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D.C. Circuit Upholds Restrictions on Diesel Emissions

On January 18, 2001, the Environmental Protection Agency (EPA) issued a final rule aimed at dramatically reducing diesel engine emissions from heavy-duty, on-road vehicles.¹ The standards promulgated in the rule, entitled Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements (2007 Rule), will take effect in 2007. Engine manufacturers, automobile makers, and fuel refiners promptly challenged these regulations in National Petrochemical & Refiners Ass'n v. EPA.² A three-judge panel on the Court of Appeals for the District of Columbia upheld the 2007 Rule, finding that the petitioners failed to demonstrate that the EPA acted in an arbitrary and capricious manner in adopting the new regulations pursuant to its authority under the Clean Air Act.³

The vehicles regulated under the 2007 Rule generally include semi-trucks, buses, and waste-haulers.⁴ Although heavy-duty vehicles make up only two percent of all vehicles on the road, they contribute one-third of all nitrous oxides (NOx) and nearly two-thirds of all particulate matter emitted by on-road vehicles.⁵ The EPA estimates that the reduction in pollution under the 2007 Rule will prevent over 8,000 air-quality related deaths and more than 700,000 annual cases of respiratory illness.⁶ Although the EPA developed the 2007 Rule under Carol Browner during the Clinton administration, the Bush administration has supported it, unlike other Clinton air quality policies.⁷ The Bush administration has

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¹ Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements, 40 C.F.R. §§ 69, 80, 86 (2003).
² 287 F.3d 1130 (D.C. Cir. 2002).
³ Id. at 1134-35.
⁵ Id.
⁷ Id.
⁸ For example, new regulations enacted by the Bush administration regarding new source review under the Clean Air Act may jeopardize dozens of enforcement actions that the
furthermore developed similar regulations for off-road diesel vehicles, such as tractors and bulldozers.9

Under the 2007 Rule, the standard for emissions of particulate matter is 0.01 grams per brake-horsepower-hour, a ninety-percent reduction from the prior standards.10 This particulate matter emission standard takes effect in 2007.11 The standard for emissions of NOx is 0.20 grams per brake-horsepower-hour, a ninety-five percent reduction from the prior standards, but will be phased in from 2007 through 2010.12 The 2007 Rule also removes the exception for emissions from crankcases, which will be combined with exhaust emissions and must together meet the new standards.13

Technological innovations are necessary to meet this new standard.14 The petitioners argued that the EPA did not have sufficient ground to assume that such innovations will be possible by 2007. The EPA’s regulations under the Clean Air Act are reviewed using the arbitrary and capricious standard of Clean Air Act Section 7607(d).15

Under this standard, the EPA is given great deference due to the technical nature of their analysis.16 The EPA must “identify the major steps for improvement and ‘give plausible reasons for its belief that the industry will be able to solve these problems in the time remaining.’”17 However, the EPA does not have to solve the engineering challenges itself.18 Reviewing the regulations under the this standard, the court found that the petitioner’s evidence was insufficient to show that the EPA was arbitrary or capricious in concluding that engine manufacturers will be able to develop emission control systems that will meet the requirements of the 2007 rule.19

The EPA predicted that development of NOx adsorbers could meet the NOx standard. In fact, the court cited tests showing that these
adsorbers achieve a reduction in NOx emissions ranging from ninety to ninety-eight percent. Additionally, development of catalyzed diesel particulate filters could meet the particulate matter standard.

The petitioners argued that the NOx adsorbers would not be adequate to meet the standard. NOx are adsorbed through catalysts, which may become clogged by sulfur. To remove the sulfur, the exhaust temperature must be increased, which can melt the catalysts. Although the petitioners described this as a "catch-22" that cannot be overcome, the court found that the EPA had provided several possibilities that could make the catalysts better able to withstand the high temperatures necessary to remove the sulfur.

The petitioners also argued that they would not be able to comply with the federal test procedure using NOx adsorbers, because the test requires a "cold start" section and the adsorbers are ineffective at lower temperatures. The court rejected this argument because the 20-minute "cold start" counts for only 1/7 of the overall test score and the engines warm up throughout the "cold start" test, potentially reaching a temperature of 450 degrees after only 30 seconds. The court therefore concluded that the portion of the test during which the adsorbers would be ineffective makes up a "trivial percentage of the weighted score for the test."

The NOx adsorbers would require sensors to detect the rising levels of NOx in exhaust and trigger regeneration of the adsorber. As part of their argument against the 2007 Rule, petitioners alleged that these sensors do not exist and that the EPA failed to support its belief that such sensors would exist by 2007. The court disagreed, finding that the EPA had a study and a test program to support its conclusion that adequate sensors will be available in time to meet the standard.

The court also concluded that the crankcase standard is feasible and the EPA's prediction of at least one way of eliminating crankcase emissions was not arbitrary. After considering the petitioner's concerns

20. Id. at 1137.
23. Id. at 1138.
24. Id. at 1138-39.
25. The EPA has promulgated regulations under the Clean Air Act for testing vehicle compliance with applicable emissions standards. The regulations for the testing of diesel heavy-duty engines are contained at 40 C.F.R. § 86.1301-90 – 86.1380-2004 (2002).
26. Id. at 1139.
27. Id. at 1139-40.
28. Id. at 1140.
29. Id.
30. Id. at 1140-41.
31. Id. at 1141.
about the ability of measuring equipment to accurately detect the extremely low emissions required by the 2007 Rule, the court held that these apprehensions were insufficient as a basis for challenging the rule. Rather, relying on *Amoco Oil Co. v. EPA*, the court found that such a problem could only raise a challenge to an attempt by the EPA to find a violation of the standard and therefore should be addressed at a later stage.  

Lastly, the court addressed the petitioners’ concern about the effect of the 2007 Rule on vehicles that operate in Canada and Mexico in addition to the United States. If Canada and Mexico fail to adopt a 15 ppm sulfur standard for diesel fuel, this high sulfur fuel may “poison” the catalysts in the NOx adsorbers, rendering them ineffective. The EPA could then require the manufacturer to recall and repair the non-conformity. The court noted, however, that the EPA can only require a recall if the non-conformity arises in properly maintained vehicles. The manufacturers would have a defense to such a recall by arguing that the use of high sulfur fuel constitutes improper maintenance. The court therefore found the risk that the 2007 Rule would unlawfully expose manufacturers to recalls so remote as to render the claim unripe.

In order for the diesel engines to meet the emissions standards in the 2007 Rule, such engines will need to run on diesel fuel with much lower levels of sulfur than is currently available in the United States. Under the 2007 Rule, the maximum allowable sulfur level in diesel fuel will be reduced to 15 ppm from 500 ppm, a ninety-seven percent reduction from the prior standard. This standard will be phased in from 2006-2008.

Pursuant to Clean Air Act Section 7545(c)(1)(B), the EPA can regulate fuel content if the Administrator determines that emissions from use of the fuel will “impair to a significant degree the performance of any emission control device or system which is in general use, or which... would be in general use were such regulation to be promulgated.” The petitioners contended that the low sulfur fuel is only necessary to the NOx adsorption technology, and relied on *Amoco Oil* for their contention that the EPA cannot base a fuel regulation on technology that is still in the testing stage. The court, however, distinguished the present case from *Amoco Oil*, where the petitioner was attempting to require the Administrator to consider technology alternatives to the catalytic

32. *Id.* at 1142 (quoting *Amoco Oil Co. v. EPA*, 501 F.2d 722, 743 (D.C. Cir. 1974)).
34. *Nat’l Petrochemical*, 287 F.3d at 1142.
35. *Id.*
37. *Id.*
converter that were still in the testing stage. There, the Administrator had rejected the alternatives because the catalytic converter would be in general use while the alternatives would not. In the present case, the EPA believed that the NOx adsorption technology would be available and in general use, and the court found this determination reasonable.\(^{39}\)

Thus, in spite of the petitioners' contentions, the court reasoned that *Amoco Oil* actually supported the EPA's decision.\(^{40}\)

In addition to the aforementioned provisions, the 2007 Rule provides special benefits for engine manufacturers who produce engines that are cleaner than required. The regulations allow such manufacturers to generate credits that they may use to offset higher emitting engines ("averaging"), save for future use ("banking"), or sell to other manufacturers ("trading").\(^{41}\) In the past, credits could only be used to offset engines in the same class.\(^{42}\) The new regulations allow averaging, during the phase-in period from 2007 to 2009, between the different classes of light, medium, and heavy heavy-duty engines. Since Mack Truck makes only heavy heavy-duty engines, the new rule may reduce its ability to compete with companies who also make light and medium heavy-duty engines, because such companies will now be able to average their emissions across all of their engine classes. Mack Truck therefore challenged the EPA's changes to the Averaging, Banking, and Trading program on both procedural and substantive grounds.\(^{43}\)

In ruling on Mack Truck's contentions, the court first determined that the company did have prudential standing to challenge the rule. Using the "zone of interests" test, the court found that it is "at least 'arguable' that Congress intended [the] EPA to take into account anticompetitive impacts should it establish an ABT program."\(^{44}\) The court went on to dispose of Mack Truck's procedural and substantive objections.\(^{45}\)

Mack Truck made two procedural challenges to the 2007 Rule. First, it alleged that the EPA failed to give interested parties notice of the proposed regulations and opportunities to comment.\(^{46}\) Although the EPA did not give Mack Truck official notice, the court concluded that the company had actual noticessince they timely submitted extensive comments on the proposed regulations.\(^{47}\) Furthermore, the petition for

\(^{39}\) *Nat'l Petrochemical*, 287 F.3d 1144.

\(^{40}\) *Id.*

\(^{41}\) Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements, 40 C.F.R. §§ 69, 80, 86 (2003).

\(^{42}\) *Nat'l Petrochemical*, 287 F.3d 1147.

\(^{43}\) *Id.* at 1146.

\(^{44}\) *Nat'l Petrochemical*, 287 F.3d at 1148.

\(^{45}\) *Id.* at 1148-49.

\(^{46}\) *Id.* at 1148.

\(^{47}\) *Id.*
reconsideration contained "basically the same arguments" as in the initial comments. Thus the court decided that Mack Truck could not "demonstrate a 'substantial likelihood' that the rule would have been 'significantly changed' absent the alleged error." 48

Mack Truck next complained that the EPA consulted with its competitors and did not include these discussions in the administrative record. 49 The court also rejected this argument, because Mack Truck did not allege that the EPA relied on any critical information obtained in these discussions. Since Mack Truck had actual notice of the proposed regulations and filed extensive comments, the court found that there was not a substantial likelihood that the rule would have significantly changed if the EPA had published the record of the discussions. 50

Mack Truck's substantive challenge to the 2007 Rule was that the EPA did not provide a reasoned explanation for its decision to allow averaging across engine classes. 51 EPA contended that the 2007 Rule only allows cross-class averaging during the phase-in period from 2007-2009 and is justified by the interest in providing flexibility during this transition. EPA further contended that while it tries to avoid causing anti-competitive effects of its regulation, competition is not the primary goal of the regulations. The court accepted these arguments as a full and satisfactory explanation of the EPA's decision. 52

The EPA's victory in National Petrochemical & Refiners Ass'n v. EPA has significantly discouraged challenges to the 2007 Rule, and allowed all affected parties to focus on investing in the development of the technology necessary to implement the new standards on time or even ahead of schedule. 53 The support of the Bush administration for this rule further encourages implementation efforts by providing certainty that the regulations will remain in place. If such implementation is ultimately successful, this rule will result in much improved air quality and reduced air-quality related diseases for hundreds of thousands of Americans.

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48. Id. (citing 42 U.S.C. § 7607(d)(8)).
49. Id.
50. Id.
51. Id.
52. Id.
53. Low sulfur diesel fuel is already available to a limited extent in some areas. See Christopher Anderson, Cleaner Diesel Arrives in San Antonio; Ultra-Low Sulfur Fuel for Truck Fleets, SAN ANTONIO EXPRESS-NEWS, Feb. 12, 2003, at 5B.