all contexts, including assurances requested: …on the basis that revisions to the underlying legal requirement are being considered,"[15] as is the case with EPA's de facto suspension. The 1984 policy allows for exceptions only in narrow cases, for example, where necessary "to allow action to avoid extreme risks to public health and safety."[16] Here, EPA's action does not avoid such risks, but instead creates them.[17] In short, EPA's action is an unlawful rule suspension masquerading as an exercise of enforcement discretion.

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[12] See 81 Fed. Reg. 73,518; 40 C.F.R. §§ 1037.150(t) and (t)(1)(vii).
[13] Response to Comments, Appendix A, EPA-426-R-16-901 (Aug. 2016) at 1965.
[14] Courtney M. Price, Assistant Administrator For Enforcement and Compliance Monitoring, Policy Against "No Action" Assurances, (Nov. 16, 1984) (Attachment C).
[15] *Id.* at 2. In reaffirming the 1984 policy against "no action assurances" eleven years later, EPA called the policy "a necessary and critically important element of the wise exercise of the Agency's enforcement discretion…." Steven A. Herman, Assistant Administrator, Processing Requests for Use of Enforcement Discretion (Mar. 3, 1995) (Attachment D).
[16] *Id.* at 2.
[17] EPA's present "no action assurance" differs substantially from those that came before it, either because in prior examples EPA has expressly found that the no action assurance will not increase environmental harm, or because EPA has identified technical barriers, or because EPA needed additional time to respond to a court order.

Given the absence of any rational or lawful basis to maintain EPA's de facto suspension, and in light of the imminent threat posed to public health and the environment, we respectfully request, pursuant to Federal Rule of Appellate Procedure 18(a)(1), that EPA immediately withdraw or administratively stay its action.

Yours Sincerely,

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(360) 586-6769

cc: Susan Parker Bodine, Assistant Administrator, Office of Enforcement and Compliance Assurance, EPA (via email)
Bill Wehrum, Assistant Administrator, Office of Air and Radiation, EPA (via email)

Encl.

ATTACHMENT A

Figure A-2: Annual Per-Vehicle NOx Emissions (tons/year)
For Model Year 2017 Glider Vehicles and Other New Vehicles

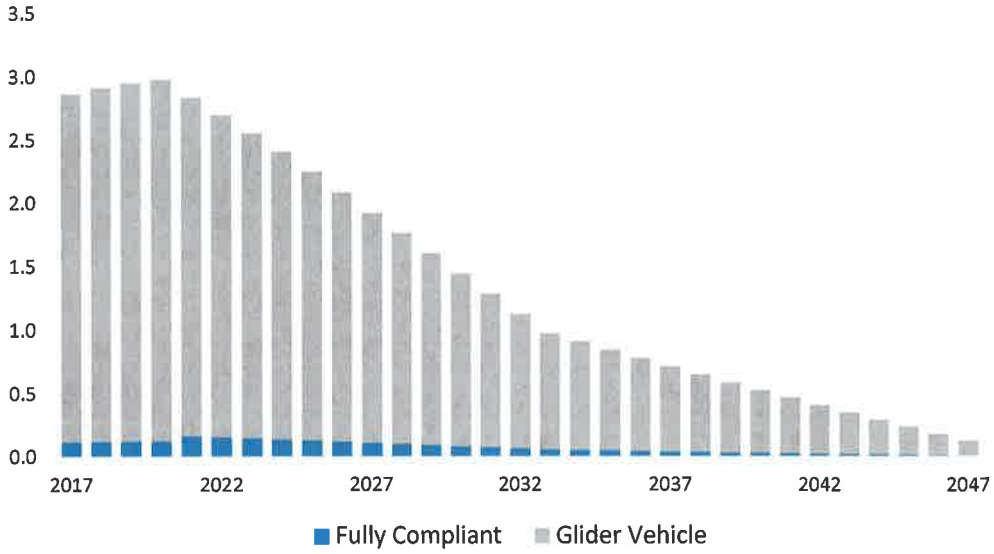
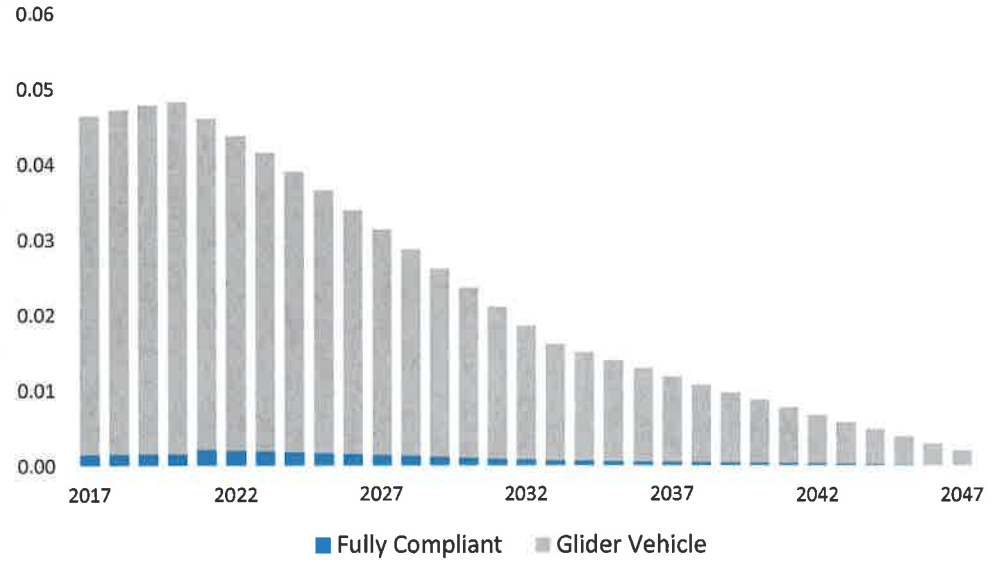


Figure A-3: Annual Per-Vehicle PM Emissions (tons/year)
For Model Year 2017 Glider Vehicles and Other New Vehicles

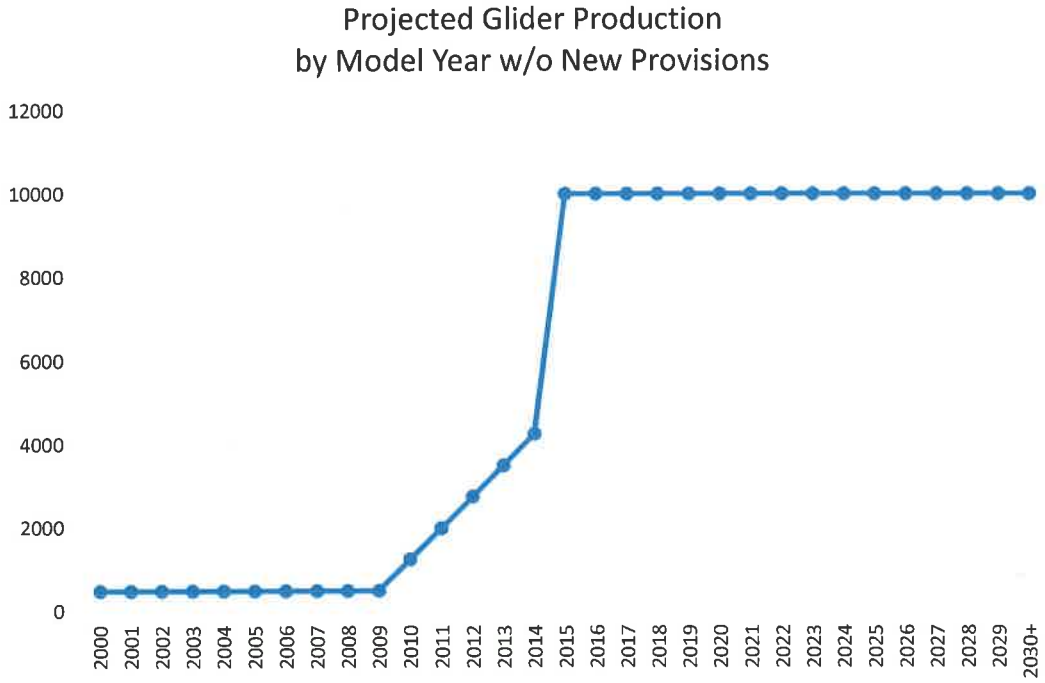


ATTACHMENT B

Fleetwide Emission Projections

Based on public comments, EPA is estimating that approximately 10,000 gliders will be produced in 2016. Consistent with this, the modeling of gliders discussed here assumed annual glider sales of 10,000 for 2015 and later. As noted above, the modeling assumed that these gliders emit at the level equivalent to the engines meeting the MY 1998-2001 standards without miscalibration.

Figure A- 1: Glider vehicle production projected for fleetwide analysis without new provisions



We modeled impacts on NOx and PM inventories with and without restrictions for two calendar years: 2025 and 2040. The restrictions were modeled as limiting sales in 2018 and later to 1,000 new gliders each year. This control case roughly approximates the restrictions being adopted for 2018 and later, and is consistent with the proposed requirements. The total number of vehicles was held constant by increasing the number of fully compliant vehicles (i.e., vehicles with engines meeting 2017 and later standards for NOx and PM) by 9,000 for each model year after 2017. However, we recognize that the actual number of gliders produced annually under the control case may vary by year and/or be higher or lower than 1,000. The results are shown below. This control scenario does not reflect the restrictions being adopted for 2017. See the model year analysis below for the impacts of model year 2017 glider vehicles.

ATTACHMENT C

EC-P-1998-125

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

GM #34
SE. 1-5

NOV 16 1984

OFFICE OF
ENFORCEMENT AND
COMPLIANCE MONITORING

MEMORANDUM

SUBJECT: Policy Against "No Action" Assurances

FROM: Courtney M. Price
Assistant Administrator for Enforcement
and Compliance Monitoring

TO: Assistant Administrators
Regional Administrators
General Counsel
Inspector General

This memorandum reaffirms EPA policy against giving definitive assurances (written or oral) outside the context of a formal enforcement proceeding that EPA will not proceed with an enforcement response for a specific individual violation of an environmental protection statute, regulation, or other legal requirement.

"No action" promises may erode the credibility of EPA's enforcement program by creating real or perceived inequities in the Agency's treatment of the regulated community. This credibility is vital as a continuing incentive for regulated parties to comply with environmental protection requirements.

In addition, any commitment not to enforce a legal requirement against a particular regulated party may severely hamper later enforcement efforts against that party, who may claim good-faith reliance on that assurance, or against other parties who claim to be similarly situated.

This policy against definitive no action promises to parties outside the Agency applies in all contexts, including assurances requested:

- both prior to and after a violation has been committed;
- on the basis that a State or local government is responding to the violation;

- on the basis that revisions to the underlying legal requirement are being considered;
- on the basis that the Agency has determined that the party is not liable or has a valid defense;
- on the basis that the violation already has been corrected (or that a party has promised that it will correct the violation); or
- on the basis that the violation is not of sufficient priority to merit Agency action.

The Agency particularly must avoid no action promises relating either to violations of judicial orders, for which a court has independent enforcement authority, or to potential criminal violations, for which prosecutorial discretion rests with the United States Attorney General.

As a general rule, exceptions to this policy are warranted only

- where expressly provided by applicable statute or regulation (e.g., certain upset or bypass situations)
- in extremely unusual cases in which a no action assurance is clearly neccessary to serve the public interest (e.g., to allow action to avoid extreme risks to public health or safety, or to obtain important information for research purposes) and which no other mechanism can address adequately.

Of course, any exceptions which EPA grants must be in an area in which EPA has discretion not to act under applicable law.

This policy in no way is intended to constrain the way in which EPA discusses and coordinates enforcement plans with state or local enforcement authorities consistent with normal working relationships. To the extent that a statement of EPA's enforcement intent is necessary to help support or conclude an effective state enforcement effort, EPA can employ language such as the following:

"EPA encourages State action to resolve violations of the _____ Act and supports the actions which (State) is taking to address the violations at issue. To the extent that the State action does not satisfactorily resolve the violations, EPA may pursue its own enforcement action."

I am requesting that any definitive written or oral no action commitment receive the advance concurrence of my office. This was a difficult decision to reach in light of the valid concerns raised in comments on this policy statement; nevertheless, we concluded that Headquarters concurrence is important because the precedential implications of providing no action commitments can extend beyond a single Region. We will attempt to consult with the relevant program office and respond to any formal request for concurrence within 10 working days from the date we receive the request. Naturally, emergency situations can be handled orally on an expedited basis.

All instances in which an EPA official gives a no action promise must be documented in the appropriate case file. The documentation must include an explanation of the reasons justifying the no action assurance.

Finally, this policy against no action assurances does not preclude EPA from fully discussing internally the prosecutorial merit of individual cases or from exercising the discretion it has under applicable law to decide when and how to respond or not respond to a given violation, based on the Agency's normal enforcement priorities.

cc: Associate Enforcement Counsels
OECM Office Directors
Program Compliance Office Directors
Regional Enforcement Contacts

ATTACHMENT D

EC-P-1998-07

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 0 3 1995

MEMORANDUM

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

SUBJECT: Processing Requests for Use of Enforcement Discretion

FROM: Steven A. Herman
Assistant Administrator

TO: Assistant Administrators
Regional Administrators
General Counsel
Inspector General

In light of the reorganization and consolidation of the Agency's enforcement and compliance assurance resources activities at Headquarters, I believe that it is useful to recirculate the attached memorandum regarding "no action" assurances[1] as a reminder of both this policy and the procedure for handling such requests. The Agency has long adhered to a policy against giving definitive assurances outside the context of a formal enforcement proceeding that the government will not proceed with an enforcement response for a specific individual violation of an environmental protection statue, regulation, or legal requirement. This policy, a necessary and critically important element of the wise exercise of the Agency's enforcement discretion, and which has been a consistent feature of the enforcement program, was formalized in 1984 following Agency-wide review and comment. Please note that OECA is reviewing the applicability of this policy to the CERCLA enforcement program, and will issue additional guidance on this subject.

A "no action" assurance includes, but is not limited to: specific or general requests for the Agency to exercise its enforcement discretion in a particular manner or in a given set of circumstances (i.e., that it will or will not take an enforcement action); the development of policies or other statements purporting to bind the Agency and which relate to or would affect the Agency's enforcement of the Federal environmental laws and regulations; and other similar requests

[1] Courtney M. Price, Assistant Administrator for Enforcement and Compliance Monitoring, Policy Against "No Action" Assurances (Nov. 16, 1984) (copy attached).

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for forbearance or action involving enforcement-related activities. The procedure established by this Policy requires that any such written or oral assurances have the advance written concurrence of the Assistant Administrator for Enforcement and Compliance Assurance.

The 1984 reaffirmation of this policy articulated well the dangers of providing "no action" assurances. Such assurances erode the credibility of the enforcement program by creating real or perceived inequities in the Agency's treatment of the regulated community. Given limited Agency resources, this credibility is a vital incentive for the regulated community to comply with existing requirements. In addition, a commitment not to enforce a legal requirement may severely hamper later, necessary enforcement efforts to protect public health and the environment, regardless of whether the action is against the recipient of the assurances or against others who claim to be similarly situated.

Moreover, these principles are their most compelling in the context of rulemakings: good public policy counsels that blanket statements of enforcement discretion are not always a particularly appropriate alternative to the public notice-and-comment rulemaking process. Where the Agency determines that it is appropriate to alter or modify its approach in specific, well-defined circumstances, in my view we must consider carefully whether the objective is best achieved through an open and public process (especially where the underlying requirement was established by rule under the Administrative Procedures Act), or through piecemeal expressions of our enforcement discretion.

We have recognized two general situations in which a no action assurance may be appropriate: where it is expressly provided for by an applicable statute, and in extremely unusual circumstances where an assurance is clearly necessary to serve the public interest *and* which no other mechanism can address adequately. In light of the profound policy implications of granting no action assurances, the 1984 Policy requires the advance concurrence of the Assistant Administrator for this office. Over the years, this approach has resulted in the reasonably consistent and appropriate exercise of EPA's enforcement discretion, and in a manner which both preserves the integrity of the Agency and meets the legitimate needs served by a mitigated enforcement response.

There may be situations where the general prohibition on no action assurances should not apply under CERCLA (or the Underground Storage Tanks or RCRA corrective action programs). For example, at many Superfund sites there is no violation of law. OECA is evaluating the applicability of no action assurances under CERCLA and RCRA and will issue additional guidance on the subject.

Lastly, an element of the 1984 Policy which I want to highlight is that it does not and should not preclude the Agency from discussing fully and completely the merits of a particular action, policy, or other request to exercise the Agency's enforcement discretion in a particular manner. I welcome a free and frank exchange of ideas on how best to respond to violations, mindful of the Agency's overarching goals, statutory directives, and enforcement and compliance priorities. I do, however, want to ensure that all such requests are handled in a consistent and coordinated manner.

Attachment

cc: OECA Office Directors
Regional Counsels
Regional Program Directors

VII.

Letter from Rhode Island State Attorney General to EPA Acting Administrator Andrew Wheeler re Request for Withdrawal or Administrative Stay of United States Environmental Protection Agency's "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles" (July 18, 2018).

State of Rhode Island and Providence Plantations

DEPARTMENT OF ATTORNEY GENERAL
150 South Main Street • Providence, RI 02903
(401) 274-4400 - TDD (401) 453-0410

Peter F. Kilmartin, Attorney General

July 18, 2018

VIA EMAIL AND OVERNIGHT MAIL

Andrew K. Wheeler
Acting Administrator, United States
Environmental Protection Agency
Office of the Administrator Code 1101A
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Re: ***Request for Withdrawal or Administrative Stay of United States Environmental Protection Agency's "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles"***

Dear Acting Administrator Wheeler:

Rhode Island Attorney General Peter F. Kilmartin hereby respectfully requests that you immediately withdraw or issue an administrative stay of the United States Environmental Protection Agency's ("EPA's") unlawful de facto suspension of its duly promulgated regulation limiting the production of highly polluting glider vehicles and glider kits ("Glide Rule").[1] *See* Susan P. Bodine, Assistant Administrator, "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles" (July 6, 2018) ("de facto suspension" or "suspension").

In support of this request, Attorney General Kilmartin adopts and incorporates the attached July 13, 2018 letter to you from the Attorneys General of California, Connecticut, Illinois, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Vermont, and Washington, and the Pennsylvania Department of Environmental Protection and the California Air Resources Board.

Given the absence of any rational or lawful basis to maintain EPA's de facto suspension, and in light of the imminent threat posed to public health and the environment, Attorney General

[1] The Glider Rule is part of the Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles-Phase 2 (81 Fed. Reg. 73, 478 (Oct. 25, 2016)).

Kilmartin respectfully requests, pursuant to Federal Rule of Appellate Procedure 18(a)(1), that EPA immediately withdraw or administratively stay its action.
Please feel free to contact this office if you wish to discuss this request for withdrawal or issuance of an administrative stay of the Glide Rule.

Yours Sincerely,

PETER F. KILMARTIN
Rhode Island Attorney General

By: _____
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Special Assistant Attorney General
Rhode Island Department of Attorney General
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Attorneys General of California, Connecticut, Illinois, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Vermont, and Washington and the Pennsylvania Department of Environmental Protection and the California Air Resources Board

July 13, 2018

VIA EMAIL AND OVERNIGHT MAIL

Andrew K. Wheeler
Acting Administrator, United States
Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Ave N.W.
Washington, D.C. 20004

Re: *Request for Withdrawal or Administrative Stay of United States Environmental Protection Agency's "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles"*

Dear Acting Administrator Wheeler:

The Attorneys General of California, Connecticut, Illinois, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Vermont, and Washington, and the Pennsylvania Department of Environmental Protection and the California Air Resources Board (the "States") write to respectfully request that you immediately withdraw or issue an administrative stay of the United States Environmental Protection Agency's ("EPA's") unlawful de facto suspension of its duly promulgated regulation limiting the production of highly polluting glider vehicles and glider kits ("Glider Rule").[1] See Susan P. Bodine, Assistant Administrator, "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles" (July 6, 2018) ("de facto suspension" or "suspension").

As discussed below, EPA's de facto suspension of the Glider Rule is clearly unlawful. While framed as an exercise of enforcement discretion, EPA's action "amount[s] to an abdication of its statutory responsibility[y]"[2] to implement the Glider Rule and circumvents the substantive and procedural requirements that EPA must meet in order to modify a rule. Further, the action violates EPA's own longstanding policy against "no action assurances," and its practice of issuing such assurances only in narrow circumstances not applicable here, such as where there will not be an increase in environmental harm. Here, based on EPA's own data, the detrimental effect of EPA's suspension on public health and the environment will be dramatic. Therefore, absent quick action on your part to withdraw or stay EPA's de facto suspension, the States are prepared to take action in court.

[1] The Glider Rule is part of the Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2 (81 Fed. Reg. 73, 478 (Oct. 25, 2016)).
[2] See *Heckler v. Chaney*, 470 U.S. 821, 833, fn. 4 (1985).

The Glider Rule, proposed in 2015 and adopted in 2016 as part of the Phase 2 heavy-duty vehicle fuel efficiency and greenhouse gas emissions standards rulemaking, struck a compromise between the interests of small businesses that salvage and refurbish engines from damaged trucks and the severe public health and environmental impacts from these old, highly polluting engines.[3] After a yearlong transition period, glider manufacturers are subject to limits on the use of *non-emissions compliant* engines, based on historic sales of gliders for their original purpose—to salvage relatively new engines from damaged trucks.[4] The de facto suspension perversely incentivizes the more recent "tenfold increase in glider kit production since the [model year] 2007 criteria pollutant emission standards took effect," an increase that "reflects an attempt to avoid these more stringent standards and (ultimately) the Clean Air Act."[5]

The facts demonstrate that EPA is using a "no action" assurance here because it recognizes it cannot lawfully support an amendment of the Glider Rule. EPA as much as admits that it cannot go forward with its Proposed Repeal without developing a new rationale and evidence to support it, due to concerns raised by public comment.[6] EPA also admits that it must undertake notice and comment rulemaking to alter a duly promulgated rule, such as the Glider Rule—not just issue a memorandum.[7] Further, it is well established that EPA must have statutory authority for any changes it proposes, and particularly for modification of effective dates or compliance dates of rules already in effect.[8]

EPA supplies no good reasons to support its action. EPA's de facto suspension of the Glider Rule from July 2018 through July 2019 will allow the manufacturers of *non-emission compliant* glider vehicles and glider kits to raise their production to many times the level that would otherwise be permissible[9] without fear of enforcement by EPA. Based on data EPA relied on in adopting the Glider Rule in 2015, adding this number of gliders to our nation's roads would lead to hundreds of premature deaths[10] and well over one hundred thousand tons of NOx and diesel particulate matter ("PM") pollution.[11] Without acknowledging the increased risk of premature deaths and other public health and environmental harms the de facto suspension will cause, EPA contends that it will prevent economic harms to manufacturers. However, in addition to the fact that such economic harms are speculative (given that these manufacturers could still

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[3] See, e.g., 81 FR at 73944-45; see also Response to Comments, Appendix A, EPA-426-R-16-901 (Aug. 2016) at 1963, Figures A-2 and A-3 (charting the difference in emissions between gliders and other new trucks) (Attachment A).

[4] See Response to Comments, Appendix A, EPA-426-R-16-901 (Aug. 2016) at 1961, Figure A-1 (Attachment B). The data from 2000-2009 reflects the historic number of engines salvaged from damaged trucks, while the numbers post-2009 reflect glider manufacturers expansion into use of non-emissions compliant engines sourced from trucks that had not been damaged in accidents. See 81 Fed. Reg. at 73,943.

[5] 81 Fed. Reg. at 73,943.

[6] De Facto Suspension at 2.

[7] *Id.*

[8] EPA should be well aware of these requirements, having been reminded of them recently by the Court of Appeals for the D.C. Circuit. See *Clean Air Council v. Pruitt*, 862 F.3d 1, 4 (D.C. Cir. 2017); see also *Natural Resources Defense Council v. National Highway Traffic Safety Administration*, -- F.3d --, 2018 WL 3819321 at *12 (2d Cir. June 29, 2018) (holding that an agency may not alter a rule without notice and comment, nor does an agency have any inherent authority to stay a final rule).

[9] See Response to Comments, Appendix A, EPA-426-R-16-901 (Aug. 2016) at 1964.

[10] *Id.* at 1877 (5,000-10,000 additional gliders would emit enough particulate matter pollution to cause 350 to 1,600 premature deaths).

[11] *Id.* at 1875-1876.

produce emission compliant trucks[12]), unsupported and unquantified, EPA failed to consider the far greater economic consequences of the health impacts of increased glider sales—consequences EPA itself estimated to be, on average, from $300,000 to $1,100,000 *for each non-emissions compliant additional glider sold.*[13]

Further, EPA has not met any of the procedural requirements for the suspension of a rule. No proposal was put to the public and no comment was sought. No data or analysis accompanied EPA's arbitrary suspension. Indeed, the memoranda constituting the action were not even released publicly until three days after their issuance. And, the dates of the memoranda indicate that this decision was made with less than a single day's consideration.

EPA cannot avoid these legal requirements by elevating form over substance and seeking to paint its action as an unreviewable exercise of enforcement discretion. EPA's decision not to apply the limitations to any gliders for the next twelve months is a sweeping "abdication of its statutory responsibilities," not an exercise of enforcement discretion. EPA's action also clearly violates its own longstanding "*Policy Against 'No Action' Assurances*," which dates to the Reagan Administration.[14] The 1984 policy expressly states that it "applies in all contexts, including assurances requested: …on the basis that revisions to the underlying legal requirement are being considered,"[15] as is the case with EPA's de facto suspension. The 1984 policy allows for exceptions only in narrow cases, for example, where necessary "to allow action to avoid extreme risks to public health and safety."[16] Here, EPA's action does not avoid such risks, but instead creates them.[17] In short, EPA's action is an unlawful rule suspension masquerading as an exercise of enforcement discretion.

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[12] See 81 Fed. Reg. 73,518; 40 C.F.R. §§ 1037.150(t) and (t)(1)(vii).
[13] Response to Comments, Appendix A, EPA-426-R-16-901 (Aug. 2016) at 1965.
[14] Courtney M. Price, Assistant Administrator For Enforcement and Compliance Monitoring, Policy Against "No Action" Assurances, (Nov. 16, 1984) (Attachment C).
[15] *Id.* at 2. In reaffirming the 1984 policy against "no action assurances" eleven years later, EPA called the policy "a necessary and critically important element of the wise exercise of the Agency's enforcement discretion…." Steven A. Herman, Assistant Administrator, Processing Requests for Use of Enforcement Discretion (Mar. 3, 1995) (Attachment D).
[16] *Id.* at 2.
[17] EPA's present "no action assurance" differs substantially from those that came before it, either because in prior examples EPA has expressly found that the no action assurance will not increase environmental harm, or because EPA has identified technical barriers, or because EPA needed additional time to respond to a court order.

Given the absence of any rational or lawful basis to maintain EPA's de facto suspension, and in light of the imminent threat posed to public health and the environment, we respectfully request, pursuant to Federal Rule of Appellate Procedure 18(a)(1), that EPA immediately withdraw or administratively stay its action.

Yours Sincerely,

FOR THE STATE OF CALIFORNIA

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(360) 586-6769

cc: Susan Parker Bodine, Assistant Administrator, Office of Enforcement and Compliance Assurance, EPA (via email)
Bill Wehrum, Assistant Administrator, Office of Air and Radiation, EPA (via email)

Encl.

ATTACHMENT A

Figure A-2: Annual Per-Vehicle NOx Emissions (tons/year)
For Model Year 2017 Glider Vehicles and Other New Vehicles

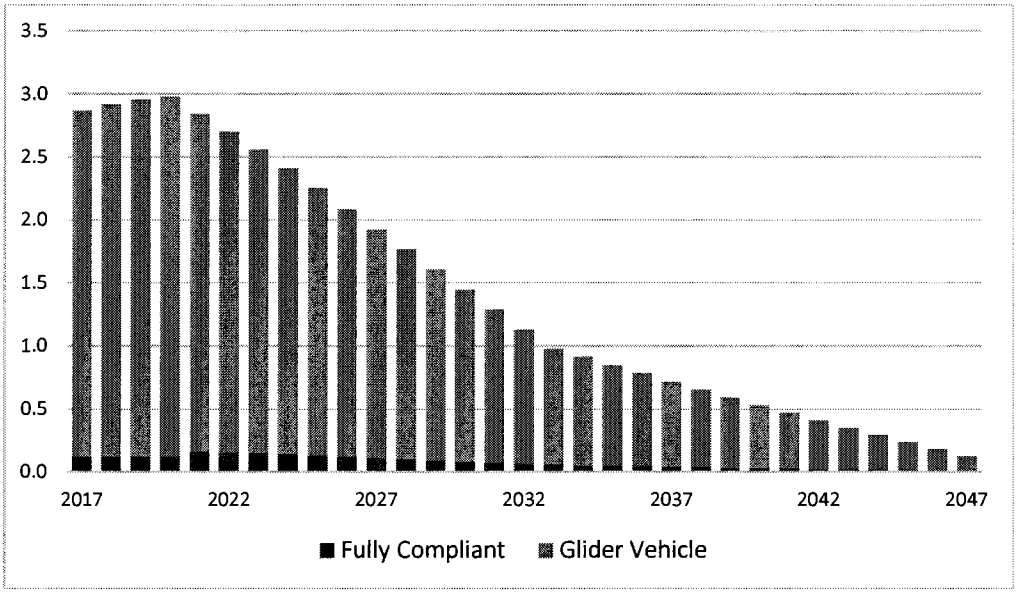
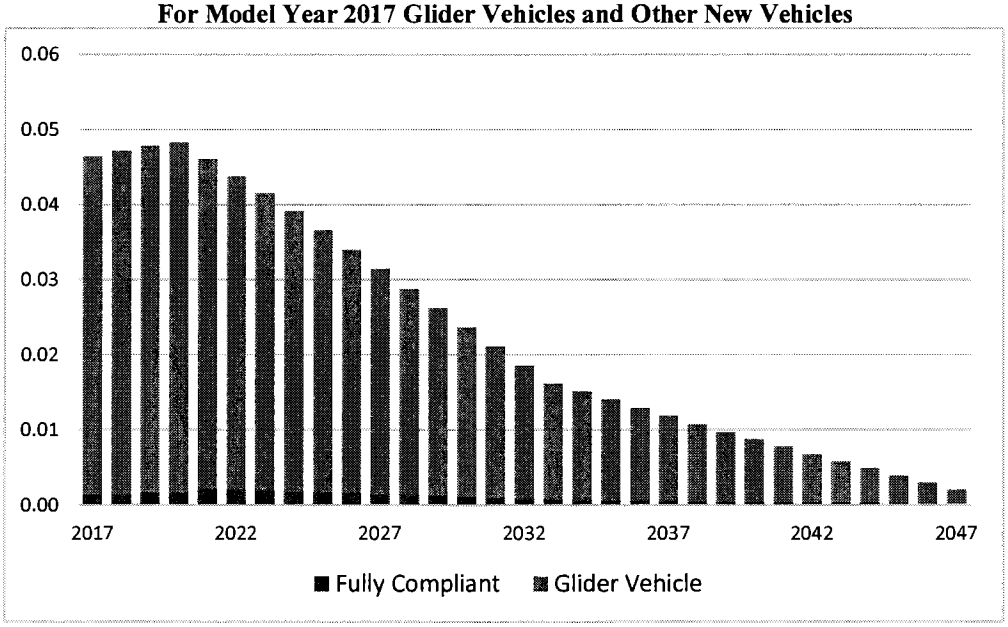


Figure A-3: Annual Per-Vehicle PM Emissions (tons/year)
For Model Year 2017 Glider Vehicles and Other New Vehicles

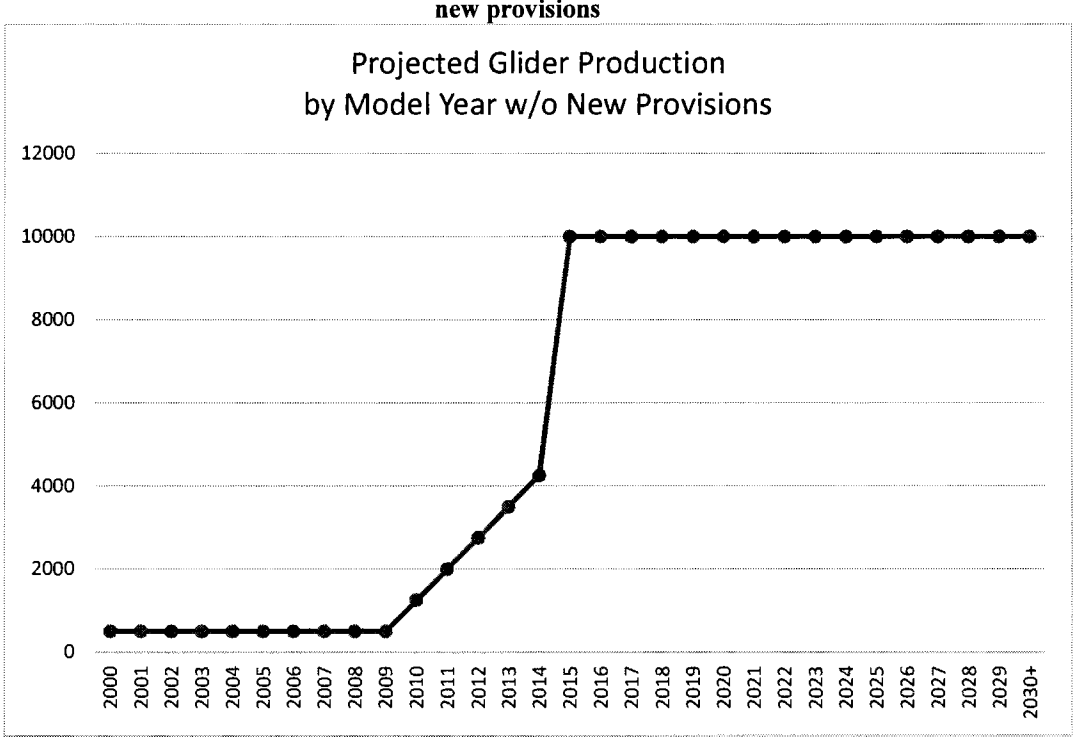


ATTACHMENT B

Fleetwide Emission Projections

Based on public comments, EPA is estimating that approximately 10,000 gliders will be produced in 2016. Consistent with this, the modeling of gliders discussed here assumed annual glider sales of 10,000 for 2015 and later. As noted above, the modeling assumed that these gliders emit at the level equivalent to the engines meeting the MY 1998-2001 standards without miscalibration.

Figure A- 1: Glider vehicle production projected for fleetwide analysis without new provisions



We modeled impacts on NOx and PM inventories with and without restrictions for two calendar years: 2025 and 2040. The restrictions were modeled as limiting sales in 2018 and later to 1,000 new gliders each year. This control case roughly approximates the restrictions being adopted for 2018 and later, and is consistent with the proposed requirements. The total number of vehicles was held constant by increasing the number of fully compliant vehicles (i.e., vehicles with engines meeting 2017 and later standards for NOx and PM) by 9,000 for each model year after 2017. However, we recognize that the actual number of gliders produced annually under the control case may vary by year and/or be higher or lower than 1,000. The results are shown below. This control scenario does not reflect the restrictions being adopted for 2017. See the model year analysis below for the impacts of model year 2017 glider vehicles.

ATTACHMENT C

EC-P-1998-125

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

GM #34
SE. 1-5

NOV 16 1984

OFFICE OF
ENFORCEMENT AND
COMPLIANCE MONITORING

MEMORANDUM

SUBJECT: Policy Against "No Action" Assurances

FROM: Courtney M. Price
Assistant Administrator for Enforcement
and Compliance Monitoring

TO: Assistant Administrators
Regional Administrators
General Counsel
Inspector General

This memorandum reaffirms EPA policy against giving definitive assurances (written or oral) outside the context of a formal enforcement proceeding that EPA will not proceed with an enforcement response for a specific individual violation of an environmental protection statute, regulation, or other legal requirement.

"No action" promises may erode the credibility of EPA's enforcement program by creating real or perceived inequities in the Agency's treatment of the regulated community. This credibility is vital as a continuing incentive for regulated parties to comply with environmental protection requirements.

In addition, any commitment not to enforce a legal requirement against a particular regulated party may severely hamper later enforcement efforts against that party, who may claim good-faith reliance on that assurance, or against other parties who claim to be similarly situated.

This policy against definitive no action promises to parties outside the Agency applies in all contexts, including assurances requested:

- both prior to and after a violation has been committed;
- on the basis that a State or local government is responding to the violation;

- on the basis that revisions to the underlying legal requirement are being considered;
- on the basis that the Agency has determined that the party is not liable or has a valid defense;
- on the basis that the violation already has been corrected (or that a party has promised that it will correct the violation); or
- on the basis that the violation is not of sufficient priority to merit Agency action.

The Agency particularly must avoid no action promises relating either to violations of judicial orders, for which a court has independent enforcement authority, or to potential criminal violations, for which prosecutorial discretion rests with the United States Attorney General.

As a general rule, exceptions to this policy are warranted only

- where expressly provided by applicable statute or regulation (e.g., certain upset or bypass situations)
- in extremely unusual cases in which a no action assurance is clearly neccessary to serve the public interest (e.g., to allow action to avoid extreme risks to public health or safety, or to obtain important information for research purposes) and which no other mechanism can address adequately.

Of course, any exceptions which EPA grants must be in an area in which EPA has discretion not to act under applicable law.

This policy in no way is intended to constrain the way in which EPA discusses and coordinates enforcement plans with state or local enforcement authorities consistent with normal working relationships. To the extent that a statement of EPA's enforcement intent is necessary to help support or conclude an effective state enforcement effort, EPA can employ language such as the following:

"EPA encourages State action to resolve violations of the _____ Act and supports the actions which (State) is taking to address the violations at issue. To the extent that the State action does not satisfactorily resolve the violations, EPA may pursue its own enforcement action."

I am requesting that any definitive written or oral no action commitment receive the advance concurrence of my office. This was a difficult decision to reach in light of the valid concerns raised in comments on this policy statement; nevertheless, we concluded that Headquarters concurrence is important because the precedential implications of providing no action commitments can extend beyond a single Region. We will attempt to consult with the relevant program office and respond to any formal request for concurrence within 10 working days from the date we receive the request. Naturally, emergency situations can be handled orally on an expedited basis.

All instances in which an EPA official gives a no action promise must be documented in the appropriate case file. The documentation must include an explanation of the reasons justifying the no action assurance.

Finally, this policy against no action assurances does not preclude EPA from fully discussing internally the prosecutorial merit of individual cases or from exercising the discretion it has under applicable law to decide when and how to respond or not respond to a given violation, based on the Agency's normal enforcement priorities.

cc: Associate Enforcement Counsels
OECM Office Directors
Program Compliance Office Directors
Regional Enforcement Contacts

ATTACHMENT D

EC-P-1998-07

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 0 3 1995

MEMORANDUM

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

SUBJECT: Processing Requests for Use of Enforcement Discretion

FROM: Steven A. Herman
Assistant Administrator

TO: Assistant Administrators
Regional Administrators
General Counsel
Inspector General

In light of the reorganization and consolidation of the Agency's enforcement and compliance assurance resources activities at Headquarters, I believe that it is useful to recirculate the attached memorandum regarding "no action" assurances[1] as a reminder of both this policy and the procedure for handling such requests. The Agency has long adhered to a policy against giving definitive assurances outside the context of a formal enforcement proceeding that the government will not proceed with an enforcement response for a specific individual violation of an environmental protection statue, regulation, or legal requirement. This policy, a necessary and critically important element of the wise exercise of the Agency's enforcement discretion, and which has been a consistent feature of the enforcement program, was formalized in 1984 following Agency-wide review and comment. Please note that OECA is reviewing the applicability of this policy to the CERCLA enforcement program, and will issue additional guidance on this subject.

A "no action" assurance includes, but is not limited to: specific or general requests for the Agency to exercise its enforcement discretion in a particular manner or in a given set of circumstances (i.e., that it will or will not take an enforcement action); the development of policies or other statements purporting to bind the Agency and which relate to or would affect the Agency's enforcement of the Federal environmental laws and regulations; and other similar requests

[1] Courtney M. Price, Assistant Administrator for Enforcement and Compliance Monitoring, Policy Against "No Action" Assurances (Nov. 16, 1984) (copy attached).

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for forbearance or action involving enforcement-related activities. The procedure established by this Policy requires that any such written or oral assurances have the advance written concurrence of the Assistant Administrator for Enforcement and Compliance Assurance.

The 1984 reaffirmation of this policy articulated well the dangers of providing "no action" assurances. Such assurances erode the credibility of the enforcement program by creating real or perceived inequities in the Agency's treatment of the regulated community. Given limited Agency resources, this credibility is a vital incentive for the regulated community to comply with existing requirements. In addition, a commitment not to enforce a legal requirement may severely hamper later, necessary enforcement efforts to protect public health and the environment, regardless of whether the action is against the recipient of the assurances or against others who claim to be similarly situated.

Moreover, these principles are their most compelling in the context of rulemakings: good public policy counsels that blanket statements of enforcement discretion are not always a particularly appropriate alternative to the public notice-and-comment rulemaking process. Where the Agency determines that it is appropriate to alter or modify its approach in specific, well-defined circumstances, in my view we must consider carefully whether the objective is best achieved through an open and public process (especially where the underlying requirement was established by rule under the Administrative Procedures Act), or through piecemeal expressions of our enforcement discretion.

We have recognized two general situations in which a no action assurance may be appropriate: where it is expressly provided for by an applicable statute, and in extremely unusual circumstances where an assurance is clearly necessary to serve the public interest *and* which no other mechanism can address adequately. In light of the profound policy implications of granting no action assurances, the 1984 Policy requires the advance concurrence of the Assistant Administrator for this office. Over the years, this approach has resulted in the reasonably consistent and appropriate exercise of EPA's enforcement discretion, and in a manner which both preserves the integrity of the Agency and meets the legitimate needs served by a mitigated enforcement response.

There may be situations where the general prohibition on no action assurances should not apply under CERCLA (or the Underground Storage Tanks or RCRA corrective action programs). For example, at many Superfund sites there is no violation of law. OECA is evaluating the applicability of no action assurances under CERCLA and RCRA and will issue additional guidance on the subject.

Lastly, an element of the 1984 Policy which I want to highlight is that it does not and should not preclude the Agency from discussing fully and completely the merits of a particular action, policy, or other request to exercise the Agency's enforcement discretion in a particular manner. I welcome a free and frank exchange of ideas on how best to respond to violations, mindful of the Agency's overarching goals, statutory directives, and enforcement and compliance priorities. I do, however, want to ensure that all such requests are handled in a consistent and coordinated manner.

Attachment

cc: OECA Office Directors
Regional Counsels
Regional Program Directors

VIII.

Letter from District of Columbia State Attorney General to EPA Acting Administrator Andrew Wheeler re Request for Withdrawal or Administrative Stay of United States Environmental Protection Agency's "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles" (July 19, 2018)

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Office of the Attorney General

ATTORNEY GENERAL
KARL A. RACINE

PUBLIC ADVOCACY DIVISION

July 19, 2018

Via Email and Overnight Mail
Andrew K. Wheeler
Acting Administrator, United States
Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Ave N.W.
Washington, D.C. 20004

Re: *Request for Withdrawal or Administrative Stay of United States Environmental Protection Agency's "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles"*

Dear Acting Administrator Wheeler:

The Attorney General for the District of Columbia writes to join in full, the request from the Attorneys General of California, Connecticut, Illinois, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Vermont, and Washington, and the Pennsylvania Department of Environmental Protection and the California Air Resources Board in their July 13, 2018 letter to you, annexed hereto, that you immediately withdraw or issue an administrative stay of the United States Environmental Protection Agency's ("EPA's") unlawful de facto suspension of its duly promulgated regulation limiting the production of highly polluting glider vehicles and glider kits ("Glider Rule").[1] *See* Susan P.Bodine, Assistant Administrator, "Conditional No Action Assurance Regarding SmallManufacturers of Glider Vehicles" (July 6, 2018) ("de facto suspension").

[1] 1 The Glider Rule is part of the Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2 (81 Fed. Reg. 73, 478 (Oct. 25, 2016)).

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Thank you for your consideration.

Sincerely,

KARL A. RACINE
Attorney General

By:_____/S/_____
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IX

States' Declarations

1. Stuart Clark, Washington State Department of Ecology

2. Steven Flint, P.E., New York State Department of Environmental Conservation

3. Michael Abraczinskas, North Carolina State Department of Environmental Quality, Division of Air Quality

4. Kimberly Ayn Heroy-Rogalski, California Air Resources Board; and
Exhibit to CARB Declaration – Population Census by State both Rural and Urban

5. Kevin Downing, State of Oregon Department of Environmental Quality

6. Margaret E. Hanna, State of New Jersey Department of Environmental Protection

7. Christine Kirby, State of Massachusetts Department of Environmental Protection

Case No. 18-_____

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

STATE OF CALIFORNIA, by and through XAVIER BECERRA, ATTORNEY GENERAL and CALIFORNIA AIR RESOURCES BOARD, STATE OF CONNECTICUT, STATE OF ILLINOIS, STATE OF MAINE, STATE OF MARYLAND, COMMONWEALTH OF MASSACHUSETTS, STATE OF NEW JERSEY, STATE OF NEW YORK, STATE OF NORTH CAROLINA, STATE OF OREGON, COMMONWEALTH OF PENNSYLVANIA, by and through JOSH SHAPIRO, ATTORNEY GENERAL and PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, STATE OF VERMONT, and STATE OF WASHINGTON,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ANDREW K. WHEELER, Acting Administrator, United States Environmental Protection Agency, and SUSAN P. BODINE, Assistant Administrator, Office of Enforcement and Compliance Assurance, United States Environmental Protection Agency,

Respondents.

DECLARATION OF STUART CLARK, WASHINGTON STATE DEPARTMENT OF ECOLOGY, SUPPORTING EMERGENCY MOTION FOR SUMMARY VACATUR, OR IN THE ALTERNATIVE, FOR STAY PENDING JUDICIAL REVIEW

I, Stuart Clark, do hereby declare as follows:

1. I am now, and at all times mentioned, a citizen of the United States and am a resident of the state of Washington, over the age of 18 years, competent to make this declaration, and make this declaration from my own personal knowledge.

2. I am currently employed by the Washington State Department of Ecology (Ecology) as the Manager of the Air Quality Program. As Manager of the Air Quality Program, I oversee the work of Ecology's entire Air Quality Program throughout the state of Washington. I have worked in this position for approximately 12 1/2 years. I have worked with Ecology on air quality issues for more than 35 years.

3. Ecology has long recognized the harms caused by emissions from diesel engines. *See, e.g.,* Ecology's web page, Reducing Diesel Emissions, found at. https://ecology.wa.gov/Air-Climate/Air-quality/Vehicle-emissions/Diesel-emissions. In 2008, toxicologists in Ecology's Air Quality Program produced a white paper titled, "Concerns about Adverse Health Effects of Diesel Engine Emissions" (White Paper) A true and correct copy of this white paper is attached as Exhibit A. This white paper notes that, "Exposure to diesel exhaust can result in both immediate and long-term health effects. These effects range from cardiopulmonary, immune, endocrine, and developmental and reproductive impairments to lung- and certain other types of cancer." White Paper at 1. Ecology has identified diesel exhaust as the toxic air pollutant most harmful to Washington's citizens.

4. In 2009, in recognition of the adverse health effects of diesel engine emissions, Ecology added diesel engine exhaust particulate matter to the list of substances regulated as toxic air pollutants under Washington law. Washington Administrative Code (WAC) 173-460-150.

5. In recognition of the harm caused by diesel emissions, Washington State Governor Jay Inslee included reductions in diesel emissions in his Results Washington

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Initiative. Goal 3.3.a of Results Washington seeks reductions in diesel particulate emissions from mobile sources from 6,444 tons in 2011 to 3,483 tons by 2020.

6. Nearly five million people in Washington State live or work close to transportation corridors where they are exposed to high levels of diesel exhaust. Since 2003, the Washington State Legislature has appropriated money for Ecology's Air Quality Program to disburse as grants to reduce diesel emissions in Washington. A true and correct copy of a summary of Ecology's diesel retrofit funding is attached as Exhibit B. According to that summary, between 2003 and 2015, Ecology disbursed $48,220,000 in Washington State funds to reduce diesel emissions. That money was supplemented by $4,509,099 in federal Diesel Emissions Reduction Act funds and American Recovery and Reinvestment Act funds.

7. According to U.S. Environmental Protection Agency (EPA) documents, glider trucks (new semi tractor-trailor trucks equipped with old engines) emit up to 40 times the amount of fine particulate matter (PM2.5) and nitrogen oxides (NOx) as new, emissions-compliant trucks.[1] A recent EPA study indicates that this number may be low, and gliders may actually emit 50 to 450 times the amount of PM2.5 as compliant vehicles.[2] EPA's recent decision to allow gliders on the road will undermine Ecology's efforts to reduce diesel emissions in Washington State and the harms associated with them. Indeed, EPA's recent decision also undermines Congress's intent to reduce diesel emissions, as evidenced by the Diesel Emissions Reduction Act.

8. In 2009, the Tacoma-Pierce County area of Washington State was designated nonattainment for PM2.5. Speciation of the particulate matter collected on monitors in the area indicated that the high levels of PM2.5 were primarily caused by emissions from wood stoves and diesel engines. The area has since been redesignated attainment. However, the area is still

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[1] 81 Fed. Reg. 73468, 73943 (Oct 25, 2016).

[2] National Vehicle & Fuel Emissions Laboratory, U.S. Environmental Protection Agency, Chassis Dynamometer Testing of Two Recent Model Year Heavy-Duty On-Highway Diesel Glider Vehicles, November 20, 2017, at 3.

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subject to 20 years of maintenance plans to keep the area remains in attainment. EPA's recent decision to allow gliders on the road will undermine Washington's efforts to ensure the area remains in attainment for PM2.5.

I declare under penalty of perjury under the laws of the state of Washington and federal law that the foregoing is true and correct.

DATED this 18th day of July 2018 in Bellevue, Washington.

STUART CLARK

ATTORNEY GENERAL OF WASHINGTON
Ecology Division
PO Box 40117
Olympia, WA 98504-0117
(360) 586-6770

IN THE UNITED STATES COURT OF APPEALS

FOR THE DISTRICT OF COLUMBIA CIRCUIT

STATE OF CALIFORNIA, by and through its Attorney General and the California Air Resources Board, STATE OF NEW YORK, STATE OF NEW JERSEY, STATE OF NEW MEXICO, STATE OF ILLINOIS, STATE OF MARYLAND, COMMONWEALTH OF MASSACHUSETTS, STATE OF OREGON, and STATE OF WASHINGTON, Petitioners v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, and ANDREW K. WHEELER, as Acting Administrator, United States Environmental Protection Agency, Respondents.	No. **DECLARATION OF STEVEN E. FLINT, P.E.**

I, Steven E. Flint, P.E., declare as follows:

1. I am the Director of the Division of Air Resources (Air Resources) of the New York State Department of Environmental Conservation (DEC) and have held that position for approximately 2 years. I currently oversee Air Resource's central office in Albany, which carries out the development of mobile source regulations and technology development, air quality planning, monitoring and research functions and stationary source permitting. In addition, I oversee the air pollution control program in nine regional offices, which are responsible for air permitting and enforcement throughout the state. I submit this declaration in support of the petition for review of the United States Environmental Protection Agency's (EPA) July 6, 2018 memorandum from Assistant Administrator Susan Parker Bodine regarding "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles ("EPA Memo") (a copy of the EPA Memo is attached to the petition for review).

BACKGROUND AND QUALIFICATIONS

2. I have Bachelor of Science and Master of Science in Civil and Environmental Engineering degrees from Clarkson College. I am a licensed Professional Engineer in New York State.

3. I have worked at DEC since June 1980. In addition to my current position of Director of the Division of Air Resources, I have held the positions of

Assistant Director of Air Resources; Director, Bureau of Mobile Sources and Technology Development; Chief of Light and Heavy Duty Vehicle Section of the Bureau of Mobile Sources and Technology Development; and other engineering positions within DEC.

4. One of my responsibilities as Director of the Division of Air Resources is to oversee DEC's air quality planning efforts, including the development of State Implementation Plans (SIP). SIPs detail how DEC will assure that, among other things, the air quality in New York will come into and/or maintain compliance with the National Ambient Air Quality Standards (NAAQS) for criteria pollutants, including ozone, particulate matter (PM) and sulfur dioxide (SO_2), established by the United States Environmental Protection Agency under the federal Clean Air Act (CAA or Act). States are primarily responsible for ensuring attainment and maintenance of a NAAQS once EPA has established one.

5. As part of my job responsibilities, I have worked on efforts within New York to adopt motor vehicle control programs to reduce emissions of nitrogen oxides (NOx) and volatile organic compounds (VOCs), which are pollutants that lead to the formation of ozone and are commonly referred to as "ozone precursors." I have also worked to promulgate regulations that are designed to reduce PM. These control programs include 6 New York Code of Rules & Regulations (NYCRR) Part 217, Motor Vehicle Emissions; 6 NYCRR Part 218, Emission Standards for Motor

Vehicles and Motor Vehicle Engines; Part 225, Fuel Composition and Use; and Part 248, Use of Ultra Low Sulfur Diesel Fuel and Best Available Retrofit Technology for Heavy Duty Vehicles.

6. I am submitting this declaration in support of the State Petitioners' motion for emergency stay or summary vacatur of the EPA Memo, and in support of State Petitioners' standing to challenge that action. A glider vehicle, also sometimes simply called a glider, is the tractor portion of a tractor-trailer produced by installing a previously used heavy-duty engine and/or transmission into a new tractor chassis that typically include the frame, front axle, interior and exterior cab, and brakes. *See* 40 CFR § 1037.801 (2016).

7. In 2016, as part of EPA's promulgation of Phase 2 emissions standards for medium and heavy duty vehicles, EPA adopted a regulation that phased in limits on the sales of glider vehicles that do not comply with Phase 2 emission standards while continuing to allow the continued use of glider vehicles for their traditional purpose of salvaging relatively new powertrains that had been damaged in accidents 81 Fed. Reg. 73,478 (Oct. 25, 2016) (Glider Rule). In 2017, manufacturers were allowed to produce non-compliant gliders up to the highest number they had produced in any year between 2010 to 2014. 81 Fed. Reg. at 73,518. Beginning in 2018, manufacturers were allowed to produce the lower of either 300 gliders, or the

most gliders sold between 2010 and 2014, *i.e.*, the 2017 figure if it was lower than 300. *Id*.

8. The EPA Memo assures glider manufacturers that it will apply 2017 interim cap on glider production rather than the 300-vehicle cap that took effect on January 1, 2018.

Summary

9. I was asked to evaluate harms New Yorkers may suffer if the EPA Memo remains in effect during the litigation challenging it, *i.e.*, the harms that would result from glider sales occurring during the pendency of this litigation as a result of the EPA Memo. I note that the harms that would result from glider sales during the pendency of this litigation are not limited to the timeframe of the litigation, because glider sales occurring now will have long-term impacts. Glider vehicles sold during this litigation will very likely continue to operate for 10 years or longer and will continue to emit large quantities of very harmful pollution over the entire period of their operation. Because those long-term harms will be set in motion now, by the sale of glider vehicles allowed as a result of the EPA Memo, and will occur absent vacatur or a stay of that action, I have included them in my analysis of irreparable injuries to New York.

10. Based on my review of the rulemaking for the Glider Rule, and based on my own knowledge, experience and analysis, I conclude that New Yorkers will

suffer significant and irreparable harm from sales of glider vehicles during the pendency of this litigation—sales that would not have occurred absent the EPA Memo and that will cause harm in both the short- and long-term.

OZONE POLLUTION IN NEW YORK

11. New York has a significant ozone problem. Ground-level ozone, commonly referred to as smog, is not emitted directly into the air, but is a secondary air pollutant that forms in the atmosphere through a series of complex chemical reactions involving NOx and VOCs in the presence of sunlight and warm temperatures.

12. NOx and VOC emissions from local urban sources over successive hot days combine with high-level concentrations of ozone and ozone precursors that have been transported into the area from sources located outside the state by westerly to southerly winds.

13. Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and airway inflammation. It also can reduce lung function and harm lung tissue. Ozone can worsen bronchitis, emphysema and asthma, leading to increased medical costs. Exposure to ozone has also been linked to early deaths. People most at risk from breathing air containing ozone include people with asthma, children, older adults and people who are active outdoors, especially outdoor workers.

14. In addition to its health effects, ozone interferes with the ability of plants to produce and store nutrients, which makes them more susceptible to disease, insects, harsh weather and other pollutants. This impacts annual crop production throughout the United States, resulting in significant losses and injury to native vegetation and ecosystems. Furthermore, ozone damages the leaves of trees and other plants, ruining the appearance of cities, parks and recreation areas. Ozone can also damage certain man-made materials, such as textile fibers, dyes, rubber products and paints.

15. EPA promulgated a revised ozone NAAQS in 2008 (2008 ozone NAAQS) set at a level of 75 parts per billion (ppb). Portions of New York, specifically the New York City Metropolitan Area (NYCMA), have been designated as being in nonattainment with the NAAQS. As a result, New York is required to submit a SIP to EPA demonstrating how New York will achieve the standard by a date certain. New York, however, will not be able to meet the NAAQS due in part to pollution transported into New York from upwind states.

16. New York currently has some of the most stringent NOx and VOC control programs in the country, aggressively regulating power plants, factories, and motor vehicles. These programs include: adoption of California's motor vehicle emission standards; Stringent Reasonably Available Control Technology (RACT) on all major NOx and VOC stationary sources in New York; Statewide

Vehicle Inspection and Maintenance (I&M) requirements for passenger vehicles and heavy duty trucks; idling restrictions for motor vehicles; regulations requiring reductions from a large variety of VOC sources including consumer products, architectural and industrial maintenance coatings, portable fuel containers, adhesives and sealants, asphalt paving, and solvent metal cleaning processes. 6 NYCRR Parts 235, 205, 239, 228, 241 and 226; and Lowest Achievable Emission Rate (LAER) standards on all new major sources of NOx or VOC, and on all existing sources that would undergo major modifications with emissions above certain significant project thresholds. 6 NYCRR Part 231. In addition, major stationary sources in New York reduced annual NOx emissions by 43 percent between 2008 and 2014, and major EGUs (power plants) reduced ozone-season NOx emissions by 73 percent between 2008 and 2017. These reductions can largely be attributed to the strong NOx RACT regulations adopted by New York.

The Nature of Glider Vehicles and their Harmful Emissions

17. Diesel exhaust is emitted from heavy-duty vehicles, like glider vehicles, that operate on diesel fuel. Diesel exhaust is a complex mixture of inorganic and organic compounds that exist in both gaseous and solid phases, and includes over forty compounds that are listed as hazardous air pollutants by the EPA, and as toxic air contaminants by CARB.

18. The solid phase component of diesel exhaust is commonly known as particulate matter (PM), which consists of particles typically composed of carbon particles ("soot", also called black carbon, or BC) and numerous organic compounds, including over 40 known cancer-causing organic substances. In diesel exhaust, over 90 percent of the mass of these particles are less than 2.5 microns in diameter (PM2.5), and due to their small size, are easily inhaled into the bronchial and alveolar regions of the lung. PM2.5 is the ambient particulate matter air pollution that is most associated with adverse health effects, including cardiovascular and respiratory hospitalizations, cancer, and premature death.

19. In addition to diesel PM, diesel exhaust contains NOx—mixtures of gases that are comprised of both nitrogen and oxygen. NOx contributes to the formation of both PM2.5 and ozone. In addition, one of the primary components of NOx, NO_2, has been linked to respiratory effects, including hospital admissions and emergency department visits for asthma, increases in respiratory symptoms and airway inflammation in people with asthma, and decreases in lung function in children with asthma.[1]

[1] U.S. EPA. Integrated Science Assessment (ISA) for Oxides of Nitrogen – Health Criteria (Second External Review Draft, 2015). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-14/006, 2015. Available at: https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryID=288043.

20. EPA found that glider vehicles emit 20 to 40 times the amounts of PM2.5 and NOx as trucks powered by heavy-duty diesel engines that are certified to current emission standards.[2] As EPA noted, "[n]o commenters [on the Phase 2 Rule] disagreed with EPA's assessment of NOx and PM impacts."[3]

21. Glider vehicles produce significantly more harmful pollution than conventionally manufactured new trucks because they are typically powered by older heavy-duty diesel engines that do not meet currently applicable emission standards. Due to increasingly stringent emissions standards promulgated by EPA, heavy-duty diesel engines became cleaner after 2004, and cleaner still starting with model year 2007, and still cleaner starting in 2010. Thus, a glider using a pre-2004 model year heavy-duty diesel, as many gliders do, emits substantially greater quantities of pollutants than using an engine certified to current emission standards, as EPA found.[4]

22. The scale of excess diesel emissions from gliders poses a serious public health hazard. Diesel exhaust is classified as a probable human carcinogen by many governmental authorities, including the International Agency for Research

[2] 81 Fed. Reg. 73478, 73943 (Oct. 25, 2016).
[3] EPA Response to Comments (RTC) at 1875.
[4] https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100O9ZZ.pdf

on Cancer (an authority under the World Health Organization),[5] the United States National Toxicology Program,[6] and the EPA.[7] The State of California classifies diesel exhaust as a known carcinogen.[8] The EPA, CARB, and others have determined that human exposure to diesel exhaust has been linked to premature death from lung cancer, and increased incidents of asthma, allergies, and other various cardiorespiratory diseases. Those most susceptible to the effects of diesel emissions include the elderly, the very young and those with pre-existing respiratory problems. Components of diesel exhaust are genotoxic, mutagenic, and can produce allergy symptoms, including inflammation and irritation of airways. There is no known safe level of exposure to diesel exhaust.[9]

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[5] International Agency for Research on Cancer (IARC). 1989. Chapter 5: Summary of Data Reported and Evaluation and Chapter 5.1 Exhaust composition and exposure data. In *Diesel and Gasoline Engine Exhausts*. IARC Summary and Evaluation Volume 46 (1989) p. 41.

[6] US National Toxicology Program. 2000. Report on Carcinogens, Ninth Edition: Carcinogen Profiles 2000. Research Triangle Park: National Toxicology Program. 111-113.

[7] EPA, "Integrated Risk Information System, Chemical Assessment Summary: Diesel Engine Exhaust," at § II.A.1 (rev. Feb, 28, 2003) ("[D]iesel exhaust is likely to be carcinogenic to humans by inhalation from environmental exposures."), available at https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0642_summary.pdf (last accessed March 19, 2018).

[8] California Environmental Protection Agency. 1997. Chemicals Known to the State to Cause Cancer or Reproductive Toxicity, Revised May 1, 1997.

[9] California Environmental Protection Agency, Air Resources Board. 1998. Initial Statement of Reasons for Rulemaking, Staff Report, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Prepared by the Staff

23. Of particular concern is the PM2.5 contained in diesel exhaust. PM2.5 can aggravate asthma, increase respiratory symptoms such as coughing and difficult or painful breathing, cause chronic bronchitis and decreased lung function, contribute to cardiovascular problems such as heart attacks, and even result in premature death. The New Jersey Clean Air Council reported in 2004 that only smoking and obesity outrank particulate matter in the estimated number of premature deaths caused every year, and that diesel powered engines and equipment are responsible for most of the particulate matter from mobile sources.[10] Asthma and emphysema are also exacerbated by particulate matter in the atmosphere.

24. Health effects associated with diesel exhaust generally, and PM2.5 specifically, are related to proximity of the affected public to the source of the emissions.[11] The geographic 'source' of diesel PM can be considered to be highways, since that is where the emissions occur. It follows then that a more

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of the Air Resources Board and the Office of Environmental Health Hazard Assessment, June 1998.

[10] New Jersey Clean Air Council, "Fine Particulate Matter in the Atmosphere: Health Impacts in NJ and Need for Control Measures" at 5 (2004), available at http://www.nj.gov/dep/cleanair/hearings/pdf/phr04.pdf (last visited March 20, 2018).

[11] DOT, "Proximity to Major Roadways: Transportation and Health Connection," available at: https://www.transportation.gov/mission/health/proximity-major-roadways (last accessed March 19, 2018)

densely populated region interspersed with highways frequented by trucks would bear a heavier burden. Review of available data for the nine-county New York metropolitan area indicates that 9.4 percent live within 150 meters of a major highway. Therefore, the impact of even a single glider vehicle operating in the New York metropolitan area presents a much greater risk than the national average.

25. In fact, EPA recently completed a test program that measured emissions from glider vehicles assembled in 2016 and 2017 and from conventionally-manufactured 2014 and 2015 model year heavy-duty tractors (trucks operating with currently-compliant engines).[12] Those test data suggest that EPA's initial estimates of glider emissions were low, and glider vehicles may in fact be significantly dirtier than EPA's earlier estimates. Specifically, EPA's test data indicate that glider vehicles emit 50 to 450 times more PM2.5 and 4 to 43 times more NOx than conventionally-manufactured heavy-duty tractors.

26. Based on EPA's own conservative estimates,[13] the sale of 10,000 glider vehicles per year would result in between 700 and 1,600 premature deaths in the

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[12] U.S. EPA. *Chassis Dynamometer Testing of Two Recent Model Year Heavy-Duty On-Highway Diesel Glider Vehicles (*Nov. 20, 2017), [EPA-HQ-OAR-2017-0827-2417].

[13] Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2; Response to Comments for Joint Rulemaking, EPA-420-R-16-901 August 2016 [EPA-HQ-OAR-2014-0827-2344] (hereinafter "RTC") at p. 1881.

United States over the life of those glider vehicles, and generate $3 billion to $11 billion in related monetized disbenefit. Based on EPA's own data, I estimate that the EPA Memo would allow approximately 6,400 additional gliders to be sold.

27. To assess the impact of the EPA Memo, I again turned to EPA's own data. EPA projected that approximately 4,200 gliders were sold in 2014, a sales figure higher than any preceding year.[14] I reasonably assume, therefore, that, absent invalidation or a stay, 4,200 gliders will be sold in both 2018 and 2019, for a total of 8,400 gliders over those two years. EPA estimated that under the Glider Rule, "fewer than 1,000 glider[s]" would be sold "in most years."[15] Thus, I reasonably assume that, if the EPA Memo remains in place, 6,400 additional gliders will be sold (total sales of 8,400 minus 2,000 gliders that could, at most, have been sold with the Glider Rule truly in effect).

28. Based on EPA's own conservative estimates of the impacts of these highly-polluting trucks, the sale of these additional 6,400 gliders would result in significant health impacts nationwide, including in New York. In consideration of the wide distribution of sales and use of glider vehicles and in light of the pervasive and demonstrated impact of transported pollutants on New York, there is

[14] RTC at 1961.

virtual certainty that New York will be injured. Some of those who die prematurely will be residents of New York.

29. Glider vehicles generate enormous amounts of harmful pollution over and above the levels of pollution produced by heavy-duty trucks that comply with currently applicable federal emissions standards. Thus, while there may be some question as to the precise *quantity* of irreparable injuries that will occur in New York (in terms of premature deaths, other adverse health impacts, and health-impact costs), there is no question that the EPA Memo —and the sales of glider vehicles it would allow—will cause significant, excess, harmful pollution, and thus irreparable harm, in the United States, generally, and in New York, specifically.

EPA Estimates of Premature Deaths That Will Occur Absent a Stay

30. EPA estimates that for every 10,000 additional glider vehicles produced and operated between 700 and 1,600 premature deaths would occur in the United States.[16]

31. As EPA found, "it is clear that removing even a fraction of glider[s] from the road will yield substantial health-related benefits."[17] The opposite is true of the EPA Memo: allowing it to remain in effect, absent vacatur or a stay, will

[16] RTC at 1881
[17] 81 Fed. Reg. at 73,883

result in more glider vehicles on the road now and for years to come and that will yield substantial health-related impacts across the country and in New York.

EPA's Memo Will Significantly Hinder DEC's Efforts to Reduce PM2.5 and NOx Pollution

32. DEC has a long history of enacting measures to reduce the same pollutants that the EPA Memo will increase—specifically, diesel PM and NOx, both of which are extremely harmful to human health as discussed above. For example, in 1990 DEC was the first state in the nation to adopt California's stringent new motor vehicle emission standards pursuant to section 177 of the Act.

33. DEC's efforts will result in dramatic decreases in statewide emissions of pollutants from mobile sources. For example, statewide emissions of NOx from mobile sources were projected to decrease from approximately 489 tons per day in 2011 to 281 tons per day in 2017, and statewide emissions of PM2.5 from mobile sources were projected to decrease from approximately 19 tons per day in 2007 to 11 tons per day in 2017. These declines involved significant efforts and expenditures by DEC, the regulated sources, and others. The EPA Memo will undermine these gains, harming everyone who lives or works in New York. Further, while these declines are significant, DEC needs to continue its efforts to *reduce* mobile source emissions, and the EPA Memo will undermine those efforts as well. Based on EPA testing, a single glider operating a modest 100,000 miles a year in New York would generate excess NOx emissions of approximately

2.7 tons, and 0.1 tons of excess PM.[18] The EPA Memo would allow *thousands* of additional gliders to be sold each year, resulting in enormous excess NOx and PM emissions in New York.

34. EPA estimates that, absent the Glider Rule, "glider vehicles on the road in 2025 would emit nearly 300,000 tons of NOx and nearly 8,000 tons of PM annually."[19]

35. Moreover, the harms resulting from the EPA Memo will exacerbate the already poor air quality in the New York metropolitan area, which suffers from the transport of ozone into New York from upwind states and EPA's failure to enforce the CAA statutory provisions intended to address that problem.

36. A provision of the Act, frequently referred to as "The Good Neighbor Provision" requires that each state's SIP contain adequate provisions to prohibit emissions that will significantly contribute to nonattainment of a NAAQS, or interfere with maintenance of a NAAQS, in a downwind state. Other provisions of the Act require EPA to promulgate a Federal Implementation Plan (FIP) as a "backstop" in the event that a state fails to submit, or EPA disapproves, a good

[18] Chassis Dynamometer Testing of Two Recent model year Heavy-Duty On-Highway Diesel Glider Vehicles, November 20, 2017, Docket No.: EPA-HQ-OAR-2014-0827-2417, Figures 14 and 15 at 24.

[19] 81 Fed. Reg. at 73,943.

neighbor SIP. In issuing the EPA Memo, the agency has failed to indicate how it intends to meet this obligation.

37. EPA's failure to promulgate FIPs for upwind states to fully address their outstanding obligations to prohibit interstate transport of air pollution to downwind states, *see New York v. Pruitt*, Case No. 1:18-cv-00406, slip op. at 8 (S.D.N.Y., June 6, 2018), harms New Yorkers in a number of ways, all of which will be compounded by the EPA Memo and the resulting increase in the number of gliders being driven in New York.

38. First, it places an unfair economic and administrative burden on the State by subjecting New York to continued nonattainment and the need to promulgate new, more stringent control measures for local sources of ozone precursors. New York already has some of the strictest air pollution controls in the country, and it will become increasingly difficult for the State to wring more emissions reductions from its sources.

39. Second, EPA's failure places inequitable burdens on New York's emissions sources. As control measures become more stringent, they are more expensive. The more expensive controls that New York must require for its in-state sources are a significant deterrent to new businesses in New York and a burden to existing businesses. These expensive local reductions will be required under the Act even though controls from upwind states (implemented to eliminate their

significant contribution) would cost less per ton and could provide more relief from ozone in New York. As air pollution in New York increases from gliders, these burdens on sources will also increase.

40. Third and most importantly, in addition to planning and economic impacts, prolonged nonattainment harms New York's residents. The higher concentrations of ozone in the New York City metropolitan area will cause a greater number of New York residents to be exposed to higher pollutant levels for a longer period of time. These prolonged exposures at higher levels will result in more harmful health impacts to those residents. Both short-term and prolonged exposures to ambient ozone have been linked to a number of adverse health effects, including reduced lung function and increased numbers of asthma attacks requiring a doctor's appointment. These harms will only increase as air pollution from gliders increases.

41. As a result of these health effects from ozone, New York faces increased expenditures, including for state-administered healthcare programs for seniors and low-income residents. As an employer, New York is also impacted by increased numbers of missed school and work days.

42. In sum, the EPA Memo will cause additional air pollution and irreparable injury to New Yorkers by causing serious and significant adverse health impacts in the State, including premature deaths; by imposing substantial health-

related costs on the State and its residents; and by undermining the State's on-going and sometimes costly efforts to reduce these harmful emissions, meet federal standards, and improve air quality for New Yorkers.

Under penalty of perjury, I declare that the foregoing is true and correct to the best of my knowledge.

Executed in Albany, New York on 7/19, 2018.

Steven E. Flint, P.E.
New York State Department of Environmental Conservation

COLLEEN A. McCARTHY
Notary Public, State of New York
Qualified in Albany County
No. 02MC5046480
Commission Expires July 17, 2021

STATE OF CALIFORNIA, by and through XAVIER BECERRA, ATTORNEY GENERAL and CALIFORNIA AIR RESOURCES BOARD, STATE OF CONNECTICUT, STATE OF ILLINOIS, STATE OF MAINE, STATE OF MARYLAND, COMMONWEALTH OF MASSACHUSETTS, STATE OF NEW JERSEY, STATE OF NEW YORK, STATE OF NORTH CAROLINA, STATE OF OREGON, COMMONWEALTH OF PENNSYLVANIA, by and through JOSH SHAPIRO, ATTORNEY GENERAL and Pennsylvania Department of Environmental Protection, STATE OF RHODE ISLAND, STATE OF VERMONT, and STATE OF WASHINGTON,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ANDREW K. WHEELER, Acting Administrator, United States Environmental Protection Agency, and SUSAN P. BODINE, Assistant Administrator, Office of Enforcement and Compliance Assurance, United States Environmental Protection Agency,

Respondents.

DECLARATION OF MICHAEL A. ABRACZINSKAS IN SUPPORT OF EMERGENCY MOTION FOR SUMMARY VACATUR, OR IN THE ALTERNATIVE, FOR STAY PENDING JUDICIAL REVIEW

I, Michael A. Abraczinskas, hereby declare and state the following:

1. I have worked for North Carolina Department of Environmental Quality, Division of Air Quality ("DAQ") for more than nineteen years. I am currently the Director of DAQ. I have held this position since March of 2017. Prior to holding this position I served as Deputy Director of DAQ for approximately six years. As Director of DAQ, I am responsible for, among other things, supervising North Carolina's efforts to attain the National Ambient Air Quality Standards ("NAAQS"), including the standards for ozone and fine particulate matter ("$PM_{2.5}$").

2. To accomplish this task, the DAQ Planning Section uses air quality modeling and other techniques to evaluate suites of control scenarios that will foster attainment. The Division then recommends revisions to the North Carolina State Implementation Plan ("SIP") to include enforceable measures to attain and maintain the NAAQS. I have worked, in various capacities, with the NAAQS and the North Carolina SIP throughout my years with the Division.

3. I am familiar with the proposed rule published by the United States Environmental Protection Agency ("EPA"), "Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits," 82 Fed. Reg. 53442 (Nov. 16, 2017) ("Proposed Glider Repeal Rule"). I am also familiar with the action of former Administrator E. Scott Pruitt, by and through Assistant Administrator Susan Parker

Bodine, titled "Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles" (July 6, 2018) ("EPA's Action"). Unless otherwise noted, the statements made in this declaration are based on my review of publicly available records, including those prepared by EPA and others that appear in the administrative records for the Proposed Glider Repeal Rule, and the rule by which EPA adopted the now-repealed glider standards: EPA's final rule on "Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2," 81 Fed. Reg. 73478 (October 25, 2016) ("Phase 2 Rule" or "Glider Rule"). I have also relied on analysis and information generated or used by staff under my direction.

4. I submit this declaration in support of the State Petitioners' Petition for Review and Emergency Motion for Summary Vacatur or in the Alternative for Stay Pending Judicial Review and in support of Petitioners' standing to challenge EPA's Action.

Summary

5. Based on EPA's own data and the analysis described in this declaration, DAQ estimates that North Carolina will experience an additional 9,296 tons of NOx emissions and 152 tons of $PM_{2.5}$ emissions over the lifetime of glider vehicles sold as a result of EPA's Action. Emissions from these glider trucks will frustrate and

partially undo North Carolina's efforts to achieve and maintain attainment of National Ambient Air Quality Standards ("NAAQS") for pollutants such as ozone and $PM_{2.5}$, and potentially cause adverse health impacts on North Carolina's citizens.

North Carolina's Efforts to Reduce Emissions of NOx and other Ozone Precursors

6. North Carolina has been a national leader in reducing emissions of precursors to ground level ozone, particularly nitrogen oxides ("NOx"). During the last four years, ozone levels in North Carolina were the lowest on record. At present all areas of North Carolina are designated "attainment" for the ozone NAAQS.

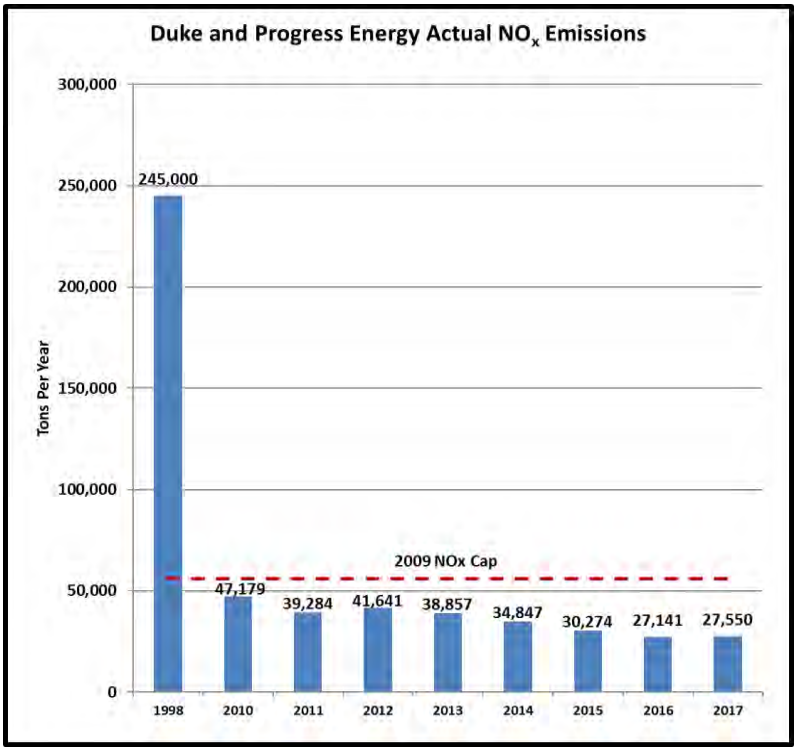
7. North Carolina's air quality improvements represent decades of combined efforts and significant resource expenditures by the North Carolina state government, North Carolina local governments, and the regulated community.

8. In 2002, the State enacted the North Carolina Clean Smokestacks Act, a landmark statute that set emissions caps for NOx emissions from electric utilities.[1] Specifically, the statute required coal-fired power plants to achieve a 77% reduction in NOx emissions by 2009. As of 2017, North Carolina's two major utilities had reduced NOx emissions by approximately 89% from 1998 levels. The following

[1] N.C. Sess. Laws 2002-4 § 1(i) (2002) (codified as amended at N.C. Gen. Stat. § 143-215.107D).

graph shows NOx emissions from North Carolina's major power utilities since 2010, as compared to 1998 levels.

Clean Smokestacks Act Emissions Reductions



9. Another driver of North Carolina's reductions in ozone-forming pollution has been the State's renewable energy policies. In 2007, North Carolina became the first state in the southeastern United States to adopt a Renewable Energy and Energy Efficiency Portfolio Standard.[2] Under this program, North Carolina's

[2] N.C. Gen. Stat. § 62-133.8.

investor-owned utilities are required to meet up to 12.5% of their retail electricity sales through renewable energy resources or increased energy efficiency by 2021. These measures have contributed to significant reductions in NOx emissions from the electric utilities sector, which have, in turn, led to reductions in ozone formation both within the State and in downwind states. Between 2007 and 2016, it is estimated that NOx emissions decreased by 48% from the electric power sector in North Carolina.[3] North Carolina will likely see additional decreases in emissions as a result of the recent passage of the Competitive Energy Solutions for NC Act in 2017.[4]

10. North Carolina has also taken actions directed towards reducing NOx emissions from on-road mobile sources. On-road mobile sources have accounted for approximately 50% of all NOx emissions in North Carolina. North Carolina's actions include:

a. The North Carolina Ambient Air Quality Improvement Act expanded North Carolina's On-Board Diagnostic II Inspection and Maintenance

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[3] *See* Annual Report Regarding Renewable Energy and Energy Efficiency Portfolio Standard in North Carolina, NCDEQ, http://www.ncuc.net/reports/repsreport2017.pdf.

[4] N.C. Sess. Laws 2017-192 (2017).

Program from nine counties to a total of forty-eight counties.[5] As a result of the State's significant air quality improvements and attainment efforts, North Carolina is in the process of eliminating the program in certain counties.[6]

b. North Carolina promulgated a heavy duty diesel engine gap filling rule, which required engine manufacturers to perform supplemental testing requirements for heavy duty diesel engines for model years 2005 and 2006 due to delays in the implementation of federal requirements.[7]

c. North Carolina has also administered a Mobile Source Emissions Reduction Grant Program, which has funded a range of projects designed to curb emissions from mobile sources, including retrofitting school buses with controls to curb diesel emissions, repowering non-road equipment with cleaner-burning engines, and converting vehicles to run on alternative fuels.

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[5] *See* 1999 N.C. Sess. Laws 328 (codified as amended at N.C. Gen. Stat. § 143-215.107A).

[6] *See* 2017 N.C. Sess. Laws 10, Section 3.5.(a) (codified at N.C. Gen. Stat. § 143-215.107A(c)).

[7] *See* 15A NCAC 2D .1008 ("Heavy Duty Diesel Engine Requirements").

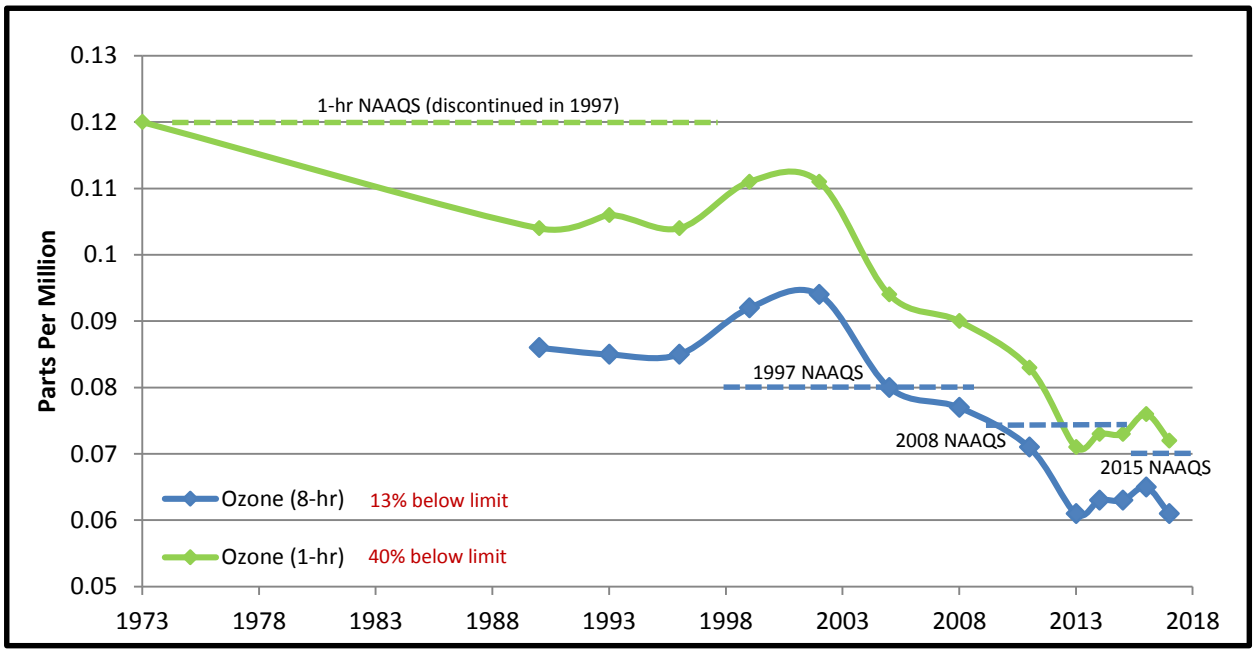
11. Local governments have been important partners in North Carolina's ozone reduction efforts. For example, the Mecklenburg County local air program has successfully implemented incentive programs such as the Grants to Replace Aging Diesel Engines ("GRADE") Program, which reduces NOx emissions by providing businesses and organizations with funding for replacement or repowering of heavy-duty non-road equipment with newer, cleaner, less polluting engines.

North Carolina's Progress in Ozone Reduction

12. These measures and others have led to significant reductions in ozone concentrations across the State. In 2017, EPA designated all areas of North Carolina as "attainment" for the 2015 ozone NAAQS.[8] State-wide declines in ozone concentrations are represented on the graph below:

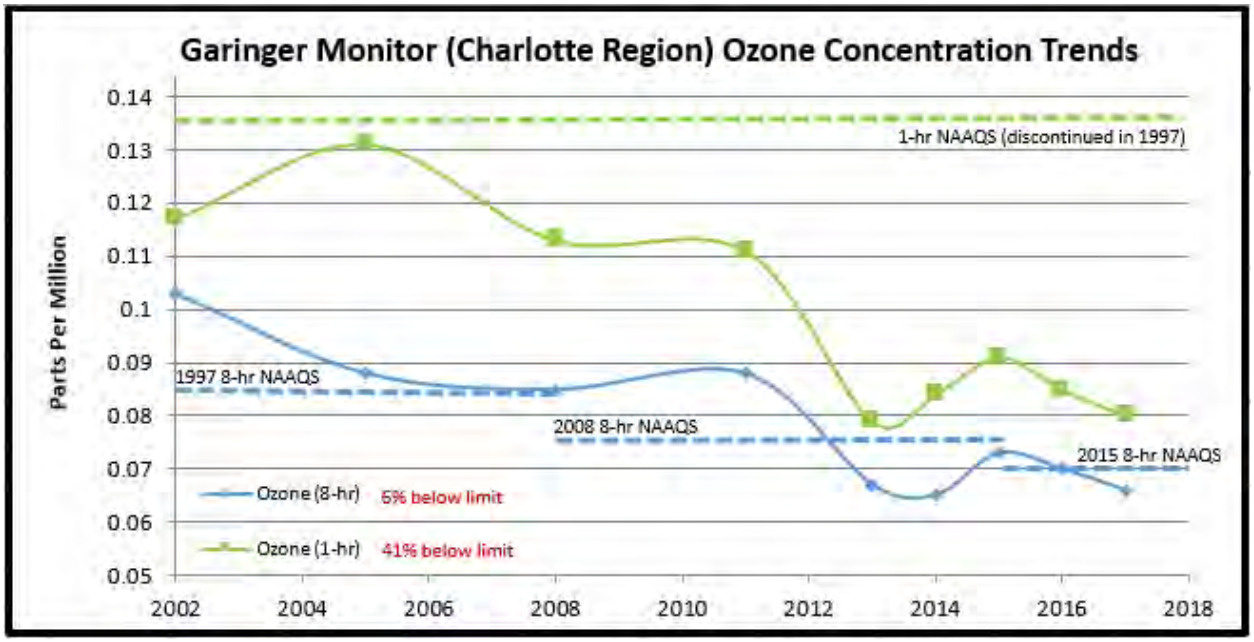
[8] *Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards*, 82 Fed. Reg. 54232 (Nov. 16, 2017).

Statewide Average Ozone Concentrations



13. North Carolina's ozone reduction achievements are well-illustrated by the ambient monitoring data for the region surrounding Charlotte, North Carolina. This region is heavily influenced by mobile sources of NOx emissions. Historically, this region has seen the highest concentrations of ground level ozone in the State.

14. Data from ambient monitors in this region show significant declines in concentrations of ozone in recent years due to state and local efforts to reduce NOx emissions. For example, the Garinger monitor located in Mecklenburg County has shown a decrease from over 100 ppb in the period between 2001 and 2003 to approximately 70 ppb in the period between 2004 and 2016.



15. In 2004, the Charlotte-Gastonia-Rock Hill, North Carolina-South Carolina area was designated as nonattainment for the 1997 8-hour ozone NAAQS of 85 ppb.[9] In 2012, EPA designated the Charlotte-Gastonia-Salisbury, North Carolina area, as marginal nonattainment for the 2008 8-hour ozone NAAQS of 75 ppb.[10]

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[9] *See Air Quality Designations and Classifications for the 8-Hour Ozone National Ambient Air Quality Standards*, 69 Fed. Reg. 23857 (April 30, 2004).

[10] *See Air Quality Designations for the 2008 Ozone National Ambient Air Quality Standards*, 77 Fed. Reg. 30088 (May 21, 2012).

16. In 2013, EPA approved North Carolina's redesignation demonstration for the 1997 8-hour ozone NAAQS for the Charlotte-Gastonia-Rock Hill area[11] and, in 2015, approved North Carolina's redesignation demonstration for the 2008 8-hour ozone NAAQS for the Charlotte-Gastonia-Salisbury area.[12]

17. While this region is currently in attainment for the 2015 ozone NAAQS, current monitoring data indicates that any substantial increase in NOx emissions could interfere with attainment of the 2015 ozone NAAQS.

North Carolina's Efforts to Reduce $PM_{2.5}$ Emissions

18. Many of the measures described above were also instrumental in reducing concentrations of fine particulate matter pollution across the State. One of the primary precursors to $PM_{2.5}$ is Sulfur Dioxide ("SO_2"). In addition to requiring the reduction of NOx emissions from electric utilities, the Clean Smokestacks Act required reductions in SO_2 emissions from 489,000 tons in 1998 to 250,000 tons by

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[11] *Approval and Promulgation of Implementation Plans and Designation of Areas; North Carolina; Redesignation of the Charlotte Gastonia-Rock Hill, 1997 8-Hour Ozone Moderate Nonattainment Area to Attainment*, 78 Fed. Reg. 72036 (Dec. 2, 2013)

[12] *Approval and Promulgation of Implementation Plans and Designation of Areas; North Carolina; Redesignation of the Charlotte-Rock Hill, 2008 8-Hour Ozone Nonattainment Area to Attainment*, 80 Fed. Reg. 44873 (July 28, 2015).

2009 (a 49% reduction) and 130,000 tons by 2013 (a 73% reduction).[13] North Carolina also benefited from federal standards for car and truck engines as well as gasoline and diesel fuel.

North Carolina's Progress in $PM_{2.5}$ Reductions

19. North Carolina's $PM_{2.5}$ achievements can be seen in air quality improvements in Catawba, Davidson, and Guilford Counties. In 2005 EPA designated Catawba, Davidson and Guilford Counties as nonattainment for the 1997 annual $PM_{2.5}$ standard of 15.0 ug/m^3 annual average.[14]

20. Ambient concentrations of $PM_{2.5}$ sharply declined in this region over the last decade:

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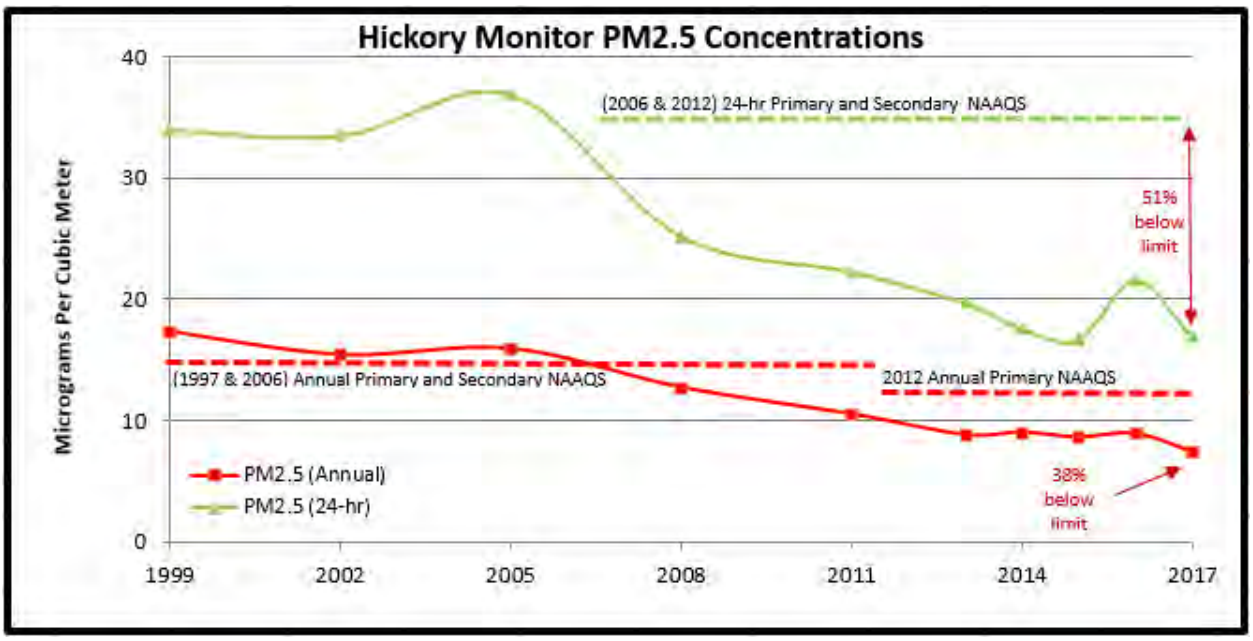
[13] N.C. Sess. Laws 2002-4 § 1(i) (2002) (codified as amended at N.C. Gen. Stat. § 143-215.107D).

[14] *Air Quality Designations and Classifications for the Fine Particles (PM2.5) National Ambient Air Quality Standards*, 70 Fed. Reg. 943 (Jan. 5, 2005).



21. As a result, in 2011, due in part to the measures described above, EPA redesignated Catawba, Davidson and Guilford Counties as attainment for the 1997 $PM_{2.5}$ standard.[15]

22. These trends are reflected in state-wide average concentrations for $PM_{2.5}$:

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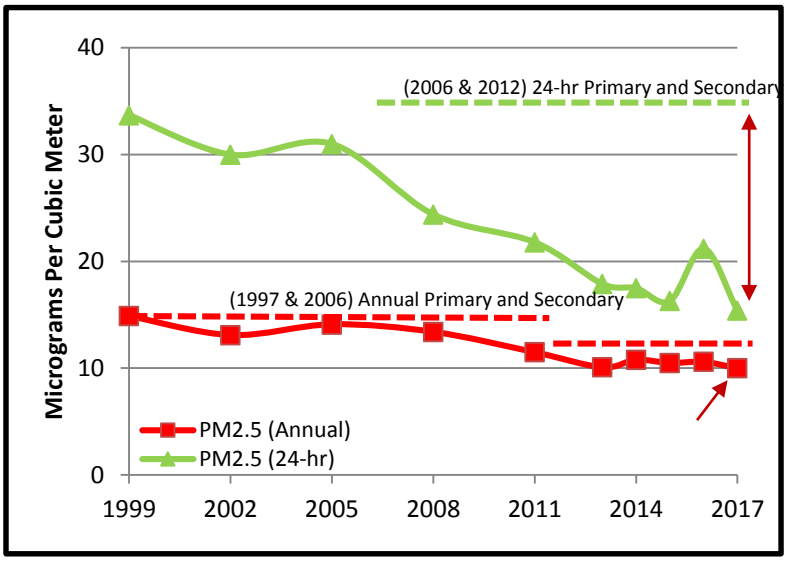
[15] *See Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; North Carolina: Redesignation of the Greensboro-Winston-Salem-High Point 1997 Annual Fine Particulate Matter Nonattainment Area to Attainment*, (Nov. 18, 2011); *Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; North Carolina: Redesignation of the Hickory Morganton-Lenoir 1997 Annual Fine Particulate Matter Nonattainment Area to Attainment*, 76 Fed. Reg. 71452 (Nov. 18, 2011).

Statewide $PM_{2.5}$ Concentrations



23. Currently, all areas in North Carolina are designated as attainment or attainment/unclassifiable for all $PM_{2.5}$ NAAQS.

Impacts of EPA's Action on North Carolina's Air Quality

24. EPA's Action will frustrate and partially undo North Carolina's efforts to improve its air quality and achieve attainment of the NAAQS for ozone and $PM_{2.5}$.

25. EPA's own data demonstrates that emissions from glider vehicles have staggering impacts on air quality. EPA found that since gliders with "pre-2002 engines lack both EGR and exhaust aftertreatment, they would have NO_X and PM emissions 20–40 times higher than current engines. If miscalibrated, emissions could

be even higher."[16] EPA estimated that for every 1,000 glider vehicles produced instead of fully compliant vehicles, an additional 41,500 tons of NOx and 680 tons of $PM_{2.5}$ are emitted into the atmosphere over the lifetime of these vehicles (defined as 30 years, with 80% of emissions occurring within the first 15 years of the vehicle's life and peaking in year 4).[17]

26. Under my supervision, DAQ's Planning Section staff used EPA data and EPA's MOVES Model to estimate the impacts that EPA's Action would have on emissions of NOx and $PM_{2.5}$ in North Carolina. We estimated impacts for the State as a whole and for the Charlotte region[18] in particular. DAQ selected the Charlotte Region for analysis because of its history of ozone nonattainment and the high percentage of mobile source pollution responsible for ozone formation in the region.

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[16] *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2*, 81 Fed. Reg. 73478, 73943 (Oct. 25, 2016).

[17] *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2; Response to Comments for Joint Rulemaking*, EPA-420-R-16-901 August 2016 [EPA-HQ-OAR-2014-0827-2344] (hereinafter "RTC") at 1964.

[18] For purposes of this analysis, the "Charlotte Region" refers to Iredell, Rowan, Lincoln, Gaston, Mecklenburg, Cabarrus, and Union Counties.

27. The first step in our analysis was to arrive at a reasonable assumption regarding the number of additional gliders that will be sold as a result of EPA's Action. EPA projected that approximately 4,200 gliders were sold in 2014, a sales figure higher than any preceding year.[19] EPA's Action indicates it will not follow the Glider Rule for glider manufacturers whose sales are within their "Interim Allowances," which are based on the manufacturers' highest sales between 2010 and 2014. It is therefore reasonable to assume that, absent invalidation or a stay, at least 4,200 gliders will be sold in both 2018 and 2019, for a total of 8,400 gliders over those two years. EPA estimated that under the Glider Rule, "fewer than 1,000 glider[s]" would be sold "in most years."[20] Thus, it is reasonable to assume that, if EPA's Action remains in place, 6,400 additional gliders will be sold (total sales of 8,400 minus 2,000 gliders that could, at most, have been sold throughout the country with the Glider Rule truly in effect).[21]

28. The second step in our analysis was to use EPA data to estimate lifetime NOx and $PM_{2.5}$ emissions that will result from the sale of these additional gliders.

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[19] RTC at 1961.
[20] RTC at 1965.
[21] Actual sales data are not available to us. These numbers could be higher if actual sales data were used.

In promulgating the Glider Rule, EPA predicted that the sale of 1,000 Glider Vehicles would result in an additional 41,500 tons of NOx emissions and an additional 680 tons of $PM_{2.5}$ emissions over their lifetimes.[22] It follows that the sale of an additional 6,400 Glider Vehicles will result in an additional 265,600 (6.4 x 41,500) tons of NOx emissions and 4,352 (6.4 x 680) tons of $PM_{2.5}$ emissions nationwide.

29. The third step in our analysis was to estimate the amount of lifetime NOx and $PM_{2.5}$ emissions that will occur in North Carolina and in the Charlotte Region as a result of EPA's Action. To make this determination, we used default input data from EPA's MOVES Model to estimate the number of vehicle miles traveled in North Carolina and the Charlotte Region by combination trucks. We then expressed that number as a percentage of total vehicle miles traveled in the United States. We estimate that 3.5% of vehicle miles traveled by combination trucks occur in North Carolina, and 0.7% occur in the Charlotte Region relative to national vehicle miles traveled. It is reasonable to assume that the percentage of vehicle miles traveled by combination trucks in a particular area is equivalent to the percentage of emissions that will occur in a particular area from those vehicles. Therefore, DAQ

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[22] RTC at 1963-64.

estimates that as a result of EPA's Action, North Carolina will experience an additional 9,296 tons of NOx emissions and 152 tons of $PM_{2.5}$ emissions over the lifetime of the gliders. We estimate that the Charlotte Region will experience an additional 1,859 tons of NOx emissions and 30 tons of $PM_{2.5}$ emissions over the lifetime of the gliders.

30. This analysis leads me to conclude that EPA's Action will frustrate North Carolina's decades-long efforts to reduce NOx and $PM_{2.5}$ emissions statewide and potentially interfere with North Carolina's attainment of the 2015 ozone NAAQS in the Charlotte Region, where recent monitoring data indicates that increases in NOx emissions could jeopardize the region's attainment status.

Health Impacts of EPA's Action

31. Not only will EPA's Action frustrate North Carolina's emissions reduction efforts, it may also negatively impact the health and well-being of North Carolina's citizens. Indeed, in promulgating the Glider Rule, EPA recognized that "reducing the number of glider vehicles produced using older engines will yield substantial improvements in public health."[23]

[23] RTC at 1965.

32. The health benefits associated with North Carolina's air quality improvements over the last two decades are well documented. In 2014, researchers from Duke University partnered with Department of Environmental Quality officials to study how North Carolina's air quality improvements reduced rates of death from respiratory diseases.[24] The study found significant correlations between reduction of air pollutants and reductions of deaths due to respiratory diseases in North Carolina between 1993 and 2010. The study attributed many of those air quality improvements to the Clean Smokestacks Act as well as state and federal vehicle emissions standards that resulted in significant reductions in SO_2 emissions. Also in 2014, researchers from the University of North Carolina conducted a study into SO_2 emissions and fine particulate matter concentrations in the southeastern United States between 2002 and 2012 in order to evaluate the health impacts in North Carolina of the Clean Smokestacks Act. The study estimated that reductions in SO_2

[24] *See Kravchenko, et al., Long-term Dynamics of Death Rates of Emphysema, Asthma, and Pneumonia and Improving Air Quality,* International Journal of COPD (June 16, 2014).

emissions between 2002 and 2012 equate to 1,700 premature deaths avoided in 2012, compared to deaths expected if SO_2 emission had remained unchanged.[25]

33. EPA's Action has the potential to undo some of these health benefits. As discussed above, gliders are responsible for significant emissions of fine particulate matter. $PM_{2.5}$ exposure is known to cause respiratory and cardiovascular illness. Individuals particularly sensitive to $PM_{2.5}$ exposure include children, people with heart and lung disease, and older adults.

34. EPA concluded that reducing the number of gliders produced with non-compliant engines will prevent 70-160 $PM_{2.5}$-related premature deaths for every 1,000 gliders not put on the road.[26] EPA also estimated that monetized $PM_{2.5}$-related health costs associated with allowing 1,000 vehicle to be sold in place of fully compliant vehicles would be between $0.3 and $1.1 Billion.[27] According to EPA, that means that one glider sold in place of a compliant vehicle will result in between $300,000 and $1,100,000 in costs from $PM_{2.5}$-related health impacts alone. Based on EPA's analysis of monetized $PM_{2.5}$-related health costs, absent invalidation or a

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[25] *See* Ya-Ru LI and Jacqueline Macdonald Gibson, *Health and Air Quality Benefits of Policies to Reduce Coal-Fired Power Plant Emissions: A Case Study in North Carolina*, Environ. Sci. Technol. 48, 17, 10019-27 (July 21, 2014).

[26] RTC at 1965.

[27] *Id.*

stay, North Carolina and its people will be saddled with potential increases in health-related costs.[28]

[28] These estimates are conservative. EPA did not seek to monetize the heath related costs of increases in ozone concentrations resulting from glider trucks. Ozone is known to cause respiratory illness, posing the greatest risk to people with asthma, children, and older adults.

I declare under the penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Executed on July 18, 2018.

Michael A. Abraczinskas

STATE OF CALIFORNIA, by and through XAVIER BECERRA, ATTORNEY GENERAL and CALIFORNIA AIR RESOURCES BOARD, STATE OF CONNECTICUT, STATE OF ILLINOIS, STATE OF MAINE, STATE OF MARYLAND, COMMONWEALTH OF MASSACHUSETTS, STATE OF NEW JERSEY, STATE OF NEW YORK, STATE OF NORTH CAROLINA, STATE OF OREGON, COMMONWEALTH OF PENNSYLVANIA, by and through JOSH SHAPIRO, ATTORNEY GENERAL and PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, STATE OF RHODE ISLAND, STATE OF VERMONT, and STATE OF WASHINGTON,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ANDREW K. WHEELER, Acting Administrator, United States Environmental Protection Agency, and SUSAN P. BODINE, Assistant Administrator, Office of Enforcement and Compliance Assurance, United States Environmental Protection Agency,

Respondents.

DECLARATION OF KIMBERLY AYN HEROY-ROGALSKI IN SUPPORT OF EMERGENCY MOTION FOR SUMMARY VACATUR, OR IN THE ALTERNATIVE, FOR STAY PENDING JUDICIAL REVIEW

I, Kimberly Ayn Heroy-Rogalski, declare as follows:

1. I am currently employed by the California Air Resources Board (CARB) as Chief of the Mobile Source Regulatory Development Branch, and have served in that capacity for approximately 3 years. I have been employed by CARB since 1998, having previously held the positions of Air Resources Supervisor 1 over the Strategic Planning and Development Section, Off-Road Implementation Section, and Motor Vehicle Analysis Section; Staff Air Pollution Specialist; and Air Resources Engineer. My job duties include overseeing the promulgation and implementation of California regulations that establish emission standards and other emission-related requirements applicable to on-road mobile sources, including heavy-duty diesel vehicles and engines. I have a Bachelor of Science degree from the Massachusetts Institute of Technology in Environmental Engineering Science and a Master of Science degree from the University of California at Berkeley in Civil Engineering. I am a registered professional civil engineer in the State of California (license number C58493).

2. This declaration refers extensively to a federal rulemaking action and the administrative record underlying that rulemaking: *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles — Phase 2*, 81 Fed. Reg. 73,478 (Oct. 25, 2016) ("Phase 2 Rule"). The Phase 2 Rule was jointly promulgated by the United States Environmental Protection Agency

(EPA) and the National Highway Traffic Safety Administration (NHTSA). This declaration also refers to EPA's issuance of a memorandum on July 6, 2018 that states EPA will not give effect to certain provisions of the Phase 2 Rule that limit sales of a type of heavy-duty truck called a "glider" for 2018 and 2019, and instead will continue to employ the regulation's less stringent limits for 2017 ("EPA Memo" or "EPA's Action").

3. A typical glider, or "glider vehicle," is the tractor portion of a tractor-trailer truck that is manufactured by installing a rebuilt heavy-duty engine and/or transmission into a new tractor chassis that typically includes a frame, front axle, interior and exterior cab, and brakes. *See* 40 CFR § 1037.801 (2016). In the context of this declaration, the term "gliders" is used to mean gliders manufactured using rebuilt engines that are not equipped with modern exhaust aftertreatment controls and systems. Most gliders being produced at the time the Phase 2 Rule was promulgated were manufactured in this manner.[1] As described below, these trucks generate significantly higher quantities of exhaust emissions than other new trucks equipped with modern engines.

4. I am submitting this declaration to support the emergency motion for summary vacatur, or in the alternative, motion for a stay of the EPA Action that is

[1] Phase 2 Rule, 81 Fed. Reg. 73,478, 73,943.

being filed by CARB and a coalition of states and state agencies, and to show that CARB and the State of California have standing to challenge EPA's Action.

5. CARB staff collaborated with EPA and NHTSA staff in developing the technical analyses that support the Phase 2 Rule. I participated directly in those collaborations and analyses. I was the branch chief overseeing the CARB technical team that worked extensively with EPA and NHTSA staff during the development of the Phase 2 rule. My team also spearheaded CARB's development of California's version of the Phase 2 heavy-duty greenhouse gas standards, which CARB approved for adoption in February 2018. I also supervised the team of CARB staff that prepared CARB's comments on EPA's proposed repeal of the portion of the Phase 2 Rule requiring, with limited exceptions, that gliders meet emission requirements applicable to new heavy-duty vehicles (the "Glider Rule").[2]

Summary

6. I was asked to evaluate the harms that would befall California and its people unless this Court invalidates or immediately stays EPA's Action. I note that the harms that would result from glider sales occurring during the effective period of EPA's Memo (2018 and 2019) are not limited to that same timeframe,

[2] California Air Resources Board, Comment on U.S. EPA Proposed Repeal of the Glider Rule (January 5, 2018), https://yosemite.epa.gov/SAB/SABPRODUCT.NSF/0BB547B91EA7BBED852582A60078C091/$File/CARB.pdf.

because gliders sold during 2018 and 2019 will have long-term impacts. Those gliders will continue to operate on the nation's roads for 10 years or longer, dramatically increasing air pollution in California and throughout the United States during all of those years. Because these long-term harms will occur absent a stay or immediate invalidation of EPA's Action, I have included them in my analysis.

7. Based on my review of the rulemaking record for the Phase 2 Rule, EPA's Memo, consultations with other experts at CARB, and based on my own knowledge, experience and analysis, I conclude that California and its people will suffer significant and irreparable harm from sales of gliders resulting from EPA's Memo—sales that would not have occurred absent the EPA Memo and that will cause both short-term and long-term harm. As explained in more detail below, based on EPA's own data, I estimate conservatively that EPA's Memo would allow approximately 6,400 additional gliders to be sold without fear of enforcement by EPA. Based on EPA's own conservative estimates of the impacts of these highly-polluting trucks, the sale of these additional 6,400 gliders would result in between 450 and 1,000 premature deaths nationwide (rounded to two significant figures). These additional glider sales would also result in an estimated 510 non-fatal heart attacks, over 30,000 asthma exacerbations, and almost 60,000 lost days of work in the United States. Some of the people who die prematurely or experience other significant adverse health impacts from these additional glider

sales will be Californians. In fact, as explained in more detail below, I estimate that unless EPA's Action is immediately invalidated or stayed, between 48 and 110 Californians will die prematurely due to emissions from the additional gliders that will be sold in 2018 and 2019.

8. It is important to note that, while any estimate involves assumptions and is therefore not 100% accurate, the evidence is clear that gliders generate enormous amounts of harmful pollution over and above the pollution produced by heavy-duty trucks that comply with currently applicable federal emissions standards. Thus, while there may be some question as to the precise quantity of harmful excess pollution produced by gliders in any given State, there can be no question that the additional glider sales that EPA's Memo is intended to allow will cause significant, excess, harmful pollution, and thus irreparable harm, in the United States, generally, and in California, specifically.

9. Indeed, according to EPA's own conservative estimate, the average monetized adverse health impacts related to the lifetime emissions from *just one* additional glider amount to between $300,000 and $1,100,000. EPA's Memo would allow manufacturers to sell *thousands* of additional gliders without fear of EPA enforcement. Absent a stay, California and its residents will suffer hundreds of millions of dollars of monetized health-related impacts.

The Nature of Gliders and their Harmful Emissions

10. Diesel exhaust is emitted from heavy-duty vehicles, like gliders, that operate on diesel fuel. Diesel exhaust is a complex mixture of inorganic and organic compounds that exist in both gaseous and solid phases. It includes over forty compounds that EPA has listed as hazardous air pollutants and that CARB has listed as toxic air contaminants.[3]

11. The compounds comprising diesel exhaust that exist in solid phases are commonly known as particulate matter (PM). PM consists of particles typically composed of carbon particles ("soot", also called black carbon, or BC) and numerous organic compounds, including over 40 known cancer-causing organic substances. In diesel exhaust, over 90%, by mass, of these particles are less than 2.5 microns in diameter (PM2.5). Due to their small size, PM2.5 particles are easily inhaled into the bronchial and alveolar regions of the lung.[4] PM2.5 is the criteria air pollutant that is most associated with premature death[5], and it also poses

[3] California Air Resources Board, Report to the Air Resources Board on the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Part A: Exposure Assessment (Apr. 1998), https://www.arb.ca.gov/toxics/dieseltac/part_a.pdf.

[4] *Id.* at A-9.

[5] U.S. EPA, Office of Air & Radiation, Final Report on The Benefits and Costs of the Clean Air Act from 1990 to 2020 (Apr. 2011), https://www.epa.gov/sites/production/files/2015-07/documents/fullreport_rev_a.pdf; U.S. EPA, Report to Congress: The Benefits

significant adverse health effects including respiratory and cardiovascular disease, heart disease, and respiratory illnesses.[6]

12. In addition to diesel PM, diesel exhaust contains NOx—mixtures of gases that are comprised of both nitrogen and oxygen. NOx contributes to the formation of both PM2.5 and ozone. Ozone is a gas that is capable of damaging lungs and the respiratory tract. Exposure to ozone is associated with increases in respiratory symptoms and asthma medication use in children with asthma, respiratory-related hospital admissions, and emergency department visits for chronic obstructive pulmonary disease and asthma.[7] In addition, one of the primary components of NOx, NO_2, has been linked to respiratory effects, including hospital admissions and emergency department visits for asthma, increases in

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and Costs of the Clean Air Act from 1990 to 2010 (Nov. 1999), https://www.epa.gov/sites/production/files/2015-07/documents/fullrept.pdf.

[6] U.S. EPA, EPA/600/R-10/076F, Final Report on Integrated Science Assessment (ISA) of Ozone and Related Photochemical Oxidants (Feb. 2013), https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=247492.

[7] U.S. EPA, EPA/600/R-14/006, Second External Review Draft of Integrated Science Assessment (ISA) for Oxides of Nitrogen – Health Criteria (2015), https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryID=288043.

respiratory symptoms and airway inflammation in people with asthma, and decreases in lung function in children with asthma.[8]

13. In promulgating the Phase 2 Rule, EPA estimated that gliders emit 20 to 40 times the amounts of PM2.5 and NOx as trucks powered by heavy-duty diesel engines that are certified to current emission standards.[9] As EPA noted, "[n]o commenters [on the Phase 2 Rule] disagreed with EPA's assessment of NOx and PM impacts."[10]

14. Gliders produce significantly more harmful pollution than conventionally manufactured new trucks because they are typically powered by older heavy-duty diesel engines that do not meet currently applicable emission standards and lack the exhaust emissions-control technology used by every engine meeting currently applicable emission standards. Due to increasingly stringent emissions standards promulgated by EPA and CARB, heavy-duty diesel engines

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[8] U.S. EPA. Integrated Science Assessment (ISA) for Oxides of Nitrogen – Health Criteria, EPA/600/R-14/0 (Second External Review Draft, 2015), https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryID=288043.

[9] 81 Fed. Reg. 73478, 73943 (Oct. 25, 2016).

[10] U.S. EPA, NHTSA, & DOT, Response to Comments for Joint Rulemaking on Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2, EPA-420-R-16-901 (Aug. 2016) [hereinafter RTC], at 1875, https://nepis.epa.gov/Exe/ZyPDF.cgi/P100P8IS.PDF?Dockey=P100P8IS.PDF.

became cleaner after 2004, and cleaner still starting with model year 2007. Most of the NOx and PM standards that were implemented prior to the 2007 and 2010 model years could be met using in-cylinder emission controls that reduced engine-out NOx emissions, i.e., without using exhaust aftertreatment technologies. However, beginning in 2007, heavy-duty engine manufacturers were required to meet a PM standard of 0.01 grams per brake horsepower hour (g/bhp-hr), a NOx standard of 0.20 g/bhp-hr, and a non-methane hydrocarbon (NMHC) standard of 0.14 g/bhp-hr[11]. The PM standard, which took full effect in 2007, was met using diesel particulate filters (DPF) that reduce PM by more than 90 percent. The NOx standard, which was phased-in from 2007 to 2010, required higher rates of exhaust gas recirculation (EGR) and selective catalytic reduction (SCR) aftertreatment. Thus, a pre-2002 model year heavy-duty diesel engine used in a glider emits vastly more pollutants than an engine certified to current emission standards. And even a glider using a 2004 through 2006 model-year engine would produce significantly more harmful pollution than an engine meeting current standards. Most gliders are manufactured using model year 1998-2001 engines.[12]

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[11] U.S. EPA, Final Rule for Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements (Jan. 18, 2001), https://www.gpo.gov/fdsys/pkg/FR-2001-01-18/pdf/01-2.pdf.

[12] 81 Fed. Reg. at 73,943.

15. Recent EPA test programs suggest that EPA's initial estimates of glider emissions were conservative, and gliders may in fact be significantly more polluting than EPA's earlier estimates. In other words, gliders may emit *far more than* 20 to 40 times the pollution of trucks using engines that meet current standards. For example, in a 2017 EPA test, gliders assembled in 2016 and 2017 emitted *50 to 450* times higher levels of PM2.5 than conventionally manufactured trucks from model years 2014 and 2015.[13] The emissions results reported for gliders manufactured using rebuilt engines that were originally built in 1998-2002 are consistent with the emission rates expected based on the original-equipment-manufacturer-generated certification data that had been submitted to certify those engines when new. This testing did not reveal any new or unexpected behavior of these rebuilt engines compared to the current state of understanding of diesel technology from that era: It found that the rebuilt engines were generally operating near their as-designed emission rates, which are much higher than modern engines equipped with EGR and SCR NOx control and DPF particulate matter (PM) control technology.

[13] U.S. EPA, Chassis Dynamometer Testing of Two Recent Model Year Heavy-Duty On-Highway Diesel Glider Vehicles, Docket No: EPA-HQ-OAR-2017-0827-2417 (Nov. 20, 2017).

Estimates of Premature Deaths and Other Harms to Californians

16. EPA estimated that 10,000 additional gliders produced and operated would result in between 700 and 1,600 premature deaths in the United States.[14] Based on this estimate, for every thousand additional gliders produced and sold as a result of EPA's Memo, there will be between 70 and 160 premature deaths in this country.

17. EPA also estimated the amount of additional NOx and PM emissions that each glider sold in 2017 would generate each year from 2017 to 2047.[15] Using those figures, and EPA's own estimates of the health benefits of reducing PM and its precursors (including NOx),[16] my staff estimated the adverse health impacts, other than the premature deaths discussed above, that would result from the sale of 1,000 gliders. My staff estimated that over the lifetimes of the trucks, each additional 1,000 gliders will cause 79 non-fatal heart attacks, 4,900 asthma exacerbations, and 9,200 lost work days.

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[14] RTC at 1881.

[15] RTC at 1964.

[16] *See* U.S. EPA, Office of Air & Radiation, Technical Support Document: Estimating the Benefit per Ton of Reducing PM2.5 Precursors from 17 Sectors (Jan. 2013), https://www.epa.gov/sites/production/files/2014-10/documents/sourceapportionmentbpttsd.pdf.

18. To assess the impact of EPA's Memo, one need only estimate the number of additional gliders that will be sold as a result of EPA's action. For this, I again turned to EPA's own data. EPA projected that approximately 4,200 gliders were sold in 2014, a sales figure higher than any preceding year.[17] In its Memo, EPA indicates it will take no enforcement action against glider manufacturers whose sales are within their "Interim Allowances," which are based on a manufacturer's highest sales between 2010 and 2014. My calculations assume that, absent invalidation or a stay, 4,200 gliders will be sold in both 2018 and 2019, for a total of 8,400 gliders over those two years. EPA estimated that under the Glider Rule, "fewer than 1,000 glider[s]" would be sold "in most years."[18] Thus, my calculations assume that, if the EPA Memo remains in place, 6,400 additional gliders will be sold (total sales of 8,400 gliders, minus 2,000 gliders that might have been sold if the Glider Rule were given effect. I have reviewed the declaration of Dana M. Lowell filed in Case No. 18-1190, indicating that actual glider sales show that 6,595 gliders were sold in 2017. EPA's Memo essentially allows the same number of gliders to be sold in both 2018 and 2019 that were sold in 2017. It is therefore reasonable to assume that 11,190 additional gliders, rather than 8,400, will be sold in 2018 and 2019 (total sales of 13,190 gliders less 2,000

[17] RTC at 1961.

[18] 81 Fed. Reg. at 73,585.

gliders that might have been sold if the Glider Rule were properly implemented). Because I do not have access to the actual sales data, I have not made that assumption. I note, however, that EPA itself stated, in its 2016 responses to rulemaking comments, that there was evidence that sales had grown to 10,000 or more per year by then.[19] That does suggest that sales in 2014 were likely higher than EPA originally projected—higher than the projections I have relied upon above. Thus, the adverse health impacts to Californians and to the country's entire population may well be *greater* than my calculations suggest.

19. Using the health impacts per 1,000 gliders discussed above (which, again, are based on EPA's own conservative estimates and data), I estimate that the sale and lifetime operation of these additional 6,400 gliders will result in between 450 and 1,000 premature deaths, 510 non-fatal heart attacks, over 30,000 asthma exacerbations, and almost 60,000 lost work days in the United States. (These numbers are simply the impacts per 1,000 gliders described in paragraphs 15 and 16 above, multiplied by 6.4 to reflect the 6,400 additional glider sales enabled by the EPA Memo, and rounded to two significant figures.)

20. These estimated impacts are nationwide figures. The analysis below attempts to estimate how many of those premature deaths and other adverse

[19] RTC at 1960.

impacts would likely occur in California—in other words, how many Californians would likely die prematurely, experience a non-fatal heart attack or asthma exacerbation, or miss work, without a stay or immediate invalidation of the EPA Action.

21. To estimate the California-specific figures, I considered California's share of the nationwide number of people that live near major roadways.

22. The United States Department of Transportation ("DOT") compiles statistics on the number of people that live in close proximity to high-traffic roadways: highways that carry over 125,000 vehicles per day. According to DOT, this metric is significant because vehicle traffic is a major source of air pollutants, including particulate matter and NOx, and living near a major road is associated with increased risk of negative health outcomes due to relatively concentrated vehicle emissions.[20] This metric, broken down to the individual state level, thus provides a reasonable basis for estimating how the national adverse health impacts from glider pollution would be apportioned among the states.

23. According to DOT's 2010 census-based statistics, in that year approximately 3.5% of California's population lived near major roadways. That

[20] U.S. DOT, Proximity to Major Roadways: Transportation and Health Connection (Feb. 2, 2016), https://www.transportation.gov/mission/health/proximity-major-roadways.

amounts to over 1.3 million Californians and approximately 39.4% of the almost 3.3 million people nationwide who live near major roadways. Because California has 39.4% of the nationwide population that lives near major roadways, I begin with the assumption that California would experience approximately 39.4% of the nationwide adverse health impacts from additional glider pollution resulting from EPA's Action. Under that assumption, between 180 and 400 Californians would die prematurely from the additional 6,400 gliders sold; approximately 200 Californians would experience non-fatal heart attacks; Californians would experience over 12,000 asthma exacerbations; and Californians would miss more than 20,000 days of work.

24. This estimate must be adjusted further, however, to account for the fact that California has a regulation that essentially makes driving gliders (and other high-polluting heavy-duty vehicles) illegal on California highways —the "Truck and Bus Rule."[21]

25. The analysis here adjusts for this factor by assuming that California's Truck and Bus Rule would deter approximately 73% of gliders from entering California. This assumption—that 73% of glider operators would comply with the

[21] Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles, Cal. Code Regs. tit. 13, § 2025 [hereinafter Truck and Bus Rule].

Truck and Bus Rule (and therefore NOT drive in California)—is consistent with a recent enforcement report by CARB finding that 73% of out-of-state trucks have been complying with the requirements of the Truck and Bus Rule (which are broader than the prohibition against highly-polluting trucks at issue here).[22] It is also reasonable to assume something less than 100% compliance because gliders look like new trucks and can be difficult to identify (a fact that is not unknown to glider drivers who may choose to risk driving in California) and because, although the number of gliders operating nationally is proportionally fairly small, CARB has nonetheless caught gliders operating illegally in California. In a May 2018 review of Truck and Bus Rule reporting data, CARB staff identified 1,249 gliders that are operating in California (CARB TRUCS data, compiled May 22, 2018). Based on these factors and CARB's experience implementing the Truck and Bus Rule and other motor vehicle regulations, CARB believes it is reasonable to estimate that the Truck and Bus Rule would only deter 73% of gliders from driving in California and would thus only prevent 73% of the premature deaths and other adverse health impacts that would otherwise occur in California.

[22] California Air Resources Board, 2017 Annual Enforcement Report 18 (June 2018), https://www.arb.ca.gov/enf/reports/2017_enf_annual_report.pdf (CARB does not anticipate that many gliders will register in California).

26. It is important to note that different estimates of the effectiveness of California's Truck and Bus Rule would not change the need for invalidation or a stay of EPA's Action. Specifically, this estimated effectiveness has no impact on the total number of Americans who will die prematurely or experience other adverse impacts, absent a stay or invalidation. Rather, the estimated effectiveness of California's Truck and Bus Rule only affects where those premature deaths and other adverse impacts would most likely occur. To put it in stark terms, changes in the effectiveness of California's Truck and Bus Rule only change whether more or fewer of the people who will die prematurely are Californians, as opposed to Texans, New Jerseyans, or Washingtonians. Thus, this estimate of effectiveness has no implication for the need for a stay or invalidation to prevent *all* the premature deaths and other adverse impacts that will otherwise occur.

27. Adjusting the initial estimates of adverse impacts in California for the 73 percent effectiveness assumption for the Truck and Bus Rule still shows that the EPA Memo will result in substantial irreparable harms in California. Specifically, even with the Truck and Bus Rule, I estimate that, if the EPA Memo is not vacated or stayed, between 48 and 110 Californians will die prematurely, over 50 Californians will experience non-fatal heart attacks, Californians will experience more than 3,000 asthma exacerbations, and Californians will miss more than 6,000

days of work. And if one were to take into account California's greater share of vehicle miles traveled, this estimate of deaths in California would be even higher.

28. It is also important to note, again, that while the Truck and Bus Rule should prevent some harm to Californians, it does not reduce the nationwide harms, since gliders that do not drive in California drive elsewhere. Thus, when I assume that the Truck and Bus Rule reduces premature deaths and other adverse impacts in California, I must also assume that that those premature deaths and other adverse impacts will occur in other States. The spreadsheet attached hereto as Exhibit A shows our analysis, including the effect of adjusting adverse impacts for California's Truck and Bus Rule. Specifically, it shows 1) how the nationwide impacts, derived from EPA's own data and analysis, would be apportioned among the States based solely on DOT state-by-state statistics concerning populations living near major roadways and 2) how those numbers are adjusted when we factor in the assumption that the Truck and Bus Rule reduces glider traffic in California by 73%.

29. The spreadsheet attached hereto as Exhibit A shows that, although State Petitioners represent only 33% of the national population, they will suffer fully 54% of the premature deaths and other adverse health effects attributable to glider emissions if the EPA Memo is not vacated or stayed.

30. The bottom line, as EPA itself found, is that "it is clear that removing even a fraction of glider[s] from the road will yield substantial health-related benefits."[23] The opposite is true of the EPA Action: Allowing it to proceed, absent a stay or invalidation, will result in more gliders on the road now and for years to come and that will yield very substantial adverse health-related impacts across the country and in California.

Costs of the EPA Memo to the State and Its People

31. These health-related impacts injure California in numerous ways. California has a well-established interest in the health and welfare of its residents, and this action undermines that interest by placing the health and welfare of those residents at risk.

32. As noted above, according to EPA estimates, emissions from each non-compliant glider result, on average, in $300,000 to $1,100,000 in monetized health-related impacts.[24] The 6,400 additional non-compliant gliders that can be sold, without fear of enforcement by EPA, under the EPA Memo will, thus, result in *billions* of dollars in nationwide health-related impacts. In fact, if one takes the midpoint of EPA's range of per-glider health costs ($700,000) and multiplies that

[23] 81 Fed. Reg. 73,478, 73,883.

[24] RTC at 1965 (The monetized benefits associated with reducing glider production by 1,000 have been divided by 1,000 to get the costs of each glider.).

by the 6,400 additional gliders the EPA Memo allows without threat of EPA enforcement action, the result is almost $4.5 *billion* in health-related economic impacts. If one apportions the nationwide impacts among the States using the same methodology described above, California and its people will bear almost $500,000,000 of the $4.5 billion in health-related impacts. Some of those California-based impacts will almost certainly be borne by the State, given a recent study finding that 71% of California public health expenditures are paid for with public funds.[25]

33. In addition, the EPA Memo will impose costs on the State itself in the form of lost work days for its employees. As noted above, I estimate that the 6,400 additional gliders would result in approximately 6,000 lost days of work for Californians, some of whom will be employed by the State.[26]

Effects on CARB's Efforts to Reduce PM2.5 and NOx Pollution

34. California, generally, and CARB, specifically, have a long history of adopting and enacting measures to reduce the same pollutants that the Glider

[25] Andrea Sorensen et al., UCLA Ctr. for Health Pol'y Res., Public Funds Account for Over 70 Percent of Health Care Spending in California 1 (2016), http://healthpolicy.ucla.edu/publications/Documents/PDF/2016/PublicSharePB_FINAL_8-31-16.pdf.

[26] *See* California State Controller, State Employee Demographics (June 2018), https://www.sco.ca.gov/ppsd_empinfo_demo.html (indicating that there are about 480,000 people on the State's payroll).

Repeal Rule will increase—specifically, diesel PM and NOx, both of which are extremely harmful to human health, as discussed above. For example, in 1971, CARB adopted the nation's first NOx emissions standards for motor vehicles, pursuant to the unique authority afforded to California by Congress in section 209(b) of the federal Clean Air Act. Those standards paved the way to the development of the catalytic converter for motor vehicles that ultimately revolutionized the ability to reduce smog-forming emissions from cars. CARB likewise adopted the first emissions standards for PM from diesel-fueled vehicles in 1982. CARB has also lead the nation in setting standards for cleaner transportation fuels, as part of its efforts to reduce these and other pollutants.

35. CARB's efforts have resulted in dramatic decreases in statewide emissions of pollutants from mobile sources. For example, statewide emissions of NOx from mobile sources decreased from approximately 3,277 tons per day in 2000 to 1,403 tons per day in 2015, and statewide emissions of PM from mobile sources decreased from approximately 177 tons per day in 2000 to 102 tons per day in 2015.[27] While these declines are significant, CARB needs to continue its efforts to reduce mobile-source emissions in order to attain EPA-mandated

[27] California Air Resources Board, California Emissions Projection Analysis Model: 2016 SIP – Standard Emission Tool, https://www.arb.ca.gov/app/emsinv/fcemssumcat/fcemssumcat2016.php.

national ambient air quality standards. Californians continue to experience some of the worst air quality in the nation and large portions of the state continue to be in non-attainment with national ambient air quality standards for PM2.5 and ozone.[28] California's South Coast and San Joaquin Valley Air Basins are the only two areas in the nation that EPA has designated as in "extreme" ozone non-attainment. [29]

36. California is engaged in ongoing efforts to achieve additional reductions of harmful pollutants from mobile sources. This paragraph and paragraphs 37 and 38 provide examples of CARB regulations aimed at reducing mobile source pollution. First, CARB approved for adoption its Truck and Bus Rule[30] (referenced above) on December 12, 2008, and subsequently amended the Rule in 2010. The Truck and Bus Rule applies to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating greater than 14,000 pounds that operate in California, and phases in requirements under which nearly all such trucks and buses that operate in California must demonstrate compliance with emissions standards that are equivalent to 2010 model year heavy-duty diesel engine standards by the year 2023. As amended in 2010, the Truck and Bus Rule would

[28] 78 Fed.Reg. 2112, 2130 (Jan. 9, 2013); 76 Fed.Reg. 40652, 40654 (July 11, 2011).

[29] 78 Fed. Reg. at 2130; 76 Fed. Reg. at 40654.

[30] Truck and Bus Rule, Cal. Code Regs. tit. 13, § 2025.

reduce statewide NOx emissions by approximately 44 tons per day and reduce PM emissions by approximately 4.0 tons per day in 2020[31], while imposing estimated compliance costs of approximately $2.2 billion[32] over the life of the Rule.

37. To give another example, CARB adopted amendments to its Commercial Harbor Craft[33] regulation in 2011. That regulation primarily requires specified categories of vessels to be equipped with new marine or off-road diesel engines before they are sold or offered for sale in California, and additionally requires other categories of in-use vessels to replace existing diesel-propulsion or auxiliary engines with engines that are certified to specified federal marine emission standards or California or federal off-road engine standards, thereby ensuring that as existing older engines are retired, they are replaced with cleaner engines. The amended Commercial Harbor Craft regulation would provide statewide reductions totaling approximately 275 tons of diesel PM and 3,475 tons of NOx between 2011 and 2025.[34] CARB estimated the lifetime regulatory

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[31] California Air Resources Board, Staff Report on Initial Statement of Reasons for Proposed Rulemaking: Proposed Amendments to the Truck and Bus Regulation, the Drayage Truck Regulation, and the Tractor-Trailer Greenhouse Gas Regulation 45 (Oct. 2010), https://www.arb.ca.gov/regact/2010/truckbus10/truckbus10isor.pdf.

[32] *Id*. at 56.

[33] Cal. Code Regs. tit. 17, § 93118.5.

[34] California Air Resources Board, Staff Report on Initial Statement of Reasons for the Proposed Rulemaking: Amendments to the Regulations to Reduce

compliance cost for the amendments as ranging from approximately $15 million to $46 million (2009 dollars) from 2011 through 2022.[35]

38. CARB adopted amendments to its Mobile Cargo Handling Equipment[36] regulation in 2012. The regulation establishes requirements for mobile equipment powered by diesel engines that handle cargo at ports and intermodal rail yards, such as cargo loaders, cranes, forklifts, and yard trucks, and generally requires owners to use the best available control technology (BACT) to reduce the public's exposure to diesel PM and NOx emissions from regulated mobile equipment. The amended regulation provides statewide reductions of 7,880 tons of NOx and 647 tons of PM from 2012 to 2020.[37] CARB estimated the amendments would provide an overall savings of approximately 1 to 2 million dollars to industry between 2011 and 2020,[38] but when considering the cost of compliance of the initial regulation

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Emissions From Diesel Engines on Commercial Harbor Craft Operated Within California Waters and 24 Nautical Miles of the California Baseline ES-5 (May 2010), https://www.arb.ca.gov/regact/2010/chc10/harborcraftisor.pdf.

[35] *Id*. at ES-5, ES-6.

[36] Cal. Code Regs. tit. 13, § 2479.

[37] California Air Resources Board, Staff Report on Initial Statement of Reasons for the Proposed Rulemaking: Amendments to the Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards IV-9, IV-10 (Aug. 2011), https://www.arb.ca.gov/regact/2011/cargo11/cargoisor.pdf.

[38] *Id*. at V-1.

(estimated as approximately 71 million dollars for the total capital and recurring costs)[39], the regulatory costs would be approximately 51 million dollars.

39. As discussed above, EPA's No Action Assurance allows thousands of additional gliders to be sold, without fear of enforcement action by EPA. And, as also discussed above, those thousands of gliders will produce enormous amounts of additional PM and NOx emissions, in California and across the nation.

40. EPA estimated that, over their lifetime, each additional 1,000 gliders sold in 2017 would result in an additional 680 tons of PM2.5 emissions and an additional 41,500 tons of NOx emissions when compared to the lifetime emissions of a vehicle that complies with modern emissions standards.[40] 6,400 additional gliders would, therefore, emit an extra 265,600 tons of NOx and 4,352 tons of PM, having the same emissions impact as roughly 115,000 to 145,000 new emissions-compliant trucks.[41]

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[39] California Air Resources Board, Staff Report on Initial Statement of Reasons for the Proposed Rulemaking: Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards ES-8 (2005), https://www.arb.ca.gov/regact/cargo2005/isor.pdf.

[40] RTC, appx. A at 1964.

[41] 1000 model year 2017 compliant trucks emit, over their lifetime, 2300 tons of NOx and 30 tons of PM2.5. RTC appx. A at 1964. Therefore, it would require (265,000/2300) number of new trucks and (4352/30) new trucks to emit the same quantity of emissions attributable to 6400 gliders.

41. To estimate the quantity of the excess emissions attributable to gliders that will enter California, I believe it is reasonable to apportion the nationwide excess emissions by California's percentage of the nationwide vehicle miles travelled (VMT) by heavy-duty trucks, and to further reflect the presence of California's Truck and Bus Rule. The spreadsheet attached hereto as Exhibit A includes a column that specifies the vehicle miles traveled (VMT) by trucks in each state. To estimate the quantity of excess emissions attributable to gliders traveling in California if the EPA Memo is not immediately vacated or stayed, I therefore multiply 4,352 tons of PM2.5 and 265,600 tons of NOx (representing the excess emissions of 6,400 glider vehicles) by 8.6% (to reflect the fact that 8.6% of the VMT of heavy-duty trucks occurs in California), and by .27 (to reflect the fact that California's Truck and Bus Rule will prevent 73% of gliders from traveling into California) resulting in about 100 tons of PM2.5 and 6,200 tons of NOx.

42. As discussed in paragraph 37, CARB's Commercial Harbor Craft regulation is estimated to provide statewide reductions of approximately 275 tons of diesel particulate matter (PM) and 3,475 tons of oxides of nitrogen (NOx) between 2011 and 2025, and consequently, the emissions from gliders more than offset the NOx reductions and offset approximately 36% of the PM reductions from the Commercial Harbor Craft regulation, which had regulatory compliance

costs of approximately $15 million to $46 million (2009 dollars) from 2011 through 2022.

43. As discussed in paragraph 36, CARB's Truck and Bus Rule would reduce statewide NOx emissions by approximately 44 tons per day and reduce PM emissions by approximately 4.0 tons per day in 2020. The excess emissions from gliders travelling in California constitute 0.28 tons of PM2.5 per day and 17 tons per day of NOx, which offset approximately 39 percent of the NOx emissions and 7 percent of the PM emissions attributable to the regulation, which imposes nearly 2.2 billion dollars in costs over the life of the Rule.

44. As discussed in paragraph 38, CARB's Mobile Cargo Handling Equipment regulation provides statewide reductions of 7,880 tons of NOx and 647 tons of PM from 2012 to 2020. The excess emissions from gliders offset 79% of the NOx benefits and 16% of the PM benefits of that regulation, which had approximately 51 million dollars in compliance costs.

45. These examples illustrate that the EPA Action, if not vacated or stayed, will injure California by undermining the State's efforts to reduce these harmful pollutants—efforts that have been undertaken at considerable expense to California itself and to regulated businesses, as evidenced by the examples above in paragraphs 36 to 38.

Under penalty of perjury, I declare that the foregoing is true and correct to the best of my knowledge.

Executed in Sacramento, California on July 18, 2018.

Kimberly Ayn Heroy-Rogalski
Chief, Mobile Source Regulatory Development Branch
California Air Resources Board

STATE	POPULATION (in 1,000s) (US CENSUS via DOT)			% of State Population Living in Proximity to Major Roadways (DOT)	Persons Near Major Roadways (State Population X Prox to Roadways)	Each State's % of Total US Population Living Near Roadways	Mortalities (Low) (% of 630)	Mortalities (High) (% of 1440)	% of Total Population Living Near Roadways (excluding CA)	Mortalities (Low) Adjusted for CA Truck & Bus Rule	Mortalities (High) Adjusted for CA Truck & Bus Rule	Non-Fatal Heart Attacks	Non-Fatal Heart Attacks Adj. for CA Truck & Bus Rule	Asthma Exacerbations	Asthma Exacerbations Adj. for CA Truck & Bus Rule	Lost Work Days	Lost Work Days Adj. for CA Truck & Bus Rule	Annual VMT (Millions) (USDOT 2016)	Excess Total PM (tons) (allocated by % VMT)	Excess Total PM (tons) Adj. for CA Truck & Bus Rule	Excess Total NOx (tons) (allocated by % VMT)	Excess Total NOx (tons) dj. for CA Truck & Bus Rule
	RURAL	URBAN	Total																				
Alabama	1,958	2,822	4,780	0.1%	5,453	0.2%	0.7	2	0.0	1.1	2.5	0.8	1.2	52.2	77.0	98.1	144.7	6,964	100	106	6,080	6,499
Alaska	241	469	710	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	374	5	6	327	349
Arizona	651	5,741	6,392	1.2%	74,333	2.3%	10.2	1	0.0	15.0	12.0	11.5	16.9	711.9	1,050.3	1,336.7	1,971.9	6,346	91	97	5,540	5,921
Arkansas	1,278	1,638	2,916	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,571	80	85	4,864	5,199
California	1,880	35,374	37,254	3.5%	1,291,155	39.4%	176.7	404		47.7	109.0	199.4	53.8	12,365.9	3,338.8	23,217.6	6,268.7	26,235	375	101	22,903	6,184
Colorado	696	4,333	5,029	0.4%	20,522	0.6%	2.8	6	0.0	4.1	9.5	3.2	4.7	196.6	290.0	369.0	544.4	3,389	48	52	2,958	3,162
Connecticut	429	3,145	3,574	1.1%	39,323	1.2%	5.4	12	0.0	7.9	18.1	6.1	9.0	376.6	555.6	707.1	1,043.2	2,031	29	31	1,773	1,895
Delaware	150	748	898	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	823	12	13	718	768
Dist. of Columbia	-	602	602		0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	134	2	2	117	125
Florida	1,661	17,140	18,801	0.6%	113,500	3.5%	15.5	35	0.1	22.9	52.4	17.5	25.9	1,087.0	1,603.6	2,041.0	3,010.9	15,518	222	237	13,547	14,480
Georgia	2,416	7,272	9,688	1.1%	107,396	3.3%	14.7	34	0.1	21.7	49.5	16.6	24.5	1,028.6	1,517.4	1,931.2	2,849.0	9,496	136	145	8,290	8,861
Hawaii	110	1,250	1,360	3.9%	53,463	1.6%	7.3	17	0.0	10.8	24.7	8.3	12.2	512.0	755.4	961.4	1,418.3	490	7	7	428	457
Idaho	461	1,106	1,568	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,093	30	32	1,827	1,953
Illinois	1,477	11,354	12,831	0.4%	48,234	1.5%	6.6	15	0.0	9.7	22.3	7.4	11.0	462.0	681.5	867.3	1,279.6	12,533	179	192	10,941	11,695
Indiana	1,797	4,687	6,484	0.0%	254	0.0%	0.0	0	0.0	0.1	0.1	0.0	0.1	2.4	3.6	4.6	6.7	9,415	135	144	8,219	8,785
Iowa	1,096	1,950	3,046	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4,033	58	62	3,521	3,764
Kansas	736	2,117	2,853	0.1%	3,187	0.1%	0.4	1	0.0	0.6	1.5	0.5	0.7	30.5	45.0	57.3	84.5	4,662	67	71	4,070	4,350
Kentucky	1,806	2,533	4,339	0.4%	17,500	0.5%	2.4	5	0.0	3.5	8.1	2.7	4.0	167.6	247.3	314.7	464.2	5,435	78	83	4,745	5,072
Louisiana	1,216	3,318	4,533	0.3%	14,753	0.5%	2.0	5	0.0	3.0	6.8	2.3	3.4	141.3	208.5	265.3	391.4	8,003	114	122	6,987	7,468
Maine	815	514	1,328	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,291	18	20	1,127	1,204
Maryland	739	5,034	5,774	1.1%	65,264	2.0%	8.9	20	0.0	13.2	30.1	10.1	14.9	625.1	922.1	1,173.6	1,731.3	4,710	67	72	4,112	4,395
Massachusetts	526	6,022	6,548	0.6%	40,141	1.2%	5.5	13	0.0	8.1	18.5	6.2	9.1	384.4	567.2	721.8	1,064.9	3,170	45	48	2,767	2,958
Michigan	2,514	7,370	9,884	0.8%	74,577	2.3%	10.2	23	0.0	15.1	34.4	11.5	17.0	714.3	1,053.7	1,341.1	1,978.4	5,931	85	91	5,178	5,535
Minnesota	1,418	3,886	5,304	1.0%	52,667	1.6%	7.2	16	0.0	10.6	24.3	8.1	12.0	504.4	744.1	947.1	1,397.1	4,309	62	66	3,762	4,021
Mississippi	1,503	1,464	2,967	0.0%	22	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.6	4,790	69	73	4,181	4,469
Missouri	1,771	4,218	5,989	0.4%	23,300	0.7%	3.2	7	0.0	4.7	10.7	3.6	5.3	223.1	329.2	419.0	618.1	9,732	139	149	8,496	9,081
Montana	436	553	989	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,355	19	21	1,183	1,265
Nebraska	491	1,336	1,826	0.2%	3,666	0.1%	0.5	1	0.0	0.7	1.7	0.6	0.8	35.1	51.8	65.9	97.3	2,357	34	36	2,058	2,199
Nevada	157	2,544	2,701	1.1%	31,051	0.9%	4.2	10	0.0	6.3	14.3	4.8	7.1	297.4	438.7	558.4	823.7	2,069	30	32	1,806	1,931
New Hampshire	523	794	1,316	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	837	12	13	731	781
New Jersey	468	8,324	8,792	1.4%	127,388	3.9%	17.4	40	0.1	25.7	58.8	19.7	29.0	1,220.0	1,799.9	2,290.7	3,379.4	4,357	62	67	3,804	4,066
New Mexico	465	1,594	2,059	0.2%	4,683	0.1%	0.6	1	0.0	0.9	2.2	0.7	1.1	44.9	66.2	84.2	124.2	4,317	62	66	3,769	4,028
New York	2,350	17,028	19,378	2.5%	479,785	14.7%	65.6	150	0.2	96.8	221.4	74.1	109.3	4,595.1	6,778.9	8,627.5	12,727.8	8,665	124	132	7,565	8,086
North Carolina	3,234	6,302	9,535	0.1%	6,322	0.2%	0.9	2	0.0	1.3	2.9	1.0	1.4	60.5	89.3	113.7	167.7	8,771	125	134	7,657	8,184
North Dakota	270	403	673	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,472	21	23	1,285	1,374
Ohio	2,547	8,990	11,537	0.4%	47,501	1.5%	6.5	15	0.0	9.6	21.9	7.3	10.8	454.9	671.1	854.2	1,260.1	12,517	179	191	10,927	11,680
Oklahoma	1,266	2,485	3,751	0.1%	1,965	0.1%	0.3	1	0.0	0.4	0.9	0.3	0.4	18.8	27.8	35.3	52.1	7,139	102	109	6,232	6,661
Oregon	727	3,104	3,831	0.8%	31,182	1.0%	4.3	10	0.0	6.3	14.4	4.8	7.1	298.6	440.6	560.7	827.2	5,476	78	84	4,781	5,110
Pennsylvania	2,711	9,991	12,702	0.3%	39,420	1.2%	5.4	12	0.0	8.0	18.2	6.1	9.0	377.5	557.0	708.9	1,045.7	10,344	148	158	9,030	9,652
Rhode Island	98	955	1,053	1.5%	16,032	0.5%	2.2	5	0.0	3.2	7.4	2.5	3.7	153.5	226.5	288.3	425.3	570	8	9	498	532
South Carolina	1,558	3,068	4,625	0.0%	2,229	0.1%	0.3	1	0.0	0.4	1.0	0.3	0.5	21.3	31.5	40.1	59.1	5,977	85	91	5,218	5,577
South Dakota	353	461	814	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,123	16	17	980	1,048
Tennessee	2,133	4,213	6,346	0.2%	9,755	0.3%	1.3	3	0.0	2.0	4.5	1.5	2.2	93.4	137.8	175.4	258.8	8,469	121	129	7,394	7,903
Texas	3,848	21,298	25,146	0.9%	234,147	7.2%	32.0	73	0.1	47.3	108.0	36.2	53.3	2,242.5	3,308.3	4,210.4	6,211.5	31,267	447	478	27,295	29,176
Utah	260	2,504	2,764	0.6%	17,504	0.5%	2.4	5	0.0	3.5	8.1	2.7	4.0	167.6	247.3	314.8	464.3	7,542	108	115	6,584	7,037
Vermont	382	243	626	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	639	9	10	557	596
Virginia	1,964	6,037	8,001	0.9%	75,354	2.3%	10.3	24	0.0	15.2	34.8	11.6	17.2	721.7	1,064.7	1,355.0	1,999.0	5,711	82	87	4,986	5,329
Washington	1,073	5,652	6,725	1.1%	76,722	2.3%	10.5	24	0.0	15.5	35.4	11.8	17.5	734.8	1,084.0	1,379.6	2,035.3	5,026	72	77	4,388	4,690
West Virginia	950	903	1,853	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,555	37	39	2,231	2,384
Wisconsin	1,697	3,990	5,687	0.4%	24,631	0.8%	3.4	8	0.0	5.0	11.4	3.8	5.6	235.9	348.0	442.9	653.4	6,666	95	102	5,820	6,220
Wyoming	199	365	564	0.0%	0	0.0%	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,544	22	24	1,348	1,441
U.S. Total	59,492	249,253	308,746		3,274,380	100.0%	448	1,024		448	1,002	506	506	31,360	31,360	58,880	58,880	304,244	4,352	4,352	265,600	265,600

Notes - References:

https://www.fhwa.dot.gov/policyinformation/statistics/2016/ps1.cfm

0.27 Effectiveness factor for T&B (73% effective, so CA gets only 27% of the impacts it otherwise would)

Case No. 18-_____

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

STATE OF CALIFORNIA, by and through XAVIER BECERRA, ATTORNEY GENERAL and CALIFORNIA AIR RESOURCES BOARD, STATE OF CONNECTICUT, STATE OF ILLINOIS, STATE OF MAINE, STATE OF MARYLAND, COMMONWEALTH OF MASSACHUSETTS, STATE OF NEW JERSEY, STATE OF NEW YORK, STATE OF NORTH CAROLINA, STATE OF OREGON, COMMONWEALTH OF PENNSYLVANIA, by and through JOSH SHAPIRO, ATTORNEY GENERAL and PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, STATE OF VERMONT, and STATE OF WASHINGTON,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ANDREW K. WHEELER, Acting Administrator, United States Environmental Protection Agency, and SUSAN P. BODINE, Assistant Administrator, Office of Enforcement and Compliance Assurance, United States Environmental Protection Agency,

Respondents.

DECLARATION OF KEVIN DOWNING IN SUPPORT OF EMERGENCY MOTION FOR SUMMARY VACATUR, OR IN THE ALTERNATIVE, FOR STAY PENDING JUDICIAL REVIEW

I, Kevin Downing, declare as follows:

1. I am Kevin Downing of the Air Quality Division of the State of Oregon Department of Environmental Quality ("ORDEQ"). I manage the State's diesel emission reduction program known as the Oregon Clean Diesel Initiative with responsibility for program and strategic development, policy analysis and program implementation. I am also an active member of various national and regional organizations of air pollution control officials including the Mobile Source and Fuels Committee of the National Association of Clean Air Agencies and as a member of the Steering Committee of the West Coast Collaborative, a public-private partnership encompassing states from EPA Regions 9 and 10 to reduce human health and environmental harm caused by pollution from older diesel engines.

I received a Bachelor of Arts in Psychology from Reed College (1974). I have been employed at ORDEQ since 1992 variously overseeing implementation of the 1990 amendments to the federal Clean Air Act in Oregon, completing air quality maintenance plans for nonattainment areas, managing the nonpoint water quality program and, since 2001, overseeing the state's efforts to reduce harmful impacts from diesel engines.

2. This declaration refers extensively to a federal rulemaking action and the administrative record underlying that rulemaking - *Greenhouse Gas Emissions and*

Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2, 81 Fed. Reg. 73,478 (Oct. 25, 2016)—referred to herein as "the Phase 2 Rule." The Phase 2 Rule was jointly promulgated by the United States Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA). This declaration also refers to EPA's issuance of a memorandum on July 6, 2018 that states that EPA will not give effect to certain provisions of the Phase 2 Rule that limit sales of a type of heavy-duty truck called a "glider" for 2018 and 2019, and instead will continue to employ the regulation's less stringent limits for 2017 ("EPA Memo" or "EPA Action").

3. A typical glider, or "glider vehicle," is the tractor portion of a tractor-trailer truck that is manufactured by installing a rebuilt heavy-duty engine and/or transmission into a new tractor chassis that typically includes a frame, front axle, interior and exterior cab, and brakes. *See* 40 CFR § 1037.801 (2016). In the context of this declaration, the term "gliders" is used to mean gliders manufactured using rebuilt engines that are not equipped with modern exhaust aftertreatment controls and systems. Most gliders being produced at the time of the Phase 2 Rule was promulgated were manufactured in this manner.[1] As described below, these trucks generate much higher quantities of exhaust emissions than other new trucks equipped with modern engines.

[1] Phase 2 Rule, 81 Fed. Reg. 73,478, 73,943.

4. I am submitting this declaration to support of the emergency motion for summary vacatur or in the Alternative, for a stay of the EPA Action that is being filed by the California Air Resources Board and a coalition of states and state agencies, including Oregon, and to show that the members of this coalition, including the State of Oregon, have standing to challenge EPA's Action.

5. The scale of excess diesel emissions from gliders poses a serious public health hazard. The International Agency for Research on Cancer (an authority under the World Health Organization) recently classified diesel exhaust as a known human carcinogen.[2] Many other governmental authorities have recognized the potential for harm to human health by classifying diesel exhaust as a probable human carcinogen, including the United States National Toxicology Program[3] and the EPA.[4] The State of Oregon, as part of its air toxics protection program, has established benchmarks for 52 air toxics, including diesel particulate. The benchmarks are based on concentration levels that would result in an elevated

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[2] International Agency for Research on Cancer (IARC). 2014. Volume 105. *Diesel and Gasoline Engine Exhausts and Some Nitroarenes*.

[3] US National Toxicology Program. 2000. Report on Carcinogens, Ninth Edition: Carcinogen Profiles 2000. Research Triangle Park: National Toxicology Program. 111-113.

[4] EPA, "Integrated Risk Information System, Chemical Assessment Summary: Diesel Engine Exhaust," at § II.A.1 (rev. Feb, 28, 2003) ("[D]iesel exhaust is likely to be carcinogenic to humans by inhalation from environmental exposures."), available at https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0642_summary.pdf (last accessed March 19, 2018).

cancer risk above one-in-a-million over a lifetime exposure.[5] Further, the Oregon Legislature established a statutory goal (ORS 468A.793) to reduce excess lifetime risk of cancer due to exposure to diesel engine emissions to no more than one-in-a-million by 2017. The EPA, CARB, the state of Oregon[6] and others have determined that human exposure to diesel exhaust has been linked to premature death from lung cancer, and increased incidents of asthma, allergies, and other various cardiorespiratory diseases. Those most susceptible to the effects of diesel emissions include the elderly, the very young and those with pre-existing respiratory problems. Components of diesel exhaust are genotoxic, mutagenic, and can produce allergy symptoms, including inflammation and irritation of airways. There is no known safe level of exposure to diesel exhaust.[7]

6. I was asked to evaluate the irreparable harms that would befall Oregon and its people unless this Court invalidates or immediately stays EPA's Action. I note that the harms that would result from glider sales occurring during the effective date of EPA's Memo (2018 and 2019) are not limited to that same

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[5] Oregon Secretary of State, 2018. Oregon Administrative Rules 340-246-0090 (3) (r). https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=1556. Accessed July 17, 2018.

[6] Oregon DEQ. February 2015. *The Concerns About Diesel Exhaust.* https://www.oregon.gov/deq/FilterDocs/DieselEffectsReport.pdf, Accessed July 17, 2018.

[7] Supra, FN 3 [US National Toxicology Program 2000].

timeframe, because gliders sold during 2018 and 2019 will have long-term impacts. Those gliders will continue to operate on the nation's roads for 10 years or longer, dramatically increasing pollution in the air in Oregon and throughout the United States during all of those years. Because those long-term harms will occur absent a stay or immediate invalidation of EPA's Action, I have included them in my analysis herein.

7. In making this Declaration I am relying on the analysis of the California Air Resources Board as explained in the accompanying Declaration of Kimberly Ayn Heroy-Rogalski ("Heroy-Rogalski Declaration"). Based on that analysis, and based on my own knowledge, experience and analysis, I conclude that Oregon and its people will suffer significant and irreparable harm from sales of gliders resulting from EPA's Memo —sales that would not have occurred absent the No Action Assurance and that will cause harm in both the short- and long-term.

8. Specifically, I rely on the estimate that EPA's Action would allow approximately 6,400 additional gliders to be sold without fear of enforcement by EPA. I also rely on the national estimates of deaths and other health impacts described in the Heroy-Rogalski Declaration. Some of the people who die prematurely or experience other significant adverse health impacts from these additional glider sales will be Oregonians.

9. Estimates of Premature Deaths and Other Harms to Oregonians

10. Based on the estimated nationwide impacts described in the Heroy-Rogalski Declaration, the analysis below attempts to estimate how many of those premature deaths and other health impacts would likely occur in Oregon — in other words, how many Oregonians would likely die prematurely, experience a non-fatal heart attack or asthma exacerbation, or miss work, absent a stay or immediate invalidation the EPA Action.

11. To estimate the Oregon-specific figures, I considered Oregon's share of the nationwide number of people that live near major roadways.

12. As explained in the Heroy-Rogalski Declaration, the United States Department of Transportation ("DOT") compiles statistics on the number of people living in close proximity to high traffic roadways: highways that carry over 125,000 vehicles per day. According to DOT, this metric is significant because vehicle traffic is a major source of air pollutants, including particulate matter and NOx, and living near a major road is associated with increased risk of negative health outcomes due to relatively concentrated vehicle emissions.[8] This metric, broken down to the individual state level, thus provides a reasonable way to

[8] DOT, "Proximity to Major Roadways: Transportation and Health Connection," available at: https://www.transportation.gov/mission/health/proximity-major-roadways (last accessed March 19, 2018).

approximate where (in which state) the adverse health impacts from glider pollution are most likely to occur.

13. According to DOT's 2010 census-based statistics, in that year Oregonians comprised 1.0% of the people nationwide who live near major roadways. Therefore, I can reasonably assume that Oregon will experience, at minimum, approximately 1.0% of the nationwide adverse health impacts from additional glider pollution resulting from EPA's Action. Under that assumption, between 4 and 10 Oregonians would die from the additional 6,400 gliders sold; approximately 5 Oregonians would experience non-fatal heart attacks; approximately 300 Oregonians would experience asthma exacerbations; and Oregonians would miss over 550 days of work.

14. This estimate must be adjusted further, however, to account for the fact that California has a regulation[9] that essentially makes driving gliders (and other high-polluting heavy-duty vehicles) illegal on California roads – the "Truck and Bus Rule," described in the Heroy-Rogalski Declaration This means that that the health impacts of those 6,400 glider trucks that, absent the California rule, would be felt in California will be 'redistributed' among the other States, including

[9] "Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles," (hereinafter "Truck and Bus Regulation"); Title 13, California Code of Regulations, section 2025 *et seq.*

Oregon – because those 6,400 trucks will drive the miles that they otherwise would have driven in California in other states instead. In estimating the extent of this 'redistribution,' I am relying on the Heroy-Rogalski estimate that the California Truck and Bus Rule would deter approximately 73% of gliders from entering California, and the spreadsheet attached to the Heroy-Rogalski Declaration.

15. Adjusting for the effect of the California Truck and Bus Rule, we can estimate that between 6 and 14 Oregonians would die from the additional 6,400 gliders sold; approximately 7 Oregonians would experience non-fatal heart attacks; approximately 440 Oregonians would experience asthma exacerbations; and Oregonians would miss over 825 days of work.

16. These health-related impacts injure Oregon in numerous ways. Oregon has a well-established interest in the health and welfare of its people, and actions, such as this one, that put the health and lives of those people at risk injure the State. In addition, Oregon will itself experience financial losses from these adverse health impacts—perhaps most notably in the form of public health expenditures by the State.

17. The Regional Haze Rule (40 CFR 51.308) requires states to address visibility protection for regional haze in Class I Areas in each state. In Oregon, there are 12 mandatory federal Class I Areas, including Crater Lake National Park and 11 wilderness areas. Oregon DEQ submitted a Regional Haze State

Implementation Plan in 2010 and a required periodic update in 2017. Several pollutants contribute to degradation of visibility, states are required to identify significant sources within the state, sources emitting pollutants from outside the state, and then to undertake enforceable protection measures to meet long-term visibility goals. The Oregon plan has resulted in additional controls on industrial sources, forest slash burning, agricultural field burning and other commercial sources of emissions. Diesel emissions, in the form of diesel particles and nitrogen oxide gases, also contribute to a reduction in visibility by scattering and absorption of sunlight. For the moment, the Oregon plan acknowledges a significant role for diesel emissions in visibility protection but relies upon strict mobile source emission regulations at the federal level to address impacts from heavy-duty diesel engines. Failure to meet reasonable progress goals, for which excess emissions from glider trucks are a contributing source, will force the consideration of additional measures on sources the state can directly control.

18. Since 2001 the state of Oregon has undertaken the Oregon Clean Diesel Initiative to voluntarily reduce emissions from diesel engines by providing technical and financial assistance to engine operators. Over this period, the state has expended almost $750,000 in state general funds, $1.8 million in state tax credits and $6.8 million from federal grants. This effort has been successful overall in reducing diesel particulate emissions on the order of 17 tons per year.

Allowing additional glider trucks to operate in Oregon will further offset and minimize any benefits secured through these voluntary efforts with resulting harm to human health and the environment. Indeed, an analysis by the California Air Resources Board, reflected in Exhibit A to the Heroy-Rogalski Declaration, indicates that as a result of the EPA Action, Oregon could expect to see an additional 84 tons of particulate emissions.

Under penalty of perjury, I declare that the foregoing is true and correct to the best of my knowledge.

Executed in Portland, Oregon on July 18, 2018.

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Kevin Downing
Clean Diesel Program Coordinator
Oregon Department of Environmental Quality

Allowing additional glider trucks to operate in Oregon will further offset and minimize any benefits secured through these voluntary efforts with resulting harm to human health and the environment. Indeed, an analysis by the California Air Resources Board, reflected in Exhibit A to the Heroy-Rogalski Declaration, indicates that as a result of the EPA Action, Oregon could expect to see an additional 84 tons of particulate emissions.

Under penalty of perjury, I declare that the foregoing is true and correct to the best of my knowledge.

Executed in Portland, Oregon on July 18, 2018.

Kevin Downing
Clean Diesel Program Coordinator
Oregon Department of Environmental Quality

STATE OF CALIFORNIA, by and through XAVIER BECERRA, ATTORNEY GENERAL and CALIFORNIA AIR RESOURCES BOARD, STATE OF CONNECTICUT, STATE OF ILLINOIS, STATE OF MAINE, STATE OF MARYLAND, COMMONWEALTH OF MASSACHUSETTS, STATE OF NEW JERSEY, STATE OF NEW YORK, STATE OF NORTH CAROLINA, STATE OF OREGON, COMMONWEALTH OF PENNSYLVANIA, by and through JOSH SHAPIRO, ATTORNEY GENERAL and PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, STATE OF RHODE ISLAND, STATE OF VERMONT, and STATE OF WASHINGTON,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ANDREW K. WHEELER, Acting Administrator, United States Environmental Protection Agency, and SUSAN P. BODINE, Assistant Administrator, Office of Enforcement and Compliance Assurance, United States Environmental Protection Agency,

Respondents.

DECLARATION OF MARGARET E. HANNA IN SUPPORT OF EMERGENCY MOTION FOR SUMMARY VACATUR, OR IN THE ALTERNATIVE, FOR STAY PENDING JUDICIAL REVIEW

I, Margaret E. Hanna, declare as follows under penalty of perjury:

1. I am Assistant Director in the Division of Air Quality of the State of New Jersey Department of Environmental Protection ("NJDEP"). I have managerial responsibility over the State's air monitoring and mobile source program. I manage approximately 50 staff who, among other things, maintain an ambient air quality monitoring network throughout the State, perform tasks for the Office of Homeland Security, administer the vehicle Inspection and Maintenance Program, implement programs to reduce diesel emissions from on-road and non-road mobile sources, and manage the Zero Emission Vehicle Program. I am also an active member of various national and regional organizations of air pollution control officials including the Northeast States for Coordinated Air Use Management, the Ozone Transport Commission, the National Association of Clean Air Agencies, and the USEPA Mobile Source Technical Review Subcommittee.

2. After receiving a B.S. in Biology from the University of Scranton, I began working for the New Jersey Department of Environmental Protection and have been employed there continuously since 1991. I have experience in the Compliance and Enforcement program and the Environmental Regulation programs as well as experience in policy development, legislative activities, grant writing, and stakeholder engagement. My previously held titles include Supervisor, Bureau Chief, and Executive Assistant.

3. This declaration refers extensively to a federal rulemaking action and the administrative record underlying that rulemaking: *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles — Phase 2*, 81 Fed. Reg. 73,478 (Oct. 25, 2016) ("Phase 2 Rule"). The Phase 2 Rule was jointly promulgated by the United States Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA). This declaration also refers to EPA's issuance of a memorandum on July 6, 2018, that states that EPA will not give effect to certain provisions of the Phase 2 Rule that limit sales of a type of heavy-duty truck called a "glider" for 2018 and 2019, and instead will continue to employ the regulation's less stringent limits for 2017 ("EPA Memo" or "EPA's Action").

4. I submit this declaration in support of the State Petitioners' application to stay the effects of EPA's Action. If a stay is not issued, New Jersey and its residents will suffer immediate and on-going irreparable harm from toxic and other harmful emissions caused by increased sales of highly-polluting trucks during the pendency of this litigation.

5. Unless otherwise noted, the statements made in this declaration are based on my review of publicly available records, including those prepared by

EPA and others that appear in the administrative records for the Phase 2 Rule.[1] I have also relied on the state-by-state analysis of the impacts of EPA's Action described in the Declaration of Kimberly Ayn Heroy-Rogalski, Chief of the Mobile Source Regulatory Development Branch at the California Air Resources Board (the "Heroy-Rogalski Declaration"), submitted simultaneously with this Declaration, and upon analysis and information generated by staff and analysts under my direction.

Background

6. EPA's Memo announced the agency's intent not to police limits on production and sale of "glider" trucks built with refurbished engines that do not meet modern pollution control standards.

7. A glider is a truck with a new body and old powertrain. Gliders are made using a "glider kit"—a new heavy-duty chassis, including the frame, front axle, interior and exterior cab, and brakes—fitted with a used diesel engine, transmission, and rear axle, typically salvaged from an earlier model year vehicle.[2]

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[1] This includes the "Response to Comments for Joint Rulemaking" document prepared in support of the Phase 2 Rule by EPA and the National Highway Traffic Safety Administration, and available on EPA's website at https://nepis.epa.gov/Exe/ZyPDF.cgi/P100P8IS.PDF?Dockey=P100P8IS.PDF (last visited July 16, 2018).

[2] 81 Fed. Reg. at 73512-13; *see* 40 C.F.R. § 1037.801 (defining "glider kit" and "glider vehicle")

As a rule, gliders are cheaper than new trucks because gliders use older engines that do not have modern pollution controls.[3]

8. On October 25, 2016, the final Phase 2 Rule requires gliders to comply with the same emissions standards as other new trucks, effectively prohibiting the use of salvaged engines in new glider kits unless the salvaged engine is compliant with emissions standards applicable to new trucks.[4]

9. EPA allowed existing small business to phase out production of gliders using old engines. In calendar year 2017, small manufacturers could produce as many non-emissions-compliant gliders as their peak production between 2010 and 2014. But, beginning January 1, 2018, small manufacturers' annual production of non-emissions-compliant gliders is capped at the *lesser amount* of either their highest annual production between 2010 and 2014, or 300 vehicles.[5] EPA estimated that sales of non-emissions-compliant gliders would be no more than 1,000 gliders per year beginning in 2018, down from 10,000 to 15,000 per year before the Phase 2 Rule.[6]

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[3] 81 Fed. Reg. at 73942-43; Response to Comments at 1885.

[4] 81 Fed. Reg. at 74111, codified at 40 C.F.R. § 1037.635(a).

[5] 81 Fed. Reg. at 73946.

[6] 81 Fed. Reg. at 73585; Response to Comments at 1961.

10. In a surprise move, on July 6, 2018, EPA issued the EPA Memo announcing that it would suspend the 300-vehicle-per-manufacturer maximum cap that took effect in January 2018 and instead continue to employ the regulation's less stringent limits from 2017 into 2018 and 2019.

Health Effects of NOx and PM2.5 Exposure.

11. As justification for the glider provisions in the Phase 2 Rule, EPA explained that gliders outfitted with old engines emit significantly higher amounts of two air pollutants: nitrogen oxides ("NOx") and fine particulate matter ("PM2.5"), than new engines. According to EPA's analysis, most gliders emit NOx and PM2.5 at rates equivalent to engines meeting model year 1998-2001 medium- and heavy-duty engine emissions standards because most are made with remanufactured engines of this vintage.[7] These pre-2002 engines emit NOx and PM2.5 at rates 20–40 times higher than new engines that comply with model-year-2007 and later emissions standards.[8]

12. In its analysis EPA concluded that every 1,000 gliders sold will emit, over their lifetimes, 41,500 tons of *excess* NOx and 680 tons of *excess* PM2.5—very large amounts of extra air pollution compared to the same number of

[7] 81 Fed. Reg. at 73943.

[8] *Id.*

emissions-compliant new trucks.[9] Put another way, EPA found that 1,000 gliders will emit, over their lifetimes, as much NOx as 19,000 emission-compliant new trucks, and as much PM2.5 as 23,600 emission-compliant new trucks.[10]

13. As described more fully in the Heroy-Rogalski Declaration, the practical effect of EPA's Action may be to allow the sale of an estimated 6,400 additional gliders with highly-polluting engines in 2018 and 2019. Based on EPA's estimates that each glider will emit, on average, over its lifetime, 41.5 extra tons of NOx and 0.68 extra tons of PM compared to a new, clean truck,[11] the sale of 6,400 additional gliders can be expected to add 265,600 extra tons of NOx and 4,352 extra tons of PM into the atmosphere.

14. The scale of excess diesel emissions from gliders poses a serious public health hazard. Diesel exhaust is classified as a probable human carcinogen by many governmental authorities, including the International Agency for

[9] Response to Comments at 1963-64. EPA assumed that gliders, like typical heavy-duty vehicles, will average 30-year lifetimes, but that 80% of a glider's lifetime emissions will occur in the first 15 years of use. Response to Comments at 1964 n.253.

[10] Response to Comments at 1964, Table A-3 (comparing lifetime NOx and PM emissions from gliders versus emission-compliant new trucks).

[11] Response to Comments, Table A-3 at page 1964 (describing "Lifetime NOx and PM Emissions (tons) for Model Year 2017 Glider Vehicles and Other New Vehicles.").

Research on Cancer (an authority under the World Health Organization),[12] the United States National Toxicology Program,[13] and the EPA.[14] The State of California classifies diesel exhaust as a known carcinogen.[15] The EPA, CARB, and others have determined that human exposure to diesel exhaust has been linked to premature death from lung cancer, and increased incidents of asthma, allergies, and other various cardiorespiratory diseases. Those most susceptible to the effects of diesel emissions include the elderly, the very young and those with pre-existing respiratory problems. Components of diesel exhaust are genotoxic, mutagenic, and can produce allergy symptoms, including inflammation and irritation of airways. There is no known safe level of exposure to diesel exhaust.[16]

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[12] International Agency for Research on Cancer (IARC). 1989. *Chapter 5: Summary of Data Reported and Evaluation and Chapter 5.1 Exhaust composition and exposure data*. In *Diesel and Gasoline Engine Exhausts*. IARC Summary and Evaluation Volume 46 (1989) p. 41.

[13] US National Toxicology Program. 2000. *Report on Carcinogens, Ninth Edition: Carcinogen Profiles 2000*. Research Triangle Park: National Toxicology Program. 111-113.

[14] EPA, "Integrated Risk Information System, Chemical Assessment Summary: Diesel Engine Exhaust," at § II.A.1 (rev. Feb, 28, 2003) ("[D]iesel exhaust is likely to be carcinogenic to humans by inhalation from environmental exposures."), available at https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0642_summary.pdf (last visited July 18, 2018).

[15] California Environmental Protection Agency. 1997. *Chemicals Known to the State to Cause Cancer or Reproductive Toxicity*, Revised May 1, 1997.

[16] Supra, n.13.

15. Of particular concern is the fine particulate matter (PM2.5) contained in diesel exhaust. PM2.5 is composed of particles less than 2.5 microns in diameter, and includes both carbon particles and liquid droplets. PM2.5 is of special concern because these particles can be inhaled deep within the lungs and can enter the blood stream. PM2.5 can aggravate asthma, increase respiratory symptoms such as coughing and difficult or painful breathing, cause chronic bronchitis and decreased lung function, contribute to cardiovascular problems such as heart attacks, and even result in premature death. The California Air Resources Board ("CARB") has identified diesel PM as a toxic air contaminant.[17] The New Jersey Clean Air Council reported in 2004 that only smoking and obesity outrank particulate matter in the estimated number of premature deaths caused every year, and that diesel powered engines and equipment are responsible for most of the particulate matter from mobile sources.[18] Asthma and emphysema are also exacerbated by particulate matter in the atmosphere.

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[17] California Environmental Protection Agency, Air Resources Board. 1998. *Initial Statement of Reasons for Rulemaking, Staff Report, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant*, Prepared by the Staff of the Air Resources Board and the Office of Environmental Health Hazard Assessment, June 1998.

[18] New Jersey Clean Air Council, "Fine Particulate Matter in the Atmosphere: Health Impacts in NJ and Need for Control Measures" at 5 (2004), available at http://www.nj.gov/dep/cleanair/hearings/pdf/phr04.pdf (last visited July 18, 2018).

16. Diesel exhaust also contains relatively high levels of NOx, a mixture of gases comprised mostly of nitric oxide ("NO") and nitrogen dioxide ("NO2"). These gases are the primary source of the oxygen atoms required for ozone formation, a harmful pollutant at ground level.

17. Ground level ozone exposure can cause irritation of the lungs, which can make the lungs more vulnerable to diseases, such as pneumonia and bronchitis, increase incidents of asthma and susceptibility to respiratory infections, reduce lung function, reduce an individual's ability to exercise, and aggravate chronic lung diseases. Increased ozone concentrations severely affect the quality of life for susceptible populations – small children, the elderly, and asthmatics – and present health risks for the public in general. Exposure to ozone for several hours at relatively low concentrations significantly reduces lung function and induces respiratory inflammation in normal, healthy people during exercise. This decrease in lung function is generally accompanied by symptoms, such as chest pain, coughing, sneezing, and pulmonary congestion. Research strongly suggests that, in addition to exacerbating existing asthma, ozone also causes asthma in children.[19] Long-term exposure may lead to scarring of lung tissue and lowered

[19] MARAMA, "Appendix A: Health Effects of Air Pollutants, A Guide to Mid-Atlantic Regional Air Quality Report. Mid-Atlantic Regional Air Management Association (MARAMA)," at 89 (Oct. 2005).

lung capacity. Repeated exposure may cause permanent lung damage. Long-term exposure to ozone can eventually lead to premature death.[20]

18. In addition to contributing to the formation of ozone, NOx is harmful if directly inhaled. Long-term exposure to low concentrations of NO2, a component of NOx, also causes adverse health effects. Elevated levels of NO2 cause damage to the mechanisms that protect the human respiratory tract and can increase a person's susceptibility to, and the severity of, respiratory infections and asthma. Long-term exposure to high levels of NO2 can cause chronic lung disease. Other health effects from exposure to NO2 include shortness of breath and chest pains.

EPA's Regulatory Impacts Analysis in Support of the Phase 2 Rule.

19. EPA conducted an analysis of the public health risks of gliders and concluded that the Phase 2 Rule requiring gliders to meet the same standards as other new trucks would prevent hundreds or thousands of premature deaths nationwide over the lifetime of these vehicles. I have reviewed analysis of the health and environmental impacts of gliders in the Phase 2 Rule, Part XIII.B,[21] and

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[20] EPA, "Air Quality Criteria for Ozone and Related Photochemical Oxidants," Vol. I (Feb. 2006).

[21] 81 Fed. Reg. at 73,941–73,946.

EPA's supporting documentation, specifically EPA's Response to Comments document, Section 14.2 and Appendix A.[22] EPA concluded that reducing the number of gliders produced with non-compliant engines will prevent 70-160 premature deaths for every 1,000 gliders not put on the road over the vehicles' lifetimes.[23]

20. EPA's conclusions are based on low-end estimates of glider emissions rates, sales, and health impacts of exposure to NOx and PM2.5. For the reasons that follow, EPA's conclusions, alarming as they are, likely understate the true public health impacts of gliders.

21. First, EPA acknowledges it used low-end assumptions about glider excess emissions. EPA's health impact analysis assumed gliders emit roughly 20 times as much NOx and PM as the same number of fully compliant vehicles, but EPA "separately estimated that glider emissions could be as much more than twice as high as this (or producing more than 40 times as much NOx and PM as current engines) if the engines are miscalibrated, incompletely/ improperly rebuilt, and/or were originally manufactured before 1998."[24]

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[22] *See* supra, n.1.

[23] Response to Comments at 1965.

[24] Response to Comments at 1964 and n.254.

22. And, in fact, an EPA 2017 study of actual glider vehicle emissions obtained from tailpipe readings of vehicles showed NOx emissions from gliders with pre-2002 engines were 43 times higher than conventionally built 2014 and 2015 tractors under highway cruise conditions. PM emissions were even worse: 55 times higher.[25]

23. Second, EPA only quantified a portion of the public health impacts of glider emissions. EPA focused on health effects of PM2.5, but did not quantify the health impacts of excess NOx emissions or higher ozone levels attributable to gliders.[26] And, even its study of PM2.5 effects likely significantly understates the public health consequences of diesel exhaust because EPA did not attempt to quantify:

- cancer, mutagenicity, and genotoxicity effects;
- chronic and subchronic bronchitis cases;
- strokes and cerebrovascular disease;
- low birth weight;
- chronic respiratory diseases other than chronic bronchitis;
- pulmonary function; or

[25] EPA, National Vehicle & Fuel Emissions Laboratory, "Chassis Dynamometer Testing of Two Recent Model Year Heavy-Duty On-Highway Diesel Glider Vehicles" at 3 (Nov. 20, 2017).

[26] Response to Comments at 1968.

- non-asthma respiratory emergency room visits.[27]

Likely Effects on Public Health in New Jersey
If 6,400 Additional Gliders are Sold in 2018 and 2019.

24. A stay of EPA's Action is likely to prevent dozens of premature deaths in New Jersey. As described above, over their lifetimes the estimated 6,400 extra gliders that may be sold in 2018 and 2019 as a consequence of EPA's Action could emit approximately 265,600 tons of excess NOx and 4,352 tons of excess PM, and will contribute to between 448 and 1,024 premature deaths nationwide. Some of these preventable, premature deaths will occur in New Jersey because many of these new gliders will be sold here or will travel to and through New Jersey. By a low-end estimate, between 25 and 58 of these early deaths could occur in New Jersey based on the allocation of EPA's national health impacts described in the Heroy-Rogalski Declaration and shown in Exhibit A thereto. A stay of EPA's Action would prevent this irreparable injury to New Jersey residents.

25. Based on analysis of New Jersey's vehicle registration database using the best information my staff has about how gliders are identified by unique Vehicle Identification Numbers ("VINs"), New Jersey's database shows that more

[27] Response to Comments at 1966.

than 550 gliders are already registered in the state as of the end of 2017.[28] In the past three years, New Jersey has seen a significant increase in the number of new gliders registered. Between 2011 and 2015, new registrations held steady at between 13 and 25 gliders per year. Suddenly, in 2016, this increased to 67 new gliders, and then jumped to 140 new glider registrations in 2017, a more than five-fold increase over 2014's numbers. This trend is consistent with the exponential growth of sales that EPA predicted in the Phase 2 Rule unless gliders were required to meet the same emissions standards as other new trucks. If EPA's Action continues in effect, many more of these trucks may be registered for use in New Jersey.

26. Still more gliders will travel to and through New Jersey because regional and long-haul trucks registered out-of-state are used in interstate commerce. NJDEP's analysis of its registration data indicates that the number of new glider registrations for vehicles intended to operate over short and medium distances within the state held steady at roughly 1-5 vehicles per year through 2017. The explosive growth in new glider registrations in 2016 and 2017 is from trucks registered for long-distance travel. For example, of the 140 new gliders

[28] These figures come from New Jersey's analysis of VINs reported in its state-wide vehicle registration database. VINs are coded with information about the make and model of vehicles, including certain manufacturer-specific 'tags' that allow analysts to identify glider vehicles.

registered in New Jersey in 2017, 96% (135 vehicles) had license plates issued to trucks that travel across state borders. If the State's registration data reflects national trends and EPA's Action is not stayed, New Jersey can expect a large influx of new gliders registered elsewhere traveling into and through New Jersey on long-distance trips.

27. At my request, an analyst compiled records of out-of-state registered long-haul trucks that travel into and through New Jersey to determine approximately how many of these vehicles were gliders reporting mileage in New Jersey in 2017. The International Registration Plan (IRP) is a registration reciprocity agreement among states of the United States, the District of Columbia and provinces of Canada providing for payment of apportionable fees for out-of-state trucks on the basis of total distance operated in all jurisdictions. Among the vehicle registration requirements, IRP vehicles must report to the registering jurisdiction the vehicle VIN, and all other jurisdictions the vehicle will be operated in for the year. Monthly reports are available to each member jurisdiction in IRP. The reports describe the VIN, registering jurisdiction, and fleet vehicle miles traveled in New Jersey for all apportioned trucks operating in the state.

28. NJDEP compiled a database with every VIN in the monthly IRP reports for a twelve-month period for 2017. Using the same VIN identifiers described above, NJDEP identified 12,776 gliders reported as being driven on New

Jersey roadways last year. According to the IRP VMT records, New Jersey-registered gliders accounted for less than 1% of in-state glider VMT that year. From this analysis, NJDEP concluded that the vast majority of glider emissions in New Jersey are attributable to out-of-state gliders traveling through New Jersey.

29. New Jersey is crisscrossed with national and state highways. Interstate truck freight moves through New Jersey from the ports at New York Harbor and in Camden and Salem Counties opposite Philadelphia. For example, the Port of New York and New Jersey is the third-busiest port in the country and more than 82% of that cargo is loaded and unloaded on New Jersey's docks. Containers are loaded onto trucks for transport locally, regionally, and nationally.[29]

30. The United States Department of Transportation ("USDOT") compiles statistics on the number of people living in close proximity of high traffic roadways: highways that carry over 125,000 vehicles per day. [30] According to USDOT, this metric is significant because vehicle traffic is a major source of air pollutants, including particulate matter and NOx, and living near a major road is associated with increased risk of negative health outcomes due to relatively

[29] N.J.S.A. 32:23-229(1)(a).

[30] United State Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, "Highway Statistics 2016: Selected Measures for Identifying Peer States," available at https://www.fhwa.dot.gov/policyinformation/statistics/2016/ps1.cfm (last visited July 18, 2018).

concentrated vehicle emissions.[31] According to USDOT's 2010 census-based statistics, a disproportionate number of New Jerseyans live in close proximity to major highways. Although 2.8% of all Americans live in New Jersey, nearly four percent of all Americans living near highways—approximately 127,388 people in 2010—live in New Jersey.[32]

31. By this measure the harm to New Jersey residents from 6,400 more gliders on the road would be significant. Staff under my supervision estimated those New Jersey-specific impacts using EPA's own national health benefits analysis of the glider provisions in the Phase 2 Rule. EPA found that lifetime PM emissions for every 1,000 gliders sold will lead to 70-160 premature deaths nationwide.[33] EPA also found that, without the Phase 2 Rule, total glider

[31] USDOT, "Proximity to Major Roadways: Transportation and Health Connection," available at https://www.transportation.gov/mission/health/proximity-major-roadways (last visited July 18, 2018).

[32] USDOT, "Transportation and Health Indicators Spreadsheet," available at https://www.transportation.gov/mission/health/transportation-and-health-tool-data-excel (last visited July 18, 2018). The number of people living near major roadways was determined by multiplying the USDOT Proximity to Major Roadways Raw Value for New Jersey (1.44893%) by the 2010 US Census population estimate for New Jersey (8,791,894). The "Persons Near Major Roadways" metric is representative of the spacial distribution of the health effects from gliders because it closely correlates with the spacial distribution of both elevated ambient air concentrations of PM2.5 contributed by onroad mobile sources and human population.

[33] Response to Comments at 1965, Table A-4.

sales would reach 10,000 vehicles per year and continue at that level beginning in 2015.[34] Of those 10,000, EPA predicted that approximately 1,000 gliders per year could still legally be sold under certain exemptions recognized in the Phase 2 Rule.[35]

32. Using these figures—6,400 extra glider sales if EPA's Action continues in effect, and a premature mortality rate of 70-160 per 1,000 gliders sold—EPA's own findings show that between 448[36] and 1,024[37] premature deaths can be attributed to the lifetime PM emissions of extra gliders sold if the 2017 limits are continued in 2018 and 2019, as EPA would allow under EPA's Memo.

33. Based on USDOT's analysis (described above) that 3.9% of Americans living very near major highways live in New Jersey, my staff (working with their counterparts at the California Air Resources Board) estimated that between 25 and 58 of these premature deaths could befall New Jersey residents. New Jersey residents will also suffer more hospitalizations, asthma attacks, and

[34] Response to Comments at 1961, Figure A-1 and text.

[35] Response to Comments at 1961.

[36] 70 premature deaths/1,000 gliders * 6,400 gliders = 448 premature deaths.

[37] 160 premature deaths/1,000 gliders * 6,400 gliders = 1,024 premature deaths.

other adverse health outcomes that were recognized but not estimated with particularity in the Phase 2 Rule.[38]

34. EPA's findings understate the health impacts in New Jersey by not quantifying non-mortality effects of excess glider PM2.5 emissions, not quantifying any of the health effects of increased ground level ozone concentration from excess NOx emissions, and by not quantifying the cancer-related health effects of PM2.5. Significantly, more gliders pose a risk of increased cancer incidents in New Jersey. EPA's National Air Toxics Assessment data[39] shows New Jersey has particularly high ambient diesel particulate matter concentrations near New Jersey's ports in Camden and Newark, and along its principal transportation corridor between Philadelphia and New York.[40] These areas are

[38] See Heroy-Rogalski Declaration, Exh. A (summarizing state-by-state analysis of mortality and morbidity).

[39] The 1996 National Air Toxics Assessment (NATA), first released in 2002 and updated for 2011, is EPA attempt to quantify the magnitude of exposure to diesel particulate matter. It includes estimates of ambient concentrations of diesel particulate matter averaged at the census tract level. These concentrations were all attributed to emissions from mobile sources, both on-road and off-road. The contribution from stationary sources and even "non-point" sources was not included.

[40] NJDEP, "2011 Risk Results for New Jersey," http://www.nj.gov/dep/airtoxics/nataest11.htm (last visited July 18, 2018); NJDEP, "Map: 2011 Predicted Health Risk from Diesel Particulate in New Jersey," http://www.nj.gov/dep/airtoxics/RiskMaps/Diesel11.jpg (last visited July 18, 2018).

likely to be disproportionately affected by glider emissions as heavy-duty trucks frequently travel to and from ports and along major trucking routes.

35. The already high cancer risks from diesel emissions in these areas will get worse if gliders continue to be sold in numbers above those permitted by the Phase 2 Rule. As previously stated, EPA acknowledges that diesel particulate matter is a likely human carcinogen. New Jersey supports and applies the cancer risk factor developed by California's Air Resources Board to estimate health effects of diesel emissions from stationary and mobile sources.[41] Applying this risk factor, New Jersey has found a very high cancer risk in these

[41] California has listed diesel exhaust as a "Toxic Air Contaminant" (TAC) under California's Toxics Air Contaminant Program (Health & Safety Code section 39660). The listing process involves the production of technical support documents, conferences, public workshops, public hearings, public comment periods, and approval by a Scientific Review Panel. Documentation of the process of listing DE as a TAC (and development of the associated unit risk factor) can be found at www.arb.ca.gov/regact/diesltac/diesltac.htm (last visited on July 18, 2018). This includes the California Environmental Protection Agency ("CalEPA") "Report to the Air Resources Board on the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant" (Part A: Exposure Assessment, April 22, 1998; Part B: Health Risk Assessment for Diesel Exhaust, May 1998; and comments and responses from three comment periods, (June 1994, May 1997, and February 1998). A summary on development of the URF can be found in the *Air Toxics Hot Spots Program Risk Assessment Guidelines, Part II – Technical Support Document for Describing Available Cancer Potency Factors*, CalEPA, December 2005, in the chapter titled "Particulate Matter from Diesel-Fueled Engines." New Jersey has reviewed and concurred in California's determination of the diesel PM unit risk factor.

disproportionately affected areas and an unacceptable risk throughout the state.[42] By sanctioning many thousands more gliders in 2018 and 2019, EPA's Action will exacerbate this cancer risk.

Likely Effects on Extra Glider Air Pollution on New Jersey's Ozone NAAQS Attainment Efforts.

36. High ozone levels remain New Jersey's most pervasive air quality problem. EPA's No Action Assurance, if allowed to remain in effect, could reverse hard-won ozone reductions and undermine New Jersey's efforts to comply with national air quality standards.

37. Under the Clean Air Act, EPA sets National Ambient Air Quality Standards ("NAAQS") for ozone, particulate matter, and other air pollutants at levels that protect public health and welfare. 42 U.S.C. §§ 7408, 7409. After EPA adopts or revises one of the national standards, each state has three years to propose a State Implementation Plan ("SIP") describing whether the state can attain the standard or not. 42 U.S.C. § 7410(a). EPA reviews the SIPs and designates whether states are in attainment, non-attainment, or are "unclassifiable" for each NAAQS. 42 U.S.C. § 7404(d). If EPA classifies a state as nonattainment for a NAAQS, the state must submit another SIP describing what actions the state will take to attain and thereafter maintain the standard by deadlines set by the Act

[42] Supra, note 40.

and by EPA, for example by adopting restrictive emissions regulations for in-state pollution sources. 42 U.S.C. § 7502.

38. In 2008, EPA promulgated a revised 8-hour NAAQS for ozone of 75 parts-per-billion ("ppb"),[43] and, in 2012, designated all of New Jersey as nonattainment.[44] To satisfy its obligations under the Clean Air Act to attain the 2008 ozone NAAQS, New Jersey adopted some of the most stringent NOx control programs in the country for power plants, commercial and industrial emitters, and motor vehicles. These programs include:

- Stringent Reasonably Available Control Technology ("RACT") on all major NOx stationary sources in New Jersey, including electric generating units, asphalt manufacturing plants, natural gas pipeline compressor turbines and engines, glass furnaces, municipal solid waste incinerators, and industrial and commercial boilers.[45]
- Adoption of California's Low Emission Vehicles standards, which placed tighter limits on the amount of NOx emitted from motor vehicles than federal emission standards. [46]

[43] National Ambient Air Quality Standards for Ozone, 73 Fed. Reg. 16436 (Mar. 27, 2008).

[44] 77 Fed. Reg. 30,088 at 30,135 (May 21, 2012).

[45] N.J. Admin. Code § 7:27-19.

[46] N.J. Admin. Code § 7:27-29.1 to -29.14.

- Statewide vehicle inspection and maintenance requirements for all post-1996 model year vehicles to ensure each is equipped with properly-operating emissions controls.[47]

- New Jersey requires all major facilities located in non-attainment areas that emit nonattainment pollutants, including ozone precursors NOx and COV, that are installing new or modified sources with Significant Net Emissions Increases (25 tons for ozone precursors) to meet Lowest Achievable Emission Rate ("LAER") standards.[48]

39. These are only some of the dozens of new rules and rule revisions adopted by New Jersey since 2002 to reduce emissions of ozone precursors, which New Jersey described in its nonattainment SIP to EPA seeking re-designation to attainment with the 2008 75 ppb ozone NAAQS.[49]

40. In addition to these regulatory measures, NJDEP obtained and disbursed millions of dollars in state and federal monies to replace, repower, or retrofit emissions controls on aging diesel-powered trucks, construction equipment,

[47] N.J. Admin. Code § 7:27-14 et seq. (inspection and maintenance requirements and idling prohibition for diesel vehicles); N.J. Admin. Code § 7:27-15 et seq. (inspection and maintenance requirements and idling prohibition for gasoline vehicles).

[48] N.J. Admin. Code § 7:27-18 et seq.

[49] NJDEP, "Final SIP: 84 ppb and 75 ppb 8-Hour Ozone Attainment Demonstration and NNSR," § 3.1.3 and Table 3-1 (Dec. 2017) (listing more than 40 regulatory actions since 2002 to reduce ozone precursors and PM), available at http://www.nj.gov/dep/baqp/ozoneppb.html (last visited July 18, 2018).

ferries, and cargo-loading equipment and forklifts. Collectively, these efforts have cut NOx emissions by roughly one-half ton per day.[50]

41. As a result of the State's concerted efforts over many years, New Jersey's air quality monitors have registered a consistent downward trend in ozone readings over the past two decades.[51]

42. EPA's Action threatens to undermine New Jersey's forward progress and the air quality benefits that progress has brought to New Jerseyans, as well as the investments New Jerseyans have made to achieve that progress and those benefits.

43. To attain and maintain compliance with the ozone NAAQS, New Jersey also relies on federal emission standards to ensure that sources are properly controlled. Among the federal standards New Jersey relies on are EPA's heavy duty vehicle emission standards to control diesel emissions from large trucks.[52]

[50] Id. at p. 3-18 to 3-20.

[51] Id. at § 2.2.2 and Fig. 2.4 (Dec. 2017) (describing 30-year trend in statewide ozone monitoring readings.

[52] Id. at p. 3-24.

EPA's own model[53] for estimating the contribution of mobile sources to ozone concentrations also assumes that all new trucks sold in a given year will meet federal emissions standards for that year's trucks. When those standards were adopted, neither EPA nor the states had reason to expect that a market for glider vehicles would arise to circumvent these standards. The Phase 2 Rule's glider provisions are intended to prevent the sale of new trucks with outdated engine technology. EPA's Action incentivizes the sale of thousands of gliders each year in 2018 and 2019 and undermines New Jersey's and every state's efforts to demonstrate attainment with federal air quality standards and to improve air quality for the States' residents.

44. In 2015, EPA ratcheted down the 8-hour ozone NAAQS to 70 ppb.[54] The EPA notified New Jersey in a letter dated December 20, 2017 of its intent to designate all of New Jersey, including its existing shared, multi-state areas, as nonattainment for the revised standard. Reducing mobile source

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[53] EPA's Motor Vehicle Emission Simulator ("MOVES") is an emission modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria air pollutants, greenhouse gases, and air toxics. EPA, "MOVES and Other Mobile Source Emissions Models," https://www.epa.gov/moves (last visited July 18, 2018). EPA encourages States to use its MOVES model in official SIP submissions and actually requires its use for certain purposes. EPA, "Official Release of the MOVES2014 Motor Vehicle Emissions Model for SIPs and Transportation Conformity," 79 Fed. Reg. 60,343, 60,344 (Oct. 7, 2014).

[54] 80 Fed. Reg. 65,292 (October 26, 2015).

emissions of NOx will be critical to New Jersey's ability to attain this lower standard by the earliest expected attainment deadline in 2021. EPA's decision to revert to much higher limits on sales of glider vehicles emitting NOx at roughly 20 to 40 times the rate of new trucks is an obstacle to New Jersey's attainment of the 2015 ozone NAAQS.

Likely Effects on New Jersey's Diesel PM Reduction Efforts.

45. New Jersey has spent tens-of-millions of dollars to reduce diesel PM from heavy-duty diesel vehicles over the past decade. New Jersey also relies on EPA's heavy duty diesel vehicle emissions standards as part of its strategy to stay in attainment with annual and daily PM2.5 NAAQS. EPA's Action threatens those diesel PM reductions and undermines New Jersey's attainment efforts by allowing the sale of thousands of trucks that clearly violate EPA's emissions standards for new vehicles.

46. In 1997, EPA established annual and 24-hour NAAQS for PM2.5 for the first time. The NAAQS were set at 15 parts-per-million ("ppm") for the annual standard and 65 ppm for the 24-hour standard. Thirteen of New Jersey's 21 counties were designated as nonattainment for the 1997 annual standards. Those counties are clustered around the State's two major ports in Camden and on the

New York Harbor, and along the major transportation corridor connecting them. [55] In 2006 EPA revised the 24-hour PM2.5 standard from 65 ppm to 35 ppm, and in 2009 finalized designations showing the same thirteen counties in non-attainment for both NAAQS.

47. In 2012, New Jersey asked EPA for a redesignation to attainment status for both PM2.5 NAAQS for the entire state.[56] New Jersey's SIP revision for attainment and maintenance of the PM2.5 NAAQS described the many efforts that New Jersey has made to reduce PM emissions to stay within the NAAQS, including costly measures to reduce diesel PM.

48. For example, New Jersey implemented a mandatory diesel retrofit program between 2010 and 2017 to control tailpipe emissions of particulate matter from diesel-powered garbage trucks, commercial buses and publicly owned on-road vehicles and off-road equipment. These vehicles were chosen because they operate in residential areas, some of which are overburdened urban communities: communities whose residents are predominantly low-income and persons of color who experience a disproportionate impact on their health, well-being and quality of

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[55] *See* NJDEP, "SIP Revision for the Attainment and Maintenance of the Fine Particulate Matter (PM2.5) NAAQS: Final Resignation Request and Maintenance Plan" at p. 4, Figure 1 (December 2012), available at http://www.nj.gov/dep/baqp/pmrequest.html (last visited July 18, 2018).

[56] *See id.*

life as a result of cumulative exposure to pollution and other hazards. Over 13,300 diesel vehicles and equipment were retrofitted or retired to save 78 tons per year of PM emissions, at a cost to New Jersey of approximately $73 million.

49. New Jersey established a voluntary program to reduce harmful diesel particulate emissions from nonroad construction equipment operating in New Jersey, with a particular focus on equipment used in urban areas. Through this program, approximately 300 retrofit devices were installed on heavy-duty diesel construction equipment. Federal funding of approximately $6 million will achieve predicted lifetime emissions benefits of 150 tons of PM2.5.

50. On June 14, 2013, EPA re-designated New Jersey as in attainment with the 1997 and 2006 PM2.5 NAAQS.[57] In the meantime, in January 2013, EPA published a revised annual PM2.5 NAAQS, reducing the limit from 15 ppm to 12 ppm.[58] In 2015, EPA designated all of New Jersey as unclassifiable/attainment for the 2012 PM2.5 NAAQS as well.[59]

51. 67 tons of PM, which is New Jersey's expected share of emissions from 6,400 additional gliders, would offset nearly a year of PM

[57] 78 Fed. Reg. 35764 (June 14, 2013).

[58] Final Rule: National Ambient Air Quality Standards for Particulate Matter, 78 Fed. Reg. 3086 (January 15, 2013).

[59] Air Quality Designations for the 2012 Primary Annual Fine Particle (PM2.5) NAAQS, 80 Fed. Reg. 2206, 2255 (January 15, 2015).

reductions achieved at significant cost as part of the State's mandatory diesel retrofit program. As described above, these reductions were achieved at significant cost to New Jersey and were reported as measures that support New Jersey's maintenance of the 2012 PM NAAQS.[60]

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

Executed in Trenton, New Jersey on July 18, 2018.

Margaret E. Hanna
Assistant Director

[60] New Jersey SIP Revision for the Attainment and Maintenance of the PM2.5 NAAQS, supra, n.55, at § 4.5.3.2.

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. _____

STATE OF CALIFORNIA, by and through XAVIER BECERRA, ATTORNEY GENERAL and CALIFORNIA AIR RESOURCES BOARD, STATE OF CONNECTICUT, STATE OF ILLINOIS, STATE OF MAINE, STATE OF MARYLAND, COMMONWEALTH OF MASSACHUSETTS, STATE OF NEW JERSEY, STATE OF NEW YORK, STATE OF NORTH CAROLINA, STATE OF OREGON, COMMONWEALTH OF PENNSYLVANIA, by and through JOSH SHAPIRO, ATTORNEY GENERAL and PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, STATE OF RHODE ISLAND, STATE OF VERMONT, and STATE OF WASHINGTON,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ANDREW K. WHEELER, Acting Administrator, United States Environmental Protection Agency, and SUSAN P. BODINE, Assistant Administrator, Office of Enforcement and Compliance Assurance, United States Environmental Protection Agency,

Respondents.

DECLARATION OF CHRISTINE KIRBY

I, Christine Kirby, declare as follows:

1. I am currently employed by the Massachusetts Department of Environmental Protection (MassDEP) as both the Assistant Commissioner in charge of the Bureau of Air and Waste and the Director of Air and Climate Change. I have held the former position for 1.5 years and the latter for 5.5 years. I have been employed by MassDEP since 1985, having previously held the positions of Deputy Division Director of the Mobile Source Section for 8 years, and Branch Chief for Transportation Programs for 7 years. My job duties include overseeing the promulgation and implementation of MassDEP regulations that establish emission standards and other emission-related requirements applicable to on-road mobile sources, including heavy-duty diesel vehicles and engines. I have a Bachelor of Arts degree from Clark University. I am currently the chair of the Mobile Source Committee of the Ozone Transport Commission (OTC), which is the multi-state organization created under the Clean Air Act and is responsible for advising EPA on transport issues and for developing and implementing regional solutions to the ground-level ozone problem in the Northeast and Mid-Atlantic regions. I also serve on the Board of Directors of the Northeast States for Coordinated Air Use Management (NESCAUM), an association of the air quality agencies in eight Northeast states that provides scientific, technical, analytical, and policy support to the air quality programs of those agencies, especially regarding

implementation of national environmental programs required under the Clean Air Act and other federal legislation.

2. This declaration refers to a federal rulemaking action and the administrative record underlying that rulemaking - *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2*, 81 Fed. Reg. 73,478 (Oct. 25, 2016)—referred to herein as "the Phase 2 Rule." The Phase 2 Rule was jointly promulgated by the United States Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA). This declaration also refers to EPA's issuance of a memorandum on July 6, 2018 that states that EPA will not give effect to certain provisions of the Phase 2 Rule that limit sales of a type of heavy-duty truck called a "glider" for 2018 and 2019, and instead will continue to employ the regulation's less stringent limits for 2017 ("EPA Memo"). I am personally familiar with the Phase 2 Rule and EPA's Memo. Gliders, also sometimes called glider vehicles, primarily include the tractor portions of tractor-trailers that are produced by installing a previously used heavy-duty engine and/or transmission into a new tractor chassis that typically include frames, front axles, interior and exterior cabs, and brakes. *See* 40 CFR § 1037.801 (2016). In the context of this declaration, the term "gliders" is used to mean gliders produced with refurbished old engines that

do not meet the stringent emission standards for new engines, and hence they have much higher emissions than new trucks with new engines.

3. I am submitting this declaration in support of Petitioners' Motion for Summary Vacatur or, in the Alternative, for Stay Pending Judicial Review and in support of Petitioners' standing to challenge EPA's Memo.

4. MassDEP participated in the rulemaking by which EPA and NHSTA established the Phase 2 Rule through comments (dated October 1, 2015) and testimony (dated August 18, 2015) submitted by NESCAUM on behalf of its member states, and I personally participated in preparation of such comments and testimony, along with other Northeast and Mid-Atlantic States that are part of NESCAUM and OTC.

5. I have reviewed the Declaration of Kimberly Ayn Heroy-Rogalski, Chief of the Mobile Source Regulatory Development Branch, California Air Resource Board (CARB) and Exhibit A thereto (CARB Decl.), which is being filed concurrently with this Declaration. To avoid duplication, I adopt and incorporate by reference the portions of Ms. Heroy-Rogalski's declaration that discuss generally the nature of gliders and their harmful effects (CARB Decl., ¶¶10-15) and her analysis that produced estimates of premature deaths and other harms, which is based on data and estimates of the EPA and uses census-based statistics of

the United States Department of Transportation (*id.*, ¶¶16-30 and Exhibit A, thereto).

6. Based on my personal familiarity with the Phase 2 Rule, EPA's Memo, consultations with other experts at MassDEP and at other state agencies, and based on my own knowledge, experience and analysis, I conclude that Massachusetts and its people will suffer significant and irreparable harm from sales of gliders resulting from EPA's Memo—sales that would not have occurred absent the EPA Memo and that will cause both short-term and long-term harm. First, MassDEP will have to dedicate significant resources to adopt new programs, or modify existing programs, to attempt to offset the increase in nitrogen oxides (NOx) and particulate matter (PM) emissions from these gliders. Second, such increases in emissions of NOx and PM will result in an upsurge in negative health effects, including increased mortalities, exacerbated respiratory ailments, such as asthma, and increased cardio-vascular issues.

The Harmful Effects EPA's Memo Will have on Massachusetts

7. EPA's Memo will significantly increase costs to Massachusetts to maintain compliance with federal and state ambient air quality standards. Massachusetts, like California, has spent many decades enacting measures to reduce the same pollutants that will now be increased due to EPA's Memo—specifically, NOx and particulate matter (PM) (which includes fine particulate

matter (PM2.5) and larger particulates), both of which are extremely harmful to human health as discussed in Ms. Heroy-Rogalski's declaration. I detail below the enormous efforts that the Commonwealth of Massachusetts has undertaken to reduce NOx (a precursor to the formation of ozone)[1], PM, and Ozone pollution, to which NOx contributes. Then I will explain how Massachusetts will incur additional great expense to counter-act the increases in NOx and PM emissions that will result in the short and long-term due to EPA's Memo.

8. In 1990, the Massachusetts Legislature adopted M.G.L. c. 111, § 142K, a statute requiring MassDEP to enact regulations incorporating California's vehicle emissions standards with the goal of reducing NOx and PM emissions from motor vehicles, in accordance with the requirements of section 177 of the Clean Air Act allowing states to adopt California's motor vehicle emissions standards. *See* 42 U.S.C. § 7507. Furthermore, in 1991, MassDEP adopted 310 CMR 7.40, the Massachusetts Low Emission Vehicle (LEV) program, which, starting with model year 1995, prohibits any new light and medium duty passenger vehicle from being sold in Massachusetts that do not meet the California emissions standards. EPA

[1] Ground-level ozone, or smog, is not typically emitted directly, but rather is a photochemical oxidant, which means it is the product of complex chemical reactions in the atmosphere in the presence of sunlight and heat. Specifically, ozone is formed when nitrogen oxides (NOx) react with volatile organic compounds (VOCs) in the presence of sunlight and heat during hot summer months.

approved MassDEP's LEV program as part of our 1993 State Implementation Plan (SIP), along with a number of air pollution strategies and programs designed to meet the Clean Air Act Amendments of 1990 and to attain and maintain the national ambient air quality standards (NAAQS) for PM as well as for Ozone.[2] Following adoption of the LEV program, MassDEP has continued to update its LEV regulations to be consistent with California's emissions standards as required by the Clean Air Act.

9. In addition to the LEV program, Massachusetts has implemented dozens of other programs to reduce NOx and PM emissions, many of which are incorporated into the Massachusetts SIP as legally enforceable commitments. Here are a few examples of significant regulatory programs:

a. **310 CMR 7.02, Plan Approval and Emission Limitations Regulation** is the cornerstone of MassDEP's air permitting program. The regulation, which applies to both small and large sources of emissions, requires the sources (some of which are not otherwise regulated under the federal Clean Air Act) to obtain a permit that mandates compliance with emissions limitations that are among the most stringent in the country and/or install the most advanced air pollution control

[2] NAAQS are federal air quality standards set by EPA which all States must meet pursuant to the requirement of the Clean Air Act. *See* 42 U.S.C. §§ 7408 - 7410. States must develop and submit SIPs to EPA for approval, and these SIPs detail how each State will achieve each NAAQS set by EPA for each pollutant.

technology in the country. This is an important program to make sure that new or modified sources do not cause a major increase in NOx, PM and other so-called "criteria" pollutants for which EPA has established NAAQS under the Clean Air Act.

b. **310 CMR 7.03, Plan Approval Exemptions: Construction Requirements** establishes emission limitations, monitoring, and recordkeeping requirements for specific types of emissions sources so they do not have to obtain a permit under 310 CMR 7.02. This program also reduces NOx, PM and other criteria pollutants.

c. **310 CMR 7.05, Fuels All Districts** establishes declining sulfur in fuel limits in Massachusetts. MassDEP amended the regulations to incorporate EPA's most stringent sulfur limits as a way to help reduce PM emissions, as well as addressing SO_2 emissions.

d. **310 CMR 7.08(2), Municipal Waste Combustor (Incinerator) Rule** sets NOx and other pollutant emission limits for the largest Municipal Waste Combustors (MWC) in Massachusetts. In 2018, MassDEP amended the MWC

regulation to adopt among the most stringent NOx emission limits in the country, more stringent than EPA's Emission Guidelines.[3]

e. **310 CMR 7.26, Industry Performance Standards (otherwise known as the Environmental Results Program (ERP))**, sets limits for a broad spectrum of smaller sources of air pollutant emissions, including NOx and PM emissions, for particular types of industrial processes operations such as Engines and Turbines.

f. **310 CMR 7.27, 310 CMR 7.28, 310 CMR 7.32 and 310 CMR 7.34:** NOx Allowance Trading Programs. Between 1997 and 2018, MassDEP adopted four NOx Allowances Trading programs that cap ozone season NOx emissions from the large power plants in Massachusetts. From 1999-2002, the regulation limited total ozone season NOx emissions from large power plants in Massachusetts to 18,146 tons of NOx. *See* 310 CMR 7.27(3)(a). By 2015, MassDEP's regulations limited ozone season NOx emissions from large power plants to 6,656 tons. Beginning in 2018, MassDEP set a cap of 1,799 tons of NOx for a subset of these power plants. *See* 310 CMR 7.34(1)(a).

g. **310 CMR 7.29, Emission Standards for Power Plants** adopted the first multi-pollutant regulation in the country that applied to the six dirtiest and oldest power plants then-operating in Massachusetts. The purpose of the regulation was

[3] Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That are Constructed on or Before September 20, 1994 in the 40 CFR Part 60 Subpart Cb.

to require the oldest, dirtiest power plants to install new pollution control technology to dramatically reduce air pollutants, including NOx and PM.

h. **310 CMR 7.36, Transit System Improvements** requires the Massachusetts Department of Transportation (MassDOT) to construct and render available to the public transit system improvement projects to increase ridership, thereby reducing vehicle miles traveled and emissions from motor vehicles. This, in turn, reduces Ozone and PM pollution.

i. **310 CMR 7.38, Certification of Tunnel Ventilation Systems in the Metropolitan Boston Air Pollution Control District**, requires MassDOT to certify every five years that certain major highway ventilation systems meet emission limits and do not cause air quality in Massachusetts to exceed the NAAQs for Ozone and PM, as well as for other pollutants.

j. **310 CMR 7.00: Appendix A, Emission offsets and Nonattainment Review** (also known as federal New Source Review) is a federally mandated program to ensure that new major sources or modifications at major sources receive a permit to limit their emissions to the lowest possible emissions achievable by modern technology. This program assures that any new major source of emissions will not cause the state to exceed NAAQS for Ozone and PM.

k. **310 CMR 60.00, Massachusetts Motor Vehicle Emissions Inspection and Maintenance Program** is also a federally mandated program for states that

establishes an inspection program to annually inspect motor vehicles to ensure that their emissions are in compliance with EPA standards.

10. Massachusetts' efforts have resulted in dramatic decreases of statewide emissions of NOx and PM, which has allowed the Commonwealth to achieve attainment with NAAQS for Ozone[4] and to maintain attainment with the PM NAAQS. *See* Attachment A, Chart of Massachusetts NOx and PM emissions data from 2002 to 2014. As of April of 2018, EPA designated all of Massachusetts in attainment with the 2015 Ozone NAAQS Standard. Massachusetts' current SIP continues to include programs, including but not limited to the LEV program and the other programs listed above, to maintain levels of NOx and PM pollutants in the ambient air to stay in attainment with EPA's NAAQS.[5]

11. If EPA's Memo is not vacated or stayed immediately, increased NOx and PM emissions from increased sales of gliders will significantly reduce the air quality benefits achieved by the programs discussed above in terms of Massachusetts' ability to maintain compliance with the PM NAAQS and

[4] Massachusetts attained the 1997 Ozone Standard by the deadline of 2010 and attained the 2008 Ozone Standard by the deadline of 2015. As of April of 2018, EPA designated all of Massachusetts in attainment with the 2015 Ozone NAAQS.

[5] All of Massachusetts regulations to support reductions in NOx, PM and Ozone are maintained at: https://www.mass.gov/service-details/massachusetts-state-implementation-plans-sips

Massachusetts Ambient Air Quality Standards (MAAQS).[6] Referring to the analysis completed by Ms. Heroy-Rogalski in Exhibit A to her declaration, NOx emissions in Massachusetts will increase from 2,767 to 2,958 additional tons and PM emissions in Massachusetts will increase from 45 and 48 additional tons as a result of EPA's Memo. CARB Decl., Exh. A. Massachusetts would have to expend considerable state resources of its agencies to research, develop and promulgate new regulatory programs or amend existing ones to obtain reductions of NOx and PM from other sources to offset these emissions increases.

12. Maintaining the current levels of NOx emissions is important to preventing exceedances of the Ozone NAAQS. Anything that contributes to increases in NOx emissions will increase the formation of Ozone, which, in turn, will likely increase the number of days on which the Ozone NAAQS is exceeded in Massachusetts. Therefore, the increased emissions from the increase in the number of gliders allowed under EPA's Memo will harm Massachusetts by making it harder to maintain attainment with EPA's Ozone NAAQS. Thus, due to EPA's Memo, Massachusetts will be more susceptible to backsliding into nonattainment with the Ozone NAAQS standards.

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[6] MAAQS standards are promulgated at 310 CMR 6.00 and have been periodically updated to be at least as stringent as NAAQS standards for all criteria pollutants, including Ozone and PM. MassDEP has a pending rule-making to update the MAAQS to current NAAQS standards.

Irreparable Harm to Massachusetts Health and Environment

13. I concur with the analysis of Ms. Heroy-Rogalski that demonstrates that the harms that would result from EPA's Memo will not only impair the benefits of the regulatory programs, such as the Massachusetts programs discussed above, but will also include irreparable harms to human health and are not limited to the timeframe during which the EPA's Memo is in effect. This is because gliders sold during the effectiveness of the EPA's Memo will have long-term impacts. Those gliders will continue to operate on the nation's roads for 10 years or longer, dramatically increasing pollution in the air in Massachusetts and throughout the United States during all of those years. *See* CARB Decl., ¶ 6.

13. Ms. Heroy-Rogalski conducted a detailed analysis of the nation-wide, significant and irreparable harm from sales of gliders during the pendency of EPA's Memo—sales that would not have occurred absent EPA's Memo and that will cause harm in both the short- and long-term. I have reviewed and I adopt Ms. Heroy-Rogalski's analysis as explained in detail in her declaration, ¶¶ 7-33. In particular, it is important to note that EPA's own studies demonstrate significant health and mortality impacts from NOx and PM emissions and Ozone pollution. ground level Ozone is a proven public health hazard, which affects normal lung function in many healthy humans. Exposure to ozone can exacerbate respiratory conditions such as asthma and chronic obstructive pulmonary disease, especially in

sensitive populations such as children and the elderly, and can result in increased respiratory-related hospital admissions, emergency room, and other medical visits. *See* CARB Decl., ¶¶ 10-12. In fact, as shown in Exhibit A to Ms. Heroy-Rogalski's declaration, she estimates that between 8 and 19 Massachusetts residents will die prematurely due to additional glider sales as a result of EPA's Memo, if it is neither stayed nor immediately invalidated. CARB Decl., ¶¶ 7-33. Likewise, her analysis estimates that EPA's Memo will cause between 6 and 9 non-fatal heart attacks to people in Massachusetts, between 384 and 567 people in Massachusetts to suffer exacerbation of asthma conditions, and between 721 and 1,065 lost work days are estimated to result in Massachusetts. These are irreparable harms to people's health and welfare and will be costly to the state. CARB Decl., Exh. A.

14. In addition, according to EPA's own monetized estimate of the health impacts resulting from a single glider, allowing *just one* additional glider to be sold will result in between $300,000 and $1,100,000 in costs from adverse health impacts. *See* CARB Decl., ¶ 32. EPA's Memo would allow thousands of additional gliders to be sold each year throughout the United States and dozens or hundreds of additional gliders to operate on the roadways of Massachusetts. Therefore, absent a stay, Massachusetts and its residents will be burdened with

millions of dollars in health-related costs as well as the irreparable impacts of premature deaths and significant health impacts.

Conclusion

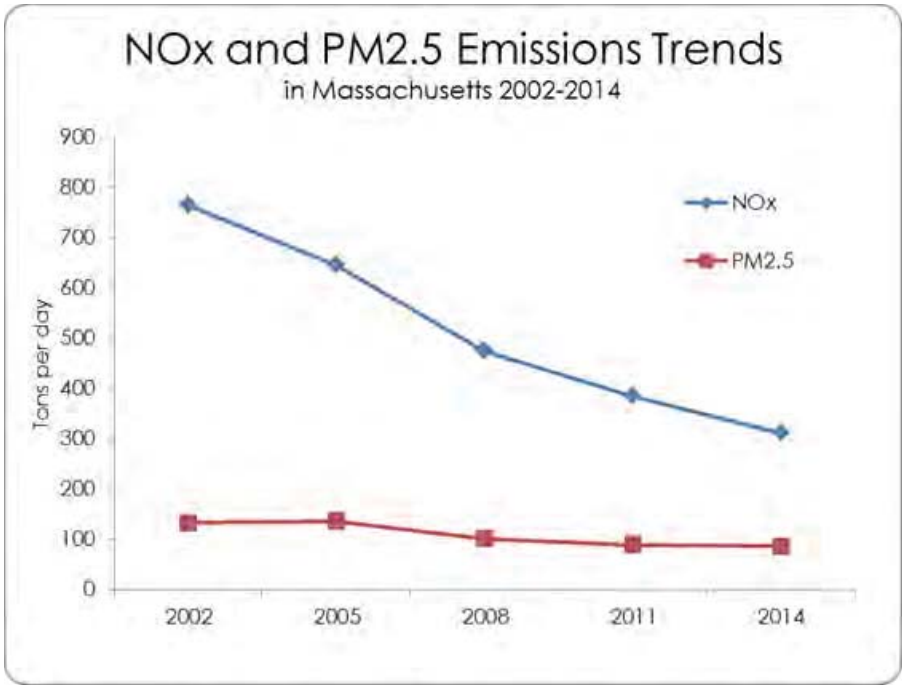
15. As discussed above, EPA's Memo allows thousands of additional gliders to be sold nationwide. And, as also discussed above, those thousands of gliders will produce significant amounts of additional PM and NOx emissions in Massachusetts. As a result, EPA's Memo injures Massachusetts: (1) by causing negative health and mortality impacts; and (2) by undermining the State's efforts to reduce harmful pollutants -- efforts that have been undertaken at considerable expense to Massachusetts itself and to regulated businesses -- putting the Commonwealth at risk of backsliding into nonattainment. The latter issue would result in Massachusetts having to devote additional limited agency resources to evaluate undertaking further regulatory proceedings to forestall such an outcome and seek to assure our ability to maintain compliance with applicable NAAQS and MAAQS.

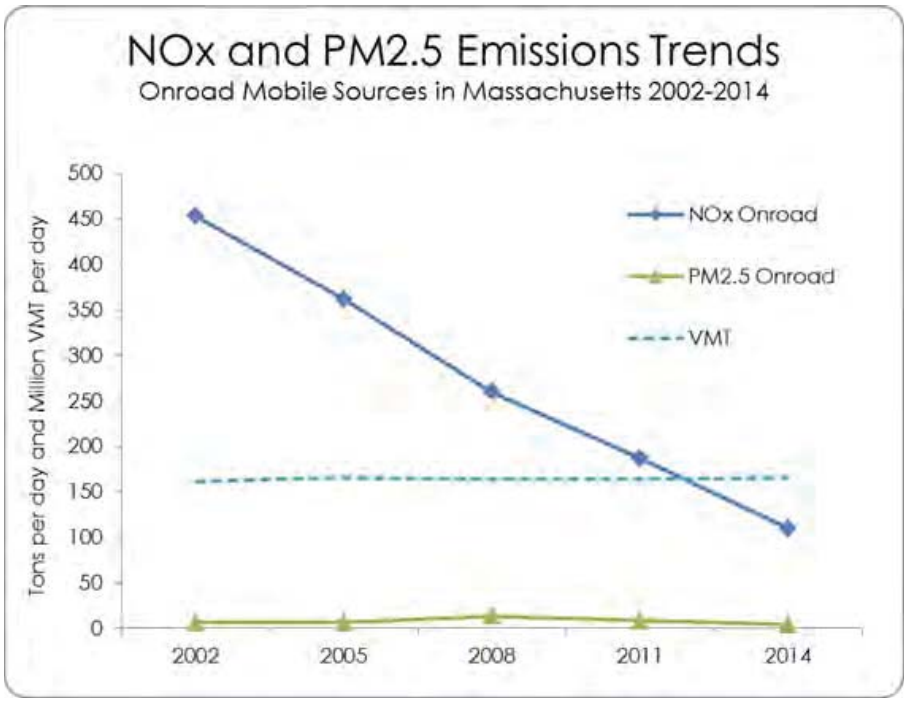
Under penalty of perjury, I declare that the foregoing is true and correct to the best of my knowledge.

Executed in Boston, Massachusetts on July 19, 2018.

Christine Kirby
Assistant Commissioner, Bureau of Air and Waste
MassDEP

ATTACHMENT A
MASSACHUSETTS NOX AND PM EMISSIONS DATA: 2002- 2014





"Massachusetts 2011 Periodic Emissions Inventory", February 9, 2018: https://www.mass.gov/lists/massdep-emissions-inventories
2014 National Emissions Inventory (NEI) Data: https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data

CERTIFICATE OF SERVICE

I certify that on July 19, 2018, this Appendix to Emergency Motion for Summary Vacatur or, in the Alternative, for Stay Pending Judicial Review was electronically served on Respondent United States Environmental Protection Agency through the appellate electronic case filing system.

DATED: July 19, 2018

/s/ David A. Zonana
David A. Zonana