

**Response to Ethyl Corporation Petitions Denying
Reconsideration of Three EPA regulations: CAP 2000, Heavy
Duty Gasoline, and OBD/IM**

SUMMARY: The Ethyl Corporation has submitted three petitions to the EPA Administrator to reconsider three separate Agency rulemakings. The first petition, submitted on August 17, 1999 is regarding the compliance procedures for new motor vehicles known as "CAP 2000". The second petition, submitted on January 12, 2001 pertains to emission standards and compliance procedures for new heavy-duty gasoline engines. The third petition, submitted on May 4, 2001 pertains to the use of on-board diagnostics for vehicle inspection and maintenance programs.

The Petitioner's issues with the heavy-duty rule are identical to those of the CAP 2000 rule, and EPA agreed that its response would cover both regulations. The issue for the OBD/IM rule are somewhat different, if related. This document contains EPA's response to all three petitions. EPA is denying all three of the Petitioner's requests for reasons discussed in detail below.

I. Denial of Petition to Reconsider CAP 2000 Regulation

On May 4, 1999, EPA published final rules revising the procedures to certify the emissions compliance of new light-duty motor vehicles and trucks. Among other things, the

rules revise the methods used by manufacturers to demonstrate that the emissions control systems in their new vehicles and trucks will achieve compliance with the emissions standards in-use for the required period of operation (known as "useful life"). The rules also require that manufacturers test in-use motor vehicles to monitor compliance with the emissions standards. 64 Fed.Reg. 23,906 (May 4, 1999). The regulations are commonly referred to as the CAP 2000 rules.

On August 17, 1999, Ethyl Corporation petitioned EPA to reconsider the CAP 2000 regulations. EPA requested public comment on the petition, 64 Fed.Reg. 60,401 (November 5, 1999 and 64 Fed.Reg. 70,665 (December 17, 1999), and received comments from various interested parties. After consideration of the petition and of all comments, EPA is denying the petition for reconsideration for the reasons discussed below.

INTRODUCTION AND BACKGROUND

Before a manufacturer may introduce a new motor vehicle into commerce, the manufacturer must obtain an EPA certificate of conformity indicating compliance with all applicable emission standards. To receive a certificate, the manufacturer submits an application to EPA containing test data and various information specified in the regulations. EPA reviews the submitted information as well

as any other relevant information, and issues a Certificate upon a determination that the manufacturer has demonstrated that the new motor vehicle meets the requirements of the Clean Air Act (Act) and the regulations. See 40 CFR 86.1848-01.

An important part of this demonstration is a showing that the design and equipment of the emissions control systems in the new motor vehicle will result in compliance with the emission standards over the motor vehicle's full useful life.¹ The demonstration includes test data and other information used to predict the emission levels of vehicles at the end of their useful life period. Since issuance of a certificate must occur prior to sale of the new motor vehicle, the certification program, by its nature, occurs prior to actual production of the new motor vehicles and is predictive in nature. Under the regulations, manufacturers typically use pre-production or prototype vehicles to demonstrate compliance with the emissions standards. Information from these vehicles play a central role in demonstrating that the subsequently produced new motor vehicles will conform with the emissions standards throughout their useful lives.

EPA's certification regulations split the compliance

¹The useful lives of motor vehicles for emission compliance purposes are defined in section 202(d) of the Clean Air Act and are implemented through the regulations. For light-duty vehicles, full useful life is 100,000 miles or 10 years.

demonstration into two connected parts. The first is an emissions durability demonstration, and the second is an emissions compliance demonstration. The central purpose of the durability demonstration is to determine the rate at which emissions are expected to deteriorate over the useful life period of the vehicle. The purpose of the emission compliance demonstration is to show that the vehicles will meet the emission standards throughout their full useful life period. The emission compliance demonstration uses information about emission deterioration, determined during the durability demonstration, and applies it to low mileage production prototypes to predict the emissions levels that can be expected at the end of the vehicle's useful life. A certificate of conformity is not issued until the manufacturer demonstrates through this process that their new motor vehicles will comply with the emissions standards throughout their entire useful life. The CAP 2000 regulations revised the certification procedures to make this durability and compliance demonstration more effective at predicting actual in-use deterioration. The focus of the Petition to Reconsider is primarily on changes made to the emissions durability demonstration procedures.

Predicting emission deterioration and compliance pre-CAP
2000

EPA's new motor vehicle certification program has been

in existence since the 1970's, and it has always contained the two elements of emissions durability demonstration and emissions compliance demonstration. Prior to the adoption of Tier 1 emission standards, EPA's regulations required that the emissions durability of light-duty vehicles be determined by driving a test vehicle for 50,000 miles either on a track or on a vehicle dynamometer using a prescribed driving cycle known as the "AMA" (ref. 40 CFR 86, Appendix IV.) The test vehicle, known as a "durability data vehicle" or DDV, was driven over this cycle for the entire useful life period.² At prescribed points during the mileage accumulation, the DDV was emissions tested. A deterioration factor (DF) was calculated for the exhaust emission constituents subject to an emissions standard, based on the emissions testing of the DDV. A production-intent vehicle with relatively low mileage was also emissions tested, and its test results were adjusted based on this DF to predict the emissions of the vehicle at full useful life. The resulting emissions level was the official certification result for the vehicles.

This process applied only to light-duty vehicles. A DF for light-duty trucks was determined by a manufacturers using mileage or service accumulation according to the manufacturers' good engineering practice, subject to

²Until model year 1994, the useful life period for light duty vehicles was 50,000 miles. For Tier 1 motor vehicles this was doubled this to 100,000 miles.

approval by EPA. (ref. 40 CFR 86.090-26(b)(2),(3)).

Two factors caused EPA to consider alternatives to the AMA mileage accumulation procedure as a way to determine emissions durability. First, EPA and others were concerned about the ability of the AMA, or any fixed driving cycle, to represent real-world aging conditions across the entire automotive fleet. The General Accounting Office Report to Congress dated July, 1990, criticized EPA for the ineffectiveness of its AMA-based durability program.³ Second, Tier 1 emission standards, effective with the 1994 model year, included a doubling of the useful life period for light-duty vehicles from 50,000 miles to 100,000 miles. This significantly increased the amount of time and associated costs needed to complete the mileage accumulation needed for the durability demonstration.

EPA initially addressed these concerns through an interim program known as "RDP" (for Revised Durability Programs) (ref. 40 CFR 86.094-13) (58 Fed.Reg. 4,002 (January 12, 1993)). The RDP regulations addressed the concern over increased time and costs associated with using the AMA and also addressed to some degree EPA's and GAO's concerns about the AMA driving cycle. In the RDP regulations, manufacturers were allowed the option to

³GAO Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives: Air Pollution: EPA Not Adequately Ensuring Vehicles Comply with Emission Standards", #RCED-90-128.

develop their own streamlined emissions durability demonstration procedures, instead of driving a DDV on the AMA driving cycle for 100,000 miles. This option also required these manufacturers to perform in-use testing to verify the accuracy of the emissions deterioration predictions made by their individual durability procedures. A manufacturer had to obtain EPA approval for each durability procedure.

A number of manufacturers elected to use this option, and durability procedures varied from manufacturer to manufacturer. Some manufacturers developed driving cycles which were more severe than the AMA (e.g. higher speeds, greater engine loads, etc.) and could attain 100,000 miles in a shorter amount of time. These are referred to as "whole vehicle mileage accumulation" cycles. Other manufacturers developed techniques for aging the key emission control components - generally, the catalytic converter and oxygen sensor - that account for the bulk of emission deterioration over time. The components, representative of those to be installed on production vehicles, are removed from a pre-production vehicle, rapidly aged on a test bench to the equivalent of the full useful life, then reinstalled on the vehicle for emissions testing with the aged components. These are referred to as "bench aging" processes.

EPA believed that both of these processes resulted in

more realistic predictions of emission deterioration of in-use vehicles, and at the same time saved the manufacturers time and money. The in-use testing that manufacturers were required to perform gave EPA a useful mechanism to hold manufacturers accountable for their predictions of in-use emissions deterioration made at certification.

Predicting emissions deterioration and compliance under CAP 2000

The CAP 2000 rules are designed to improve the compliance rate of light-duty vehicles in actual use by making the certification compliance procedures more effective and efficient. Experience gained from implementing the RDP program was used in developing the durability demonstration requirements for CAP 2000 certification. EPA eliminated the AMA cycle as a required driving cycle for mileage accumulation, and required all manufacturers (except small volume manufacturers) to develop their own emissions durability procedures. EPA approval of each of each manufacturer's durability procedures is required to assure that the procedures will effectively predict emissions deterioration in-use over the full useful life. EPA also requires that each manufacturer perform in-use testing to verify that the durability procedures produce an accurate prediction of in-use emissions deterioration.

EPA's regulations spell out the elements that must be

included in a manufacturer's emissions durability and compliance demonstration program. See, e.g. 40 CFR 86.1823-01(a)(1), (2), and (3). The regulations discuss service accumulation methods, including whole vehicle mileage accumulation and bench aging of components. The regulations discuss critical elements of each of these, aimed at ensuring adequate prediction of in-use emissions durability. The regulations require that the durability program contain a method for selecting the vehicles or components used in the durability program. They also require that a manufacturer specify the method used to determine compliance. Instructions are provided on how to determine and apply DF's. The regulations also identify the additional information that must be submitted when applying for approval of a durability program. See 40 CFR 86.1823-01(b). This includes an analysis and/or data demonstrating the adequacy of the manufacturer-developed durability program to effectively predict emissions compliance for the candidate in-use vehicles. The data submitted has to cover the breadth of the manufacturer's product line that will be covered by the durability program. This typically would mean showing that the durability program covers ninety percent or higher of the distribution of deterioration rates experienced by vehicles in-use. See 64 Fed.Reg. 23,907, 23,913 (May 4, 1999), 63 Fed.Reg. 39,660, 39,661 (July 23, 1998). In addition, the manufacturer has to submit

information on the in-use verification testing that they will conduct. The regulations also specify the overall criteria the agency will employ in approving or rejecting the durability program: will the program effectively predict the expected deterioration of in-use vehicles over their full useful life, and does it employ good engineering judgment? See 40 CFR 86.1823-01(a).

The issues raised by the Petitioner or commenters are discussed below.

I. Whether the manufacturer-specific durability processes are "methods and procedures for making tests" under section 206(d) of the Clean Air Act

Background

Section 206(d) of the Clean Air Act states that the "Administrator shall by regulation establish methods and procedures for making tests under this section." 42 U.S.C. §7525(d). "Tests under this section" refer to those required under section 206(a)(1), which states:

The Administration shall test, or require to be tested in such manner as he deems appropriate, any new motor vehicle or new motor vehicle engine submitted by a manufacturer to determine whether such vehicle or engine conforms with the regulations prescribed under [CAA §202]. 42 U.S.C. §7525(a)(1).

Section 202(a) authorizes EPA to establish emission standards for motor vehicles. The standards are applicable to such vehicles and engines for their "useful life." 42 U.S.C. §7521(a). The "useful life" is prescribed in section

202(d). 42 U.S.C. §7521(d). For example, for light-duty vehicles covered by CAP 2000, full useful life is 100,000 miles or 10 years. 42 U.S.C. § 7521(d)(1).

CAP 2000

In the CAP 2000 rulemaking, EPA determined that it was unnecessary to decide whether durability processes were "tests." EPA stated that if the durability processes are subject to the rulemaking requirements of section 206(d), then EPA has the authority to adopt regulations which provide that EPA will apply the criteria of the CAP 2000 regulations on a case-by-case basis to evaluate and approve or reject the manufacturer-specific, detailed durability program. 64 Fed.Reg. at 23,913, 23,914. EPA analyzed the terms "methods and procedures," determining that EPA may reasonably exercise its authority under section 206(d) to establish an adjudicatory type proceeding. 64 Fed.Reg. at 23,912, 23,913 (May 4, 1999)

EPA also determined that if the manufacturer's durability processes are not subject to the rulemaking requirements of section 206(d), section 206(a)(1) allows EPA to require testing "in such a manner as he [the Administrator] deems appropriate." This provides EPA the discretion to require manufacturer-specific durability programs as part of the certification process. (May 4, 1999). 64 Fed.Reg, at 23,914.

Petition

Petitioner states that EPA does not account for the phrase "for making tests" as it is related to the "methods and procedures" covered by §206 of the Clean Air Act. They also argue that EPA's assertion that the durability processes may not be subject to section 206(d) is without merit. Standards under section 202 apply for the vehicle's "useful life" and durability programs are the only way to evaluate compliance with standards over the useful life period. Petition at 2, at 2, note 5.

Comments

One commenter, The Alliance of Automobile Manufacturers and The Association of International Automobile Manufacturers ("AAM/AIAM") argue that durability programs are not "tests" within the scope of section 206(d). "Tests" refer to those needed to determine compliance with section 202 standards. CAP 2000 made no changes to tests. Durability programs for large volume manufacturers are not required by the Act, but EPA has to make adjustments to test data to account for useful life, and has chosen to rely on manufacturer information for durability adjustments. Even though certain methods have historically been standardized for the development of deterioration factors, other decisions, such as the mileage intervals at which the tests would be made on the durability data vehicles, were made by the manufacturers, subject again to the standard of "good engineering practice." Congress understood the difference

between certification "tests" and durability programs, and also chose not to include durability programs within the scope of section 206(d). Section 206(a)(1) refers to both "tests" and "adjustment factors," while section 206(d) refers only to "tests," meaning Congress understood the difference. AAM/AIAM Comments at 2-7.

Another commenter, American Petroleum Institute, the National Petrochemical and Refiners Association, and Ethyl Corporation ("API, NPRA, Ethyl") stated that the "adjustment factors" phrase in section 206(a)(1) does not refer to durability programs generally, rather it refers to an alternative to durability testing that arises only for certain small vehicle manufacturers. The argument that the durability programs are "adjustment factors" under section 206(a)(1) that are not subject to section 206(d) is inconsistent with the genesis of the durability testing component of EPA's certification program. Congress did not equate adjustment factors with the durability component of the new section 202 emission standards when the Act was amended in 1970. In addition, it is contrary to the plain language of section 206(a)(1) which was amended in 1977 to include the adjustment factors provision. The adjustment factor was added as a replacement for the durability testing component. Congress made clear that durability testing was an essential component of the certification test mandated by section 206(a). Agency guidance states that adjustment

factors are for small manufacturers "in lieu of requiring durability testing beyond 5,000 miles," citing OMS Advisory Circular No. 51C (December 4, 1986). API, NPRA, Ethyl Comments at 2-5.

EPA Response

The "tests" referenced in section 206(d) of the Clean Air Act are the tests required to determine compliance with emission standards adopted under section 202. The Act does not define "methods and procedures for making tests" as used in section 206(d). "Methods," "procedures," and "making tests" are reasonably seen as terms that relate to the actual conduct of the emissions test itself. This emissions test is typically referred to as the Federal Test Procedure, or FTP. EPA has adopted regulations that establish the methods and procedures for performing such emissions tests. See 40 CFR 86.1810(g), and Subpart B, C, O, and P, for light-duty vehicles and trucks.

Durability processes are best viewed as not part of "methods and procedures for making tests" under section 206(d) of the Clean Air Act. They are separate from the emissions test, the FTP. The FTP is performed on durability data vehicles and emission vehicles to provide important emissions information that is used to predict in-use emissions levels over the useful life of the vehicle. However it is the FTP that is the method and procedure for making the emissions test. The durability procedures are

separate and apart from the test, and are used instead to provide a factual context that then allows EPA to make reasoned projections of in-use emissions levels from the results of the actual FTP emissions testing.

Prior to the 1990 Clean Air Act Amendments, durability data vehicles (prototype vehicles) were required to accumulate 50,000 miles using the AMA driving cycle. At various intervals during mileage accumulation, the vehicles were tested according to the FTP. This whole-vehicle aging process was performed so that the results of the FTP emissions testing could be used to predict compliance of the vehicles over their useful life. The deterioration factor was calculated from the FTP test data on the durability data vehicle and applied (multiplied) to the results of an FTP test on an emission data vehicle (a production-intent vehicle with low mileage, usually about 4,000 miles). When the emission data vehicle FTP result is multiplied by the deterioration factor determined from the durability FTP testing, that result is used to predict the emission levels of the vehicle at its full useful life.—Again, the method means of accumulating mileage was separate from and not part of the FTP test on durability data vehicles.

The distinction between durability processes and FTP testing is further demonstrated by the 1977 amendments to the Clean Air Act. In 1977, Congress exempted small volume manufacturers (projected sales not exceeding 300) from the

requirement for 50,000 mile certification testing of such vehicles because "the cost of building and operating durability data vehicles may prove prohibitive." H.R. Rep No. 95-294, at 311 (1977)(emphasis added), Pub. L. No. §220, 91 Stat. 685, 762 (1977). The building and operation of the durability data vehicle is quite different from the testing of the vehicle. The cost that may have been prohibitive for small volume manufacturers was the process of accumulating 50,000 miles on the durability vehicle. Congress wanted to spare the small volume manufacturers from the expense of operating a vehicle to accumulate mileage on a track. The cost of conducting the FTP test on a durability data vehicle and an emission data vehicle is the same. Therefore, Congress was aware that the test and the process of accumulating mileage were quite different.

Today, the process of accumulating mileage or otherwise aging the vehicle's emissions control system continues to be separate from the testing done on durability data vehicles. The FTP test continues to be run on both emission data vehicles and durability data vehicles. Instead of using the AMA driving cycle for accumulating mileage on the durability data vehicle, alternative aging processes are allowed. The alternative processes for aging durability data vehicles are not part of the FTP. They provide a background or predicate that allows the agency to use the information gained from the actual emissions testing to predict in-use compliance.

Therefore, the durability process is not a "method and procedure for making tests" and not subject to the requirements of section 206(d) of the Clean Air Act.

Section 206(a)(1) authorizes EPA to require manufacturers to follow durability aging protocols prior to performing FTP emissions testing. This includes the AMA vehicle aging procedure that was required prior to CAP 2000, and includes the individual manufacturer programs required under CAP 2000. The authority under section 206(a)(1) extends beyond setting the procedures for the specific test procedure used to define whether a vehicle passes or fails the emissions standards, the FTP. This authority extends to all other manner of information or requirements related to testing that help to make the emissions testing information useful to determine compliance with the standards under section 202. This includes requirements to follow durability aging procedures prior to FTP testing of vehicles, so that the emissions testing results can be used to predict compliance over the vehicle's useful life.

II. Whether EPA has authority under section 206(d) of the Clean Air Act to approve manufacturer-specific durability programs by applying the criteria in the CAP 2000 regulations on a case-by-case basis, without additional rulemaking.

Background

Section 206(d) of the Clean Air Act states that the "Administrator shall by regulation establish methods and

procedures for making tests under this section." 42 U.S.C. §7525(d).

As discussed above, each manufacturer (except small volume manufacturers) is required to design a durability process which would match the in-use deterioration of the vehicles they produce. See 40 CFR 1823-01, 86.1824-01, 86.1825-01. These processes are subject to advance approval by the Agency to ensure that a manufacturer's durability program is accurate before it may be used in the certification process. As stated in the final rule, EPA's criteria for approval is detailed in the regulations. 64 Fed. Reg 23,912. Each manufacturer's durability program must satisfy specific design requirements and must show that the durability processes are designed to cover a significant majority of deterioration rates expected by vehicles in actual use. Id.

CAP 2000

In the CAP 2000 rule, EPA stated that whether section 206(d) authorizes or prohibits this type of adjudicatory process is a matter of statutory interpretation. 64 Fed. Reg. 23912 (May 4, 1999). The terms used by Congress in section 206(d), "establish methods and procedures," are general in nature and can readily be interpreted as covering a broad range of agency action, including establishment of a process for future case-by-case review and approval of manufacturer-specific durability programs, based on

submission of the details of a proposed program and applying the criteria set out in the regulation. Id.

Congress did not express a clear intent mandating or prohibiting such a process. Congress' grant of authority provides EPA with substantial discretion in how to "establish methods and procedures" for conducting tests under section 206(d). Id. at 23913. As discussed previously, the framework set up by EPA's regulations requires manufacturers (except small volume manufacturers) to design an artificial aging process that will represent the way their vehicles age in actual use. No standard, one-size-fits-all aging process can adequately account for actual in-use emission deterioration of a given vehicle. Vehicles are not built and driven all in one way. These differences affect the emission deterioration rate. Deterioration rates are largely a function of the type and quality of the emission control devices the manufacturer used in building the vehicle. Emission control hardware can vary widely between different vehicles. However, even identical emission control hardware would deteriorate differently if placed in a different operating environment (for example: a catalyst placed closer to the engine and consequently in a hotter environment would deteriorate faster than the same catalyst placed farther from the engine in a cooler environment.) Even if the same emission control components were placed in the same operating

environment, the deterioration of emission performance is affected by the driving habits of the owner. Because all these parameters differ from one vehicle to another, EPA concluded that designing methods to measure deterioration rates which address these differences would be more a more sound engineering practice. It also concluded that the manufacturer of the vehicle was in the best position to know the design and driving patterns of its products, and thus in the best position to develop a process to predict the emission deterioration. In CAP 2000, manufacturers are required to design durability processes which will "effectively predict the deterioration of emissions in actual use over the full and intermediate useful life of candidate in-use vehicles" (candidate in-use vehicles are vehicles qualifying to be tested under the in-use verification portion of the CAP 2000 regulations.) 40 CFR 86.1823-(a). The AMA durability method required in pre-CAP 2000 regulations (described in more detail above) had no tie to a vehicle's in-use performance. For that reason alone, the CAP 2000 regulations should result in deterioration predictions more reflective of in-use performance, and are thus preferable to AMA.

In addition to being more technically sound than the AMA the CAP 2000 durability regulations can be more cost effective than the AMA. Since the manufacturer has control over the design of its durability process, they can assure

that it is integrated into their normal product development procedures and schedules, making possible efficiencies of both time and money which were not possible with the AMA process.

In the CAP 2000 final rule, EPA stated that the process of Agency review and approval of manufacturers' durability programs is more efficient, compared to the time and resources that would be necessary to promulgate by rulemaking each manufacturer-specific durability program. EPA stated that its interpretation of the statute is consistent with prior EPA interpretations of section 206. In sum, EPA does not believe that Congress intended to prohibit reasonable regulations under 206(d) that set up an adjudicatory process to review and approve manufacturer-specific durability programs. EPA believes that the process set up in the CAP 2000 regulations is a reasonable exercise of the general authority provided to EPA in section 206(d).

Petition

Petitioners claim that the fact "Congress did not expressly state that EPA may not set up an adjudicatory process under section 206(d) is of no consequence." Petition at 2. The D.C. Circuit has repeatedly held that it "will not presume a delegation of power based solely on the fact that there is not an express withholding of such power." Id., citing Ethyl Corp. v. EPA, 51 F3d 1053 (D.C. Cir. 1995)(citations omitted).

Comments

AAM/AIAM believes that EPA's analysis of its authority under CAA section 206(d) is correct. If durability programs are subject to the rulemaking requirements of section 206(d), EPA may approve the details of individual programs through case-by-case determinations, instead of through notice and comment rulemaking. Both rulemaking and case-by-case determinations have proper application in the administrative process, even in instances where Congress has statutorily mandated that agencies implement standards through rulemaking. The final rule meets the rulemaking requirements by establishing criteria for EPA approval of durability programs. It would be inefficient and impracticable for EPA to address by rule every conceivable possibility that may arise in its administration of the certification program. EPA's interpretation and implementation is consistent with prior EPA rulemakings. CAP 2000 regulations merely continued, rather than began, a longstanding EPA practice that is based on EPA's reasonable interpretation of its statutory authority under section 206(d) and that interpretation is entitled to considerable deference. AAM/AIAM Comments at 7-9

California Environmental Protection Agency, Air Resources Board ("ARB") commented that "methods and procedures for making tests" is broad enough to include establishment of a process for future determination of the

specific details of a test program. ARB Comments at 1.

Another commenter stated that EPA's discretion to implement its statutory authority through individual adjudications is limited where a statute directs that the agency proceed by regulation. The statute is clear that methods and procedures used to test automobiles for compliance with section 202 standards under the certification program, including durability test procedures, must be promulgated by regulation. The clear congressional directive eliminates discretion the agency might have to develop durability test procedures in individual adjudications. API, NPRM, Ethyl Comments at 7.

EPA Response

Assuming the approval of durability programs is subject to the rulemaking requirements of section 206(d), EPA believes the CAP 2000 regulations are fully authorized under section 206(d).

The Supreme Court has long acknowledged that agencies are free to decide whether to formulate policy in the area covered by statute through rulemaking or adjudication. SEC v. Chenery Corp., 332 U.S. 194 (1947). A statute may impose a duty to promulgate regulations. Pulido v. Heckler, 758 F.2d 503 (10th Cir. 1985). Even where Congress has mandated that agencies implement standards through rulemaking, the Supreme Court has held that the Administrative Procedures Act "does not require that all the specific applications of

a rule evolve by further, more precise rules rather than by adjudication." Shalala v. Guernsey Mem'l Hosp., 514 U.S. 87, 96 (1995).

Whether an agency's regulations satisfy the statutory directive is a question of statutory interpretation. American Trucking Associations v. U.S. Dept. of Transp., 166 F.3d 374, 334 U.S.App.D.C. 246. Under Chevron U.S.A. v. NRDC, 467 U.S. 837, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984), where Congress has not "directly spoken to the precise question at issue," the court defers to the agency interpretation if it is "based on a permissible construction of the statute." The Chevron test applies to the question of how specifically an agency must frame its regulations. New Mexico v. EPA, 114 F.3d 290, 293 (D.C. Cir. 1997).

American Trucking Association v. U.S. Dept. of Transp., 166 F.3d 374 (D.C. Cir. 1999) addressed rulemaking under the Motor Carrier Safety Act of 1984 and subsequent revisions. The Act instructs the Secretary of Transportation to establish its safety rating methodology by regulation. The Secretary is to "prescribe regulations establishing a procedure to decide on the safety fitness" of carriers, including a "means of deciding whether [carriers] meet the safety fitness requirements under clause(A)," which in turn call for "specific initial and continuing" safety requirements. Id. at 378. The Court had previously rejected the regulations issued by the Federal Highway

Administration, under a delegation from the Secretary, as inconsistent with this mandate. They failed to meet the statutory criteria because they "merely provide that a carrier's rating will be based upon the degree to which its safety management controls are 'adequate,' which the regulations define only as 'appropriate for the size and type of operation of the particular motor carrier.'" MST Express v. Department of Transportation, 108 F.3d 401, 405 (D.C. Cir. 1997). The Secretary then revised its regulation to incorporate into the regulations a Safety Fitness Rating Methodology (SFRM). The SFRM had previously been issued as a manual used by safety inspectors. While these revised regulations were much more detailed than the prior regulations, petitioners continued to argue that they failed to satisfy the statutory mandate because the regulations themselves failed to completely contain all of the procedures used in assessing the safety fitness of a carrier, and failed to enable carriers to predict, ascertain in advance, or determine from looking at the regulations themselves the safety ratings they could expect to receive if inspected. ATA at 376.

The court rejected this challenge, deferring to the Secretary's interpretation of the statute where Congress had not directly spoken to the precise question at issue. The test under Chevron applies "to the issue of how specifically an agency must frame its regulation." New Mexico v. EPA,

114 F.3d at 293. The Act's terms, "means of deciding," "methodology," and "specific," clearly did not speak directly to the necessary degree of specificity that must be contained in the regulations. The Court then considered whether the agency reasonably interpreted the Act in determining that its regulations met the statutory criteria. As in prior cases, the court recognized that agencies should be accorded "very broad deference in selecting the level of generality at which they will articulate rules."⁴ ATA at 378. The Court upheld the rules based on the agency's broad discretion and the reasonableness of its determination of the level of specificity required in the regulations. The overall purpose of the Act did not require the promulgation of every detail in the regulations. In addition there was an affirmative benefit for the agency to vary technical elements such as sampling process as experience accrued, without the excessive delay resulting from rulemaking. The safety rules readily passed the test laid out in New Mexico v. EPA, reflected in MST Express, that an agency regulation fails to apply a statutory standard when it "contribute[s] no extra specificity or clarity" to the standard it implements. ATA at 374.

⁴New Mexico v. EPA, 114 F.3d at 294, Metropolitan Washington Airport Authority Professional Fire Fighters Ass'n v. United States, 959 F.2d 297, 300 (D.C. Cir. 1992) (judicial deference at its highest in reviewing such policy choices as the level of generality for norm implementing legislative mandate), Natural Resources Defense Council v. EPA, 907 F.2d 1146, 1165n. 16 (D.C. Cir. 1990) ("level of generality...[of] regulations would turn on congressional intent...with the agency's view entitled to great deference").

The Court addressed similar issues in New Mexico v. EPA. There the applicable statute required that EPA establish "criteria" for use in certifying compliance by the Department of Energy with regulations for disposal of certain radioactive waste. Id. at 438, citing WIPP Land Withdrawal Act of 1992, Pub.L. No. 102-579, §§ 7(b)(1), 8(d)(1), 106 Stat. 4777, amended by WIPP Land Withdrawal Amendment Act of 1996, Pub.L. No. 104-201, 110 Stat. 2422. EPA's regulations provided guidelines that would be used in a future case specific review of an application by DOE for certification of its waste disposal plans. Id. at 439, citing 40 CFR Part 191. Petitioners objected to EPA's certification regulation as not being specific enough to qualify as "criteria" under the statute. The Court determined that this statutory provision was ambiguous as to the level of specificity required in the regulation, with no indication in the statute that the criteria must be detailed or quantitative. The Court then deferred, under Chevron, to the agency's reasonable judgment on this question. Id. at 439. For example, the criteria for approval of passive institutional controls required that DOE demonstrate that such controls will "endure and be understood." Id. at 440. This was upheld as a "rather lucid" standard that reasonably restricted the range of credit available for such controls. The guidelines for acceptability of engineered barriers was upheld, where EPA's regulation, among other things, set out

a list of characteristics which would be used in assessing any such barrier. This was reasonable in light of the complexity of the issues involved, which precluded an advance determination on these issues. The factors enumerated would provide EPA the ability to give a balanced evaluation in the future application of these criteria to a specific DOE application for certification.⁵

Section 206 of the Clean Air Act requires that EPA "establish methods and procedures for making tests under this section" by regulation. Assuming that this extends to the demonstration of emissions durability in EPA's certification program, the statute does not address the specific issue of how much detail or specificity must be in the regulations. The terms "methods and procedures" are not defined in the Act, and like the statutory provisions in ATA and New Mexico are clearly ambiguous and fail to address the level of detail that must be included in the regulations. These terms encompass a broad range of agency action, and EPA reasonably interprets them as including regulations that establish a case-by-case decision making process, with the information required by an applicant and the criteria for approval or rejection of a specific durability program specified in the regulations.

⁵The broad deference accorded in New Mexico to the agency's determination of the level of specificity or generality in its regulations was recognized and followed in Animal Legal Defense Fund v. Glickman, 204 F.3d 229, 235 (D.C. Cir. 2000). Also see Public Citizen v. FAA, 988 F.2d 186, 191-2 (D.C. Cir. 1993).

The CAP 2000 regulations described above are both comprehensive and specific, and clearly "do the job intended" of providing the substance and detail needed to implement the statutory standard they implement. They set up lucid, understandable criteria that EPA applies in making case specific decisions. The result is an environmentally beneficial and efficient process for approval and implementation of manufacturer-specific durability programs.

This balance of detail and generality in the regulations is appropriate. First, it allows EPA to achieve the increased environmental benefits from the use of manufacturer-specific durability demonstrations. Under the CAP 2000 regulations, EPA believes these manufacturer-specific durability programs will do a better job of predicting in-use emissions deterioration than a single industry wide procedure, as that used under prior regulations. Second, it allows for case-by-case decision making on the manufacturer-specific demonstrations, using the criteria in the regulations, which is needed to address the highly technical, detailed, and fact specific issues involved for each manufacturer. At the same time it ensures a consistent, industry-wide level of high quality demonstration of expected in-use emissions durability. The required in-use verification testing also allows EPA to monitor this and to require changes in the durability programs where appropriate. The expected result is a better

guarantee that in-use emissions will in fact be at the levels required by the emissions standards, throughout the useful life of the vehicles.

Requiring that EPA's regulations either spell out a single "one-size-fits-all" emissions durability program for all manufacturers would be less environmentally beneficial. Requiring EPA to conduct rulemaking to codify each manufacturers individual durability program, including each subsequent revision, would result in regulatory gridlock, paralyzing the automotive industry and tying up EPA resources on doing administrative rulemakings rather than fulfilling their public duty of assuring emissions compliance. As discussed above, EPA believes requiring manufacturers to design their own specific durability programs results in better durability demonstrations across the industry as a whole, compared to a single agency-prescribed durability program. Requiring each manufacturer's program to be developed and updated through rulemaking, and in effect including all of the details in the regulations, would involve extensive, nearly continuous rulemaking that could paralyze the annual certification process and would not further the goals of section 206. The fact specific nature of the determination, the need to vary the durability program over time as experience accrues, and the annual nature of the certification process militate against using rulemaking to approve each manufacturer's

initial and updated durability program. Instead, EPA believes that the CAP 2000 regulations establish an efficient and environmentally beneficial balance of specificity and generality that allows use of a case-by-case decision making process and ensures across the industry the use of high quality durability demonstration programs.

III. Whether EPA has satisfied the rulemaking requirements of Section 307(d) of the Clean Air Act and the Administrative Procedure Act

Background

Section 307(d) of the Clean Air Act sets forth procedural rulemaking requirements for certain rules promulgated under the Act. 42 U.S.C. §7607. In implementing the CAP 2000 regulations, EPA reviews and approves each manufacturer's application durability program or programs. EPA applies the provisions and criteria in the CAP 2000 regulations in making a decision to approve a manufacturer-specific durability program. This case-by-case decision making is an informal adjudicatory process, and not a rulemaking. Final agency action on a manufacturer's application is judicially reviewable under section 307(b).

CAP 2000

In the CAP 2000 final rule, EPA stated that the requirements of section 307(d) were met. 64 Fed. Reg. 23914. Commenters were provided opportunity for meaningful comment. EPA proposed the criteria for establishment of the specific

durability program requirements that manufacturers must satisfy for EPA approval of their durability program. In the final rule, EPA stated that the adjudicatory process is an efficient way to benefit from each manufacturer's expertise and knowledge of the durability of their vehicle and is consistent with EPA practice under the RDP program (where bench aging processes were allowed on a voluntary basis). EPA also stated that the adjudicatory process is a more efficient method of reviewing and subsequently approving or rejecting such durability programs, avoiding the time and resources that would be necessary to promulgate by rulemaking each manufacturer-specific durability program. Id. at 23,913.

Petition

Petitioner claims that the rulemaking requirements of section 307(d) are not limited to regulations, but also apply to "adjudicatory type procedures" for development of certification test procedures. Petition at 4.

Petitioner also state that by including the promulgation of certification test procedures within the scope of section 307(d), Congress envisioned substantial public participation in the development of certification test procedures under section 206. Petition at 4.

Even if section 307(d) did not apply, the requirements of the Administrative Procedure Act would apply to foreclose the Agency efforts to exclude the public from participating

in the development of certification test procedures. Id. The only way the public can be afforded a meaningful opportunity to comment upon the proposed development and use of individualized certification test procedures under section 307(d), however, is if those procedures are fully described in the notice seeking comment on the test procedures. Id. Petitioners claim that the CAP 2000 regulations make no provision for participation by interested persons in the development of individualized certification test procedures. Id.

Petitioner also specifically cites the section 307(d) requirement that EPA's final rule "may not be based (in part or whole) on any information or data which has not been placed in the docket as of the date of promulgation" of the rule. Petition at 3, citing 42 U.S.C. §7607(d)(6)(C).

Petitioner also asserts that EPA did not respond to petitioners comment (on the NPRM) that "[n]othing in the Act authorizes EPA to certify vehicles in reliance upon test procedures...otherwise kept secret from the public at large." Petition at 4, citing API, NPRA, Ethyl Comments on NPRM at 5.

Comments

AAM/AIAM stated that the final rule clearly meets section 307(d)'s rulemaking requirements. AAM/AIAM Comments at 7. The fact that EPA conducts its evaluations on a case-by-case basis is of no consequence, as long as EPA does not

change the substantive underlying requirements of the Clean Air Act or its implementing regulations. The commenter agreed that it would be inefficient and impracticable for EPA to address by rule every conceivable possibility that may arise in its administration of the certification program and a case-by-case process is an efficient method of benefitting from each manufacturer's expertise and knowledge of the durability of their vehicles. Id. at 8-9. Over twenty five examples of case-by-case, adjudicatory approaches to requirements under the certification program are provided to show consistency with prior EPA rulemakings. Id. at 9, Appendix A.

EPA Response

Section 307(d) rulemaking procedures apply to the "promulgation or revision of ... test procedures under section 206." This requires that when EPA conducts rulemaking to promulgate or revise test procedures under section 206, it must follow the procedures in section 307(d). It does not specify when EPA must conduct rulemaking and when EPA may take action through adjudication or other procedures. Sections 206 and 301 define EPA's authority to conduct rulemaking, whether discretionary or required. Section 307(d) spells out the procedure to follow when EPA does conduct rulemaking to promulgate or revise a test procedure under section 206. Since the case-by-case review and approval is not a rulemaking, and does not

"promulgate or revise a test procedure," it is not subject to section 307(d)'s procedural requirements for rulemakings.

Test procedure under section 307(d)(i)(K) refers to the actual emissions tests used to determine compliance with the section 202 emissions standard. EPA did follow section 307(d)'s procedures when it promulgated the Federal Test Procedure (42 FR 32954, June 28, 1977), as well as revisions to the test procedure (61 FR 54852, October 22, 1996). The CAP 2000 regulations are not "test procedures" as that term is used in section 307(d)(K). In any case, EPA followed section 307(d)'s procedures in promulgating the CAP 2000 regulations.

Assuming "test procedure" under section 307(d)(i)(K) refers to the "methods and procedures for making tests" under section 206(d), section 307(d)(i)(K) requires that EPA follow the specified rulemaking procedures when conducting rulemaking to "promulgate" such methods and procedures. As discussed above, the case-by-case review and approval of manufacturer-specific durability programs is either not subject to the rulemaking requirements of section 206(d), or the CAP 2000 regulations themselves fully satisfy section 206(d)'s rulemaking requirements. In either case, section 206(d) does not require that the case-by-case determinations be done through rulemaking. Section 307(d)(i)(K) does not impose any additional mandate to implement agency policy or take agency action through rulemaking.

EPA provided substantial public notice and an opportunity to comment in the rulemakings to promulgate and revise the actual Federal Test procedure. Prior to issuing the CAP 2000 regulations, EPA conducted public rulemaking for the RDP regulations. Significant public input was also provided through a Federal Advisory Act Committee that addressed the CAP 2000 issues. The FACA process was open to and involved significant public input. The CAP 2000 rulemaking itself involved public notice and an opportunity to comment.

The case-by-case review and approval of each manufacturer's durability program, however, involves manufacturer-specific technical information, and manufacturers often claim that most or all of the information submitted to the agency is confidential business information. Involving a public notice and opportunity to comment when EPA reviews the manufacturer-specific durability program would significantly interfere with this process, because of the large amount of information claimed confidential. In addition, the annual certification process makes such public notice and comment administratively burdensome. To the extent information submitted in this process is not in fact confidential business information, it is available to the public and can be used to develop and submit comments and recommendations to the agency. Finally, the case-by-case review and approval of each

manufacturer's durability program is not a rulemaking, and is not subject to rulemaking requirements. There is therefore no requirement that EPA provide public notice and an opportunity to comment in reviewing and making decision on each manufacturer's durability program.

In addition, EPA believes the procedures followed in promulgating the CAP 2000 regulations fully satisfied all of section 307(d)'s rulemaking requirements. EPA issued a notice of proposed rulemaking, provided meaningful opportunity for the public to comment, had a rulemaking docket for the proceeding and all relevant information was placed in it for public review. EPA provided notice of the proceeding in the Federal Register at 63 Fed. Reg. 39654 (July 23, 1998). The proposal stated the basis and purpose, including the factual data on which the proposal was based; the methodology used in obtaining the data and in analyzing the data; the major legal interpretations and policy considerations underlying the proposed action. EPA provided the opportunity to submit oral comments at a hearing held August 10, 1998 in Ann Arbor, MI and written comments through September 24, 1998. EPA responded to each of the significant comments in the final rule (64 Fed. Reg. 23906 (May 4, 1999)) and in the response to comments document contained in EPA Air Docket A-96-50.

EPA does not believe that the final rule is based on information not included in the docket. Item III-B-2 in the

CAP 2000 docket is a technical support document which expands on EPA's rationale for decisions made in promulgating the rule. The bulk of the document is a review of the revised durability program (RDP) which is the predecessor to the CAP 2000 durability regulations. Included in the discussion are tables describing in general terms manufacturers' durability programs already approved and pending EPA approval. There are also 79 pages of miscellaneous data, letters and reports specific to the individual manufacturers' durability programs, which demonstrate the approval process which EPA proposed to continue using under CAP 2000. This information was placed in the docket prior to the end of the comment period for the rule. EPA believes that, with the TSD, all information or data used to develop the rule was placed in the docket prior to the publication of the final rule.

Comments

Aftermarket comments state that by shielding testing procedures used to certify new vehicles and vehicle engines, EPA considerably complicates the ability of aftermarket parts manufacturers and remanufacturers to design, reverse engineer and test their parts to ensure compatibility with certified vehicles and engines. Aftermarket Comments at 1.

EPA Response

EPA does not certify vehicles in reliance upon test

procedures kept secret from the public at large. As stated above, all of EPA's test procedures relied upon to certify vehicles are codified in the Code of Federal Regulations. (See 40 C.F.R. Part 86, Subparts B, C, and O). Moreover, EPA also publishes the results of these tests. Section 206(e) of the Clean Air Act requires EPA to make available to the public the results of tests of any motor vehicle or motor vehicle engine submitted by a manufacturer under section 206(a). As stated in the final rule, EPA makes available all emission test data which are used to make certification compliance determinations. 64 Fed. Reg 23914. Certification levels and deterioration factors used to compute certification levels are posted annually on an EPA web site. See <http://www.epa.gov/otaq/crttst.htm>.

IV. Whether CAP 2000 regulations harm Clean Air Act §211(f) fuel waiver applicants

Background

Congress first added § 211(f) to the Clean Air Act in 1977 based primarily on concerns that fuels or additives might damage vehicle emission control devices. Thus, the original statute focused on vehicles designed to use unleaded gasoline, prohibiting the general use in fuels of materials not "substantially similar" to fuels used to certify vehicles to emissions standards. Section 211(f) also provided that the Administrator of EPA "may waive the

prohibitions...if he [the Administrator] determines that the applicant has established that such fuel or fuel additive...will not cause or contribute to a failure of any emission control device or system...to achieve compliance by the vehicle with the emission standards with respect to which it has been certified pursuant to section 206."

Additionally, the statute provides that if the Administrator does not act to grant or deny the waiver request within 180 days of receipt of the application, the waiver request shall be treated as granted.

Section 211(f) was initially interpreted by the Agency as applying only to unleaded gasoline. In the 1990 Amendments, § 211(f)(1) was broadly expanded to cover all other fuels and fuel additives, including leaded gasoline, diesel fuel, and consumer additives.⁶ The 1990 Amendments also apply the provisions of this subsection to vehicles other than light-duty vehicles. Section 211(f)(1)(B) of the Act makes it unlawful, effective November 15, 1990, for any manufacturer of a fuel or fuel additive to first introduce into commerce, or to increase the concentration in use of, any fuel or fuel additive for use by any person in motor vehicles manufactured after model year 1974 which is not substantially similar to any fuel or fuel additive utilized in the certification of any model year 1975, or subsequent model year, vehicle or engine under § 206 of the Act. Thus,

⁶H.R. Rep. No. 490, Part 1, 101st Cong., 2d Sess. 313 (1990).

§ 211(f)(1)(B) expands to all motor vehicles the fuel prohibitions of the original § 211(f)(1) (now redesignated as § 211(f)(1)(A)), which apply only to light-duty vehicles.⁷

In adding section 211(f), the focus of Congress was to prevent the introduction of new fuels or additives which differed substantially from those used in the motor vehicle certification program. Such a fuel or additive had the potential to prove harmful to emission control devices or otherwise cause emissions to increase such that compliance with the vehicle emissions standards would not be achieved. Such an fuel or additive could be introduced into commerce if it was demonstrated that this adverse effect would not occur.

Section 211(f)(4) states that "The Administrator, upon application of any manufacturer of any fuel or fuel additive, may waive the prohibitions established under paragraph (1) or (3) of this subsection, or the limitation specified in paragraph (2) of this subsection, if he determines that the applicant has established that such fuel or fuel additive or a specified concentration thereof, and the emission products of such fuel or additive or specified

⁷An interpretive rule defining the term "substantially similar" under § 211(f)(1)(A) was promulgated for unleaded gasoline at 46 FR 38582 (July 28, 1981), and revised at 56 FR 5352 (February 11, 1991). An advance notice of proposed rulemaking (ANPRM) has been published to begin the process of promulgating an interpretive rule to define the term "substantially similar" under § 211(f)(1)(B) for diesel fuel and diesel fuel additives. See 56 FR 24362 (May 30, 1991).

concentration thereof, will not cause or contribute to a failure of any emission control device or system (over the useful life of any vehicle in which such device or system is used) to achieve compliance by the vehicle with the emission standards with respect to which it has been certified pursuant to section 206. If the Administrator has not acted to grant or deny an application under this paragraph within one hundred and eighty days of receipt of such application, the waiver authorized by this paragraph shall be treated as granted." The Agency interprets § 211(f)(4) of the Act as a process focusing on whether a fuel "causes or contributes" to an emission standard failure. The waiver applicant bears the burden of demonstrating that a fuel will neither cause nor contribute to an emission standard failure for any regulated pollutant. If an applicant does not meet its burden of demonstrating that the "cause or contribute" test is met, the Agency cannot grant a waiver. If an applicant does meet its burden of demonstrating that the "cause or contribute" test is met, the Agency would grant a waiver.

Under § 211(f)(4) of the Act, twenty-five applications for waivers of the § 211(f)(1) prohibitions have been received. Of these, twenty-four applications have sought a waiver for additives for unleaded gasoline. One, sought a waiver of the § 211(f)(1)(B) prohibitions for an additive to diesel fuel.⁸ Of these twenty-five applications, ten

⁸57 FR 45790 (October 5, 1992).

applications have been granted (some with conditions attached), twelve have been denied, and three were withdrawn by the applicant prior to the Agency's decision.

To determine whether a waiver applicant has established that the proposed fuel will not cause or contribute to vehicles failing emission standards, EPA has traditionally used a public process that includes establishment of a public docket, publication of a Federal Register notice inviting public comments, and in some cases the holding of public hearing. EPA reviews all the material in the public docket, including data submitted with the application and public comments on the application, and analyzes the data to ascertain the fuel's emission effects. The analysis concentrates on four major areas of concern - - exhaust emissions, evaporative emissions, materials compatibility, and driveability - - and evaluates the data under statistical methods appropriate to the various types of emission effects. Emissions data are analyzed according to the effects that a fuel is predicted to have on emissions over time.

If the fuel is predicted to have only an instantaneous effect on emissions (that is, the emission effects of the fuel are immediate and remain constant throughout the useful life of the vehicle when operating on the waiver fuel), then "back-to-back" emissions testing will suffice. Back-to-back emission testing involves testing a vehicle on a base

fuel (i.e., a gasoline which meets specifications for certification fuel or is representative of a typically available commercial gasoline), then testing the same vehicle on the fuel for which the waiver is requested. The difference in emission levels is attributed to the waiver fuel. Back-to-back emission testing is typically done using the Federal Test Procedure (FTP), which is set forth in certain subparts of 40 CFR Part 86 (for LDVs, LDTs, HDEs, HDVs and motorcycles). Almost all fuel waiver requests to date have been of this nature. However, where the fuel is predicted to have a long-term deteriorative effect, durability testing of the vehicle,⁹ in addition to back-to-back testing, is appropriate.

In the past, EPA has analyzed both instantaneous emission effects and durability effects using statistical tests to determine if the fuel additive will cause a "significant" number of vehicles to fail emission tests.¹⁰ Generally speaking, these tests have focused on the portion of the fleet that will actually fail emission standards as a

⁹The useful life period of 1993 & earlier model year light duty vehicles (LDVs) (i.e., the amount of time or mileage accumulation through which the LDV must meet the standards to which it has been certified) is 50,000 miles or five years, whichever occurs first (§ 202(d)). The 1990 Amendments extended the useful life of LDVs to 100,000 miles or ten years, beginning with 1994 model year vehicles. The useful life for heavy-duty vehicles and engines is generally 120,000 miles or eleven years.

¹⁰For a detailed description of the statistical tests which have been used in the past for instantaneous effects see "Decision Document," Texas Methanol Waiver Decision, U.S. EPA Air Docket Number EN-87-06, and for those used for durability effects, see 43 FR 41426.

result of using the fuel or fuel additive.¹¹

In prior waiver applications, the effect of a fuel or additive on the durability of the emissions control system has only been an issue for one additive. On several occasions, Ethyl, the manufacturer of MMT, has sought a waiver under section 211(f)(4) of the Clean Air Act from the Agency. These waivers have involved a manganese-based additive, MMT, used as an octane enhancer in unleaded gasoline. EPA denied Ethyl's request for a waiver twice, in 1978 and 1981, based on concerns over increased hydrocarbon emissions. In 1988, Ethyl again sought a waiver for a lower level usage of MMT. In 1990, Ethyl withdrew the request and resubmitted it at a later date. In 1992, EPA denied Ethyl's request. Litigation ensued, and the decision was remanded to EPA to consider additional data that had subsequently been developed. Ultimately, EPA concluded that Ethyl had shown with its emissions data that MMT did not cause HC emissions failures, based on all the data submitted.¹² Thus, in its July, 1994 decision, EPA found "that Ethyl had met its burden to demonstrate under § 211(f)(4) that approval of its remanded application would not cause or contribute to a failure to meet emission

¹¹In fact the primary criterion allows for the failure of some portion of the fleet as a result of use of the fuel or fuel additive.

¹²See 58 FR 64761 (December 9, 1993).

standards."¹³ Nevertheless, the waiver was denied "based on unresolved concerns regarding the potential impact of manganese emissions resulting from MMT use on public health."

Ethyl challenged EPA's denial of a waiver, claiming that manganese health effects are not an appropriate basis under the statute to deny Ethyl's request. The court granted Ethyl's Petition for review, and directed the Agency to grant the waiver. On July 11, 1995, the Agency granted Ethyl's waiver for the use of MMT in unleaded gasoline.¹⁴

EPA guidance on section 211(f)(4) waivers suggests that for waivers that require durability testing, each car in the test fleet should accumulate 50,000 miles utilizing the applicable the Federal Durability Schedule. 43 Fed. Reg. 11,258 (March 17, 1978). See 40 C.F.R. §86.094-26(a)(2)(1988) for the referenced Federal Durability Schedule, also known as the AMA. In 1978, when the guidance was issued, "useful life" for light duty vehicles was 50,000 miles. The guidance also stated that "[a]ny deviations from the Federal Durability Schedule should be reported in the application for waiver along with an explanation of the reasons for such deviations." 43 Fed. Reg. at 11,259.

Prior to 1990, durability testing over the useful life of the vehicle involved testing two identical sets of

¹³See 59 FR 42227 (August 17, 1994).

¹⁴See 60 FR 36414 (July 17, 1995).

vehicles for 50,000 miles (in the case of pre-1994 standard for LDVs), one set using the base fuel and the other using the waiver fuel. Each vehicle was tested for emissions at 5,000 mile intervals. In addressing the request for a waiver for MMT, EPA and Ethyl discussed and agreed upon the kind of durability testing that should be conducted for that waiver request, recognizing among other things the need to address the fleet turnover to post MY94 vehicles subject to a 100,000 mile useful life.

Petition

Petitioner stated that maintaining the secrecy of certification test procedures unfairly hampers the petroleum industry's ability to develop environmentally beneficial fuels, fuel additives, lubricants and other products, or to engage in necessary product stewardship. Existing EPA guidance requires new fuels and fuel additives to be evaluated using certification test procedures. Without access to certification test procedures, there is little or no incentive to innovate due to technical questions that would inevitably arise about use of inappropriate test procedures. Petition at 6.

Comments

AAM/AIAM stated that high temperature is the most common deterioration mechanism and durability demonstration procedures used by most manufacturers focus almost exclusively on thermal deterioration in the catalyst.

Running the catalyst at unusually high temperatures for an extended period of time achieves the same or greater deterioration effect than if the catalyst were exposed to a lower temperature for a much longer period of time. AAM/AIAM Comments at 11-13.

Fuel contaminants and fuel additives rarely have a detrimental effect on emissions. The real-world effects of contaminants or additives can only be evaluated after operating vehicles for an extended period of time such that the engine and the emission control system cycle through a variety of normal operating temperatures. It would be inappropriate to use process in isolation for the purpose of evaluating the effects of proposed fuels or fuel additives, without correlation to deterioration data collected from vehicles that have actually used the proposed product throughout their normal driving cycles. Id.

The same commenter also stated that petitioners should approach the Agency with a request for revisions to the fuel additive waiver guidelines, not to launch a judicial challenge to the CAP 2000 regulations. Id. at 13-14.

California Air Resources Board stated that a manufacturer's normal aging procedures for catalysts are specific to its catalyst technology and assumes current fuels. It may not be appropriate for a fuel or additive company with a potential new additive to use the aging procedures a vehicle manufacturer uses on its own vehicles,

because use of the additive may affect the catalyst in ways that the abbreviated aging procedure does not account for. Revelation of a manufacturer's aging procedure may not be what is needed for the additive manufacturer to properly evaluate the effects of its product. There are publicly available aging procedures such as RAT A disclosed by General Motors that could be used by the additive manufacturer to start evaluation of its new additive. And to the extent this problem is significant, EPA could address issues of fuel and additive evaluation directly rather than eliminate the CAP 2000 deterioration approach. CARB Comments at 2.

API/NPRA/Ethyl state that CAP 2000 adversely affects them because certification tests procedures have been and remain essential elements of the Clean Air Act's regulatory program for fuels and fuel additives. All of the Agency's regulatory initiatives that have assessed the impact of fuels or fuel additives on automobile emissions have been based on data generated using certification test procedures. Because of its regulatory character, all interested stakeholders could rely on the AMA test procedure as the basis for evaluating fuel/vehicle interactions, irrespective of any company-specific modifications to the standard testing technique that might occur from time to time. The elimination of the AMA cycle in CAP 2000 generally leave fuel product manufacturers in the dark regarding how to test

new products or evaluate existing products in relation to the Act's fuel-related regulatory requirements.

API/NPRA/Ethyl Comments (Jan. 14, 2000).

API/NPRA/Ethyl stated that it is unclear how the automobile industry can fulfill their responsibility to build vehicles that will meet applicable emission standards on all legal fuel formulations since durability test procedures are not relevant to the assessment of fuels and fuel additives. Certification test procedures (and the data generated using those procedures) have been central to nearly every fuel-related regulatory decision made by EPA over the past two decades. If, in fact, the Agency has been authorizing use of certification test procedures that are not appropriate for evaluating the effect fuels might have on the durability of emission control systems, the Agency has made this determination without seeking the views of the fuels industry or potentially other interested segments of the public. API/NPRA/Ethyl Comments at 8.

EPA Response

While the Petitioner asserts that without access to the certification procedures involved in CAP 2000 there is little incentive to innovate due to the technical questions or uncertainty as to the proper test procedures. They do not provide any detail or additional analysis explaining how the kinds of durability procedures used by manufacturers would be important for developing appropriate procedures to

use in testing the effects of an additive on the deterioration over time of emissions control in motor vehicles or engines. Various commenters indicate that the durability procedures used by manufacturers would likely not be appropriate to determine the emissions deterioration effect attributable solely to use of an additive over extended in-use operation.

As described in the CAP 2000 rulemaking, the kinds of durability procedures used by manufacturers typically involve bench aging of equipment, and in some cases whole vehicle mileage accumulation, including use of accelerated mileage cycles. The purpose of these procedures is to develop a durability process that accurately predicts the in-use emissions deterioration expected from extended in-use operation over typical in-use fuels. It is approved based on a showing that it in fact does correlate with expected in-use deterioration. However the procedures do not predict the deterioration attributable to any single factor, such as a specific component of fuel or a specific type of driving. Instead, they predict the deterioration expected from a wide variety of conditions taken as a whole. In addition, it appears clear that emissions deterioration is dominated by the effects of thermal aging of the catalyst.

The manufacturer durability procedures typically do not directly replicate in-use conditions, and instead are a surrogate mechanism that artificially deteriorates the

vehicle or the equipment. The result is intended to be a vehicle or piece of equipment that is at a level of deterioration that can be used to predict the expected level of deterioration from in-use operation. For example, the procedures to bench age a catalyst are not designed to duplicate actual in-use conditions. They typically are an artificial way to subject a catalyst in a short time period to conditions that may be much more severe than in-use operation. The result is a catalyst that has a level of emissions deterioration that is useful in predicting the in-use deterioration that results from the wide variety of conditions affecting in-use vehicles.

It is not at all clear, however, that such an artificial aging process would be useful to evaluate the effect of a single source of potential deterioration, such as a fuel additive. For example, bench aging a catalyst using fuel with the additive and fuel without the additive, would identify the effect such an additive would have under those specific artificial aging conditions. However, without more, running a catalyst through an artificially accelerated and severe catalyst aging cycle, with and without an additive, does not necessarily tell you anything about how the additive would affect emissions deterioration over actual extended in-use. There would not be a factual basis for predicting that this effect would be representative of the effect of the additive under normal,

extended in-use operation. In CAP 2000, the manufacturer must demonstrate that the rapid aging process does in fact correlate with the in-use deterioration expected from the wide combination of factors that lead to in-use deterioration under in-use fuels. They supply this information in part through data correlating actual in-use deterioration with the deterioration predicted by the artificial process. The manufacturer demonstration would not support a finding that the aging procedure would also accurately isolate and predict the deterioration effect over time attributable to a fuel additive that is not currently in-use. This is especially so, given that in-use deterioration is dominated by thermal aging effects.¹⁵

The deterioration effects of a fuel or fuel additive can be determined by a whole vehicle cycle for full useful life. The fuel or fuel additive is burned in the vehicle for the entire driving cycle. The effect of the fuel on the engine and emission control system could be determined by running the vehicle with and without the fuel or fuel additive. However, an accelerated whole vehicle cycle involves less driving. The vehicle is processing less fuel.

¹⁵ Contrary to comments from the representatives of the refining industry, the CAP 2000 procedure is designed to address the deterioration effects of extended in-use operation using lawful in-use fuels. It does this as one component of the combination of in-use factors that lead to expected in-use deterioration. CAP 2000 durability processes are designed to predict in-use deterioration from the combination of effects causing in-use deterioration. They are not, however, designed to isolate the effect attributable to one component, such as a specific fuel or fuel additive, separate and apart from the other factors that lead to in-use deterioration. The other points raised by the refining industry appear to raise the same issues raised by petitioner.

The deterioration effects of the fuel over full useful life are therefore much harder to isolate and determine.

All but the full useful life whole vehicle mileage accumulation durability processes developed under CAP 2000 are unlikely to be appropriate for evaluating and isolating the deterioration effects of fuels or fuel additives. EPA has received only a few whole vehicle mileage accumulation durability processes under CAP 2000, and they do not cover a broad segment of the fleet. Like the other durability processes, these methods are manufacturer-specific and tailored to the driving and usage patterns of their customers. Manufacturers design their processes based on the equipment and configuration of vehicles.

Based on the evidence in front of the agency, EPA does not believe that the manufacturer-specific durability procedures approved under CAP 2000 would generally be appropriate for use in developing data on the deterioration effect of a fuel additive on emissions over an extended period of in-use operation.¹⁶

EPA does acknowledge that the 1978 guidance which focused only on one fuel additive, MMT, is outdated, since

¹⁶As noted by one commenter, there is also certain information that is publicly available by manufacturers concerning their durability procedure, to the extent that is useful for an additive manufacturer. EPA does recognize that for waivers that do not involve issues of deterioration over time, that the rapid aging mechanism and other CAP 2000 mechanisms would provide vehicles or equipment that are at a certain level of deterioration, for example, to use in testing the effect of an additive on an already deteriorated emissions control system. However, in the past, additive manufacturers typically have been able to obtain in-use vehicles for such testing. EPA is not aware of any claim that such practices do not continue to be feasible and practicable.

EPA has concerns that "the AMA does not represent the driving patterns of today and does not appropriately age current design vehicles." 63 Fed. Reg. 39659 (July 23, 1998). Thus, EPA is at this time withdrawing the 1978 guidance concerning durability or deterioration waivers. However, EPA is ready to work with individual waiver applicants and additive manufacturers as we have in the past. If a manufacturer is interested in applying for a waiver in the future, EPA is ready to work with the individual manufacturer to develop a suitable durability schedule and testing, and is not aware of any reason why such an approach is infeasible or impracticable. The reasons for adopting a case-by-case approach are described below.

EPA recognizes that a fuel waiver applicant would need to develop a testing program for the fuel or fuel additive waiver application. Although EPA is unaware of any party currently seeking or planning to seek a fuel waiver, EPA will work with any applicant to develop an alternative to the AMA. As discussed previously, a fuel waiver applicant is interested in generally showing that their product does not cause additional deterioration to vehicles. In order to make that determination, a fuel or fuel additive manufacturer would likely evaluate the effect of their fuel or fuel additive by using a whole vehicle aging procedure. A whole vehicle aging procedure would show the effects of

the fuel or fuel additive under more real-world driving conditions. Moreover, as stated before, the real-world effects of contaminants or additives are best evaluated after operating vehicles for an extended period of time such that the engine and emission control system cycle through a variety of normal operating temperatures. A whole vehicle aging procedure for vehicles of today may not be appropriate for vehicles of the future, as factors such as driving patterns, vehicle design and vehicle emission standards, and fuel properties in the future may impact the design of a whole vehicle aging procedure. Therefore, the Agency believes it would be more practical to develop an alternative whole vehicle aging procedure when the fuel waiver application were to be applied under future circumstances rather than attempt to develop an alternative whole vehicle aging procedure that may be inappropriate in the future, as in the case of the AMA.

For example, EPA has modified the Standard Mileage Accumulation Cycle (SMA), and it is referred to as the Mileage Accumulation Driving Cycle [Attachment C to Appendix 1 in the May 11, 2000, Alternative Tier 2 Notification Letter for MMT from Margo T. Oge, Director, Office of Transportation and Air Quality, to Donald R. Lynam, Vice President, Air Conservation, Ethyl Corporation]. This mileage cycle may act as a guide for mileage accumulation and, in fact, in some future situations, may be

appropriate for developing durability data for a fuel or fuel additive waiver. However, EPA does not believe that all future vehicles and future driving patterns are likely to be appropriately represented by this driving cycle. Thus, individual consultation with EPA on a case-by-case basis is the more appropriate approach in determining the appropriate durability cycle to use for a fuel/fuel additive waiver for testing a given set of vehicles in the future.

As explained earlier, promulgation of every manufacturer-specific durability process in practice would paralyze the CAP 2000 program. Given that the durability processes generally would not appear to be useful in predicting the in-use deterioration attributable to a fuel additive, EPA does not believe that the petition or comments warrant a decision to change the CAP 2000 regulation and promulgate each manufacturer-specific durability process.

V. Durability procedures used in EPA's decision to regulate sulfur in gasoline.

Background

EPA promulgated a major program designed to significantly reduce the emissions from new passenger cars and light trucks (the "Tier 2 Gasoline Sulfur program"). 65 Fed.Reg. 6,698 (Feb. 10, 2000). The program treats vehicles and fuels as a system, combining requirements for much cleaner vehicles with requirements for much lower levels of

sulfur in gasoline. The reduction in sulfur levels contributes directly to cleaner air in addition to its beneficial effects on vehicle emission control systems.

Petition

Petitioner states that with respect to the on-going debate about sulfur in gasoline, the oil industry has not had an opportunity to evaluate the extent to which any purported increases in emissions allegedly due to higher gasoline sulfur concentrations are merely an artifact of the test procedures used by the automobile industry to evaluate the durability of the vehicles they produce. Petition at 6. The various tests underlying EPA's proposal to reduce sulfur in gasoline have employed artificial aging techniques, developed by the automobile manufacturers in the certification process. Whether artificially aged components are more sensitive to sulfur than "real world" aged components has not been addressed by EPA in its proposed sulfur regulations. Petition at 6, note 23.

The petition also cites California Air Resources Board Mail Out #MSC 99-12 at 4 that expressed "concern[] that some aging methods currently being used by manufacturers may not be representative of real world deterioration...." Petition at 7.

CAP 2000

The CAP 2000 rulemaking is separate from EPA's decision to regulate sulfur in gasoline. The CAP 2000 rulemaking

does not address the Tier 2 rulemaking.

Comments

One commenter stated that EPA's recent decision to regulate gasoline sulfur content was based on data concerning the effect of gasoline sulfur on vehicle emissions that were generated with catalysts that had been artificially aged using manufacturer-specific, "rapid aging" techniques developed for vehicle certification. The information on these testing techniques have not been divulged to the public. API/NPRA/Ethyl Comments at 4 (Jan. 24, 2000).

EPA Response

EPA received various comments during the Tier 2 rulemaking concerning testing by EPA and others concerning the effect of sulfur levels in gasoline on emissions. EPA responded to those comments in that rulemaking. See EPA Air Docket A-97-10.

The CAP 2000 rulemaking is not related to the Tier 2 rulemaking, and EPA is not revisiting the Tier 2 rulemaking in this response to a petition for reconsideration. Comments on the validity of testing in that rulemaking are not relevant to EPA's review and evaluation of the petition before it regarding CAP 2000.

As background information, in general the testing referred to by commenters and petitioner did not attempt to identify the effect of sulfur levels in gasoline on the long

term in-use deterioration of emissions control. Instead, it was designed to determine the immediate effect changes in sulfur had on emissions, including whether that effect was readily reversible.

VI. Whether EPA is acting contrary to its policy of open rulemaking

Background

EPA's statutory responsibilities for public involvement in rulemaking are found in section 307 of the Clean Air Act, as discussed in detail in section III above. In addition, EPA has a policy on public participation designed to provide guidance and direction to public officials who manage and conduct EPA programs on reasonable and effective means of involving the public in program decisions published in the Federal Register Vol. 46, No. 12, January 19, 1981. Many of the recommendations in this policy document are already contained in section 307 of the Clean Air Act. As mentioned in section III., a Federal Advisory subcommittee was convened to review and advise EPA prior to commencing with the CAP 2000 regulation.

CAP 2000

As discussed previously, CAP 2000 regulations allow manufacturers to design their own durability processes. The test data which the agency relies on for certification compliance determinations are available to the public on the

internet. EPA also makes available, upon request, any of the non-confidential data the manufacturer submits in fulfillment of its reporting obligations for certification.

Petition

Petitioner states that the Agency has a long history of supporting public participation in the development of environmental regulations and policy, as well as promoting the availability of information on which the Agency's actions depend. Why the Agency would adopt a contrary approach in its certification program remains unclear, particularly since the public interest would benefit from a more "transparent" approach to certification. Petition at 5.

Comments

One commenter stated that none of EPA's policy objectives are served by EPA's refusal to involve the public more directly in the review and approval of certification test procedures. The approach for development of certification test procedures embodied in the CAP 2000 rule works directly against the foregoing objectives. Ethyl Comments at 6.

Another commenter stated that the certification application and aging processes contain an enormous amount of proprietary intellectual property - patents, copyrights and trade secrets - the protection of which is at the core of manufacturers' competitive success. Confiscation of

intellectual property would not only be unprecedented but, by divulging proprietary work product that costs billions of dollars to create, would compromise manufacturers' incentive to invest in future research efforts. AAM/AIAM Comments at 14-16.

EPA Response

In developing and promulgating the CAP 2000 regulation, EPA followed both the Clean Air Act Section 307 requirements as well as adhering to the Agency's internal public participation policies, including FACA committee involvement and a lengthier public comment period. During FACA meetings, which included automotive, environmental, oil industry and local governmental stakeholders, EPA repeatedly requested advice and concerns. Never were the concerns expressed by the petitioner brought up.

EPA maintains that it has not altered any of its policies or practices regarding the availability of information on matters pertaining to vehicle certification. In fact, it has taken advantage of the internet to post vastly more amounts of certification information than previously possible. The issue of what information may be identified by manufacturers as confidential business information is a general issue that is not specific to the certification program. The issues related to the Freedom of Information Act are discussed below.

Providing for public comment on each certification or

on specific aspects of certification, such as approval of manufacturer-specific durability procedures would call for the use of rulemaking procedures in these case-by-case, fact intensive decisions. The requirements for rulemaking via public comment are by necessity deliberative, taking in most cases a year or more to complete. However, Congress, in the Clean Air Act, requires EPA to issue certificates every model year. To allow enough time for EPA to obtain the certification information from manufacturers, to then present that to the public, and to then address those comments (and deal with any possible adverse comments) would require that manufacturers submit their certification data virtually years before the model year begins. This time line does not support the established automotive development and production cycle. The automotive industry as we know it would be paralyzed. Comments submitted by the Alliance of Automobile Manufacturers support this opinion.¹⁷ Moreover, releasing certification information to the public in advance of certification would disclose production-intent and sales information or other information which the manufacturer would likely claim as confidential business information - even the fact that a manufacturer was planning to certify a product could be important information for competitors. EPA has not released any certification information prior to

¹⁷ See comments submitted by the Alliance of Automobile Manufacturers, et.al. page 17 in EPA Air Docket A-96-50, number VI-D-03.

certification for just those reasons. EPA believes the most effective time for public participation is during the development of certification regulations, such as CAP 2000 rulemaking. That is the time where EPA establishes the framework for certification with which manufacturers must comply. There is substantial opportunity for the public to comment during the public comment period for the rule and elsewhere in this document. However, for the reasons discussed above, EPA does not believe it is appropriate to use rulemaking procedures to make the case-by-case decisions needed to issue a certificate or approve a manufacturer-specific durability program. One procedure available for public review of information submitted by a manufacturer pursuant to the certification procedures involves the Freedom of Information Act, which properly balances the public's right to obtain agency records and the interests of business in protection of confidential business information.

VII. Whether CAP 2000 is harmful to the environment

Background

According to EPA's Strategic Plan, the mission of EPA is "to protect human health and to safeguard the natural environment - air, water and land - upon which life depends." (EPA 190-R-00-002, September 2000). Congress, in passing the Clean Air Act and subsequent amendments, laid out the statutory structure that would ensure this safeguard

for the nation's air quality. Part of this structure included emission standards for new motor vehicles (i.e. Sec. 202), and a framework for implementing the standards (i.e. Sec. 206.)

CAP 2000

The CAP 2000 regulations address the section 206 requirement for EPA to establish a new vehicle emission certification program. It requires manufacturers to test vehicles and report information to EPA prior to certification. In developing the rule, EPA reviewed the type of information it needed to collect not only for certification but also for any possible future enforcement actions. In addition, CAP 2000 added a requirement that manufacturers perform in-use testing on candidate in-use vehicles. 40 CFR §§ 86.1845-01, 86.1845-04. These in-use verification data will provide feedback information to manufacturers which will be used to improve their durability processes if necessary. If certain defined levels of potential noncompliance are identified, the manufacturer is required to conduct or fund additional confirmatory testing to aid in making recall determinations. 40 CFR §86.1846-01.

Petition

Petitioner states that the suppression of certification information may be affirmatively harmful to the environment. If the certification process allowed a more effective public participation, the likelihood that the government would be

forced to take legal action against the automobile industry "after the fact" for alleged noncompliance with certification requirements would substantially be reduced. Petitioner cites a case involving Toyota Motor Sales U.S.A., Inc. in which EPA discovered a compliance problem which spanned a number of years. Petition at 5-6.

Comments

One commenter states that the petitioner's position is grounded in a misunderstanding of the very purpose of the CAP 2000 regulations - to improve air quality by reducing reliance on the predictive aspects of the certification process, and placing increased emphasis on testing of in-use vehicles. AAM/AIAM Comments at 9-11

EPA Response

EPA strongly disagrees with the Petitioner. EPA expects that CAP 2000 procedures will improve in-use vehicle emission compliance and would not harm the environment.

The certification process is of necessity a predictive process. During certification, manufacturers show EPA that there is a good likelihood that their vehicles, once in use, will comply with emission standards through their useful lives. As with any prediction, there is always a chance that it will be wrong. Prior to CAP 2000, there were two fundamental weaknesses in EPA's certification program. First, the process for predicting the emission deterioration rates of vehicles wasn't reflecting real-world conditions.

Second, EPA did not have an effective way to confirm that real-world vehicles were performing the way that manufacturers predicted they would at the time of certification. The GAO, in its 1990 report to Congress, commented on these weaknesses¹⁸. CAP 2000 addressed both of these issues.

EPA's goal with CAP 2000 was to minimize the risk of inaccurate predictions at the time of certification and to create an iterative process which would result in continual improvements to the ability of manufacturers to predict more accurately. Improving manufacturers' predictions of in-use performance was done by eliminating the use of a "one-size-fits-all" durability process, which required the use of the AMA mileage accumulation cycle, originally developed for vehicles without catalyst emission control technology. The AMA cycle simply did not tax current-day emission control systems enough, resulting in under-predicting how vehicles would perform in use. In CAP 2000, EPA eliminated the requirement to use the AMA to age vehicles. Instead, EPA required manufacturers to develop their own methods of aging vehicles that would "effectively predict the expected deterioration of candidate in-use vehicles over their full and intermediate useful life...."¹⁹ Thus, CAP 2000

¹⁸ GAO Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives: Air Pollution: EPA Not Adequately Ensuring Vehicles Comply with Emission Standards", #RCED-90-128.

¹⁹ 40 CFR 86.1823-01(a).

increases the likelihood that the certification will more accurately predict in-use emissions, and lessens the risk of in-use noncompliance.

The final proof of the prediction comes with the CAP 2000 feature known as the "In-use Verification Program", where manufacturers will procure and test in-use cars, and give the data to EPA. That data will also be made publicly available. The in-use data will be used to determine if real-world vehicles comply with the emission standards. The data will also be used to confirm whether the manufacturers' durability processes used at the time of certification are indeed predictive of what will happen in use. If found to be lacking, EPA will require the manufacturer to make improvements to its durability process. The feedback process is critical to verifying the efficacy of the manufacturer's durability process. And because the in-use data is public information, the public will be able to judge for itself if the certification process was able to predict the emission performance of its vehicles. EPA will also use the data to target possible recalls. One other feature of CAP 2000 is that it requires manufacturers to perform their own recall testing, if the initial in-use verification testing indicates a problem. These features were not available prior to CAP 2000, and are expected to improve air quality and provide a strong incentive for manufacturers to build more robust products to avoid possible noncompliance.

EPA has been receiving some manufacturer-run in-use test data as of the 1994 model year as required by the RDP program (as this was an optional program, only those manufacturers who opted in to RDP were required to run in-use tests). The RDP in-use data shows that the vast majority of vehicles comply with standards in actual use, demonstrating that manufacturer-designed durability programs are capable of predicting in-use performance. However, predicting anything, including in-use emissions, is at best an inexact science, and despite the best efforts of EPA and the automotive industry, occasionally, an event will fall outside the predicted expectation. EPA believes that CAP 2000 may decrease, but never eliminate "the likelihood that the government would be forced to take a legal action against the automotive industry 'after the fact.'" Petition at 6. The advantage that the CAP 2000 durability process has over the old AMA process is that it is flexible. If in-use "after the fact" problems are discovered, not only does the Agency have the ability to recall noncomplying vehicles, but also to require the manufacturer to modify the durability process to correct future certification predictions. This is a great improvement and is certainly beneficial to the public welfare.

Conclusion: EPA denies petition for reconsideration of the CAP 2000 final rule

After consideration of the petition and all of the comments received, EPA denies the petition for reconsideration of the Compliance Assurance Program 2000. EPA has acted in accordance with the requirements of the Clean Air Act and the CAP 2000 rule is an appropriate and reasonable use of authority.

Manufacturer-specific durability processes are not "methods and procedures for making tests" under section 206(d) of Clean Air Act. EPA has authority under section 206(d) to approve manufacturer-specific durability programs by applying the criteria in the CAP 2000 regulations on a case-by-case basis, without additional rulemaking. EPA has also satisfied the rulemaking requirements of Clean Air Act section 307(d) of the Act and the APA.

CAP 2000 regulations do not harm Clean Air Act §211(f) fuel waiver applicants. Durability processes generally do not appear to be useful in predicting the in-use deterioration attributable to a fuel or fuel additive. Therefore, EPA will work with a fuel waiver applicant to develop an appropriate mileage accumulation cycle for fuel or fuel additive testing.

EPA is not acting contrary to its policy of open rulemaking. The FOIA process provides a vehicle for the public to review information submitted by a manufacturer which properly balances the public's right to obtain agency records and the interests of business in protection of

confidential business information.

In addition, CAP 2000 is expected to improve air quality by improving the process which predicts in-use compliance and determining the need for further action by the Agency or the manufacturer to address any in-use emissions compliance problems.

II. Denial of Petition to Reconsider Heavy-Duty Gasoline Regulation

Ethyl Corporation also petitioned the Agency for administrative reconsideration of the final rule entitled "Emissions Control, Air Pollution From 2004 and Later Model Year Heavy-Duty Highway Engines and Vehicles; Light-Duty On-Board Diagnostics Requirements, Revision; Final Rule," 65 FR 59896-59978 (referred to here as the "Heavy Duty Rule"). For emissions test procedures, EPA incorporated the CAP 2000 program for use in certifying heavy-duty vehicles under § 206 of the Clean Air Act. Upon promulgation of the heavy-duty rule, EPA had not ruled on the CAP 2000 petition for consideration. EPA responded to Ethyl and the automotive aftermarket trade organizations' comments on the heavy-duty rule regarding the CAP 2000 component of the final rule by stating that EPA would apply the decision of the CAP 2000 petition for reconsideration to heavy-duty engines and vehicles as well.

CAP 2000 and the heavy-duty rule both involve EPA's

implementation of § 206 of the Clean Air Act. EPA finds no reason to treat heavy-duty and light-duty vehicles differently for the purposes of implementing § 206. Therefore, the analysis and conclusion explained above also apply to the heavy duty rule cited above.

III. Denial of Petition to Reconsider OBD/IM Regulation

A. Summary of Facts

On April 5, 2001, EPA published a final rulemaking in the Federal Register, entitled "Amendments to Vehicle Inspection Maintenance Program Requirements Incorporating the Onboard Diagnostic Check" (66 FR 18156). The purpose of the rulemaking is to: 1) extend the deadline for starting the requirement for an Onboard Diagnostics inspection and maintenance (OBD-I/M) check in state I/M programs; 2) establish a method for modeling emission reductions from the OBD-I/M check prior to mandated use of the MOBILE6 emission factor model; 3) simplify the failure criteria for the OBD-I/M check; and 4) provide greater flexibility with regard to the rejection criteria for the OBD-I/M check. The rulemaking also clarifies that when states begin performing the OBD-I/M check on model year (MY) 1996 and newer vehicles they are not required under the state I/M requirements in 40 CFR Part 51 Subpart S to also perform tailpipe testing on

those same vehicles (though they may continue to do so, at their discretion). The rulemaking does not, however, introduce the OBD-I/M testing requirement for I/M programs or establish the OBD-I/M test as a 207(b) warranty short test. The requirement that both basic and enhanced I/M programs include OBD-I/M testing of OBD-equipped vehicles was first established by sections 182(a)(1)(B)(ii), 182(c)(3)(C)(vii), and 202(m)(3) of the Clean Air Act as amended in 1990. EPA established the OBD-I/M test procedures and promulgated the OBD-I/M test as a 207(b) warranty short test in an earlier rulemaking, published in the Federal Register on August 6, 1996, entitled "I/M Program Requirement -- On-Board Diagnostic Checks" (61 FR 40940). The April 5, 2001 rulemaking amended these earlier requirements and procedures, but did not introduce them.

The proposal that led to the April 5, 2001 rulemaking was published on September 20, 2000 (65 FR 56844). During the public comment period, Ethyl provided comments indicating its belief that the OBD-I/M proposal did not comply with section 207(b) of the Clean Air Act with regard to making OBD design parameters available for public review and comment before promulgating the rule. In its October 20, 2000 comments to the Agency, Ethyl specifically claimed that section 207(b) of the Act requires EPA to establish "methods and procedures" for measuring in-use compliance "by

regulation" and that EPA failed to do this. Elsewhere in its comments, Ethyl further maintained that EPA's pilot studies describing the correlation between OBD-I/M checks and IM240 on MY 1996 and newer vehicles are insufficient to establish that OBD-I/M checks "are reasonably capable of being correlated" to the FTP.²⁰

In the April 5, 2001 final OBD-IM amendments, EPA responded to Ethyl's comments by indicating the Agency's position that OBD technology's use in I/M does not raise information availability issues separate from the Agency's obligations under the Service Information Rule finalized on August 9, 1995 (60 FR 40474) and currently in the process of being amended. EPA also pointed out that the April 5, 2001 rule did not introduce the OBD-I/M testing requirement and procedures, but only amended them, and that Ethyl's comments were therefore more appropriate to the August 6, 1996 rule where EPA did establish the OBD-I/M check as an I/M test and 207(b) warranty short test. Lastly, EPA stated that it would address Ethyl's comments in the Agency's response to Ethyl's petition for reconsideration of the CAP 2000 rule.

²⁰ As discussed in the September 20, 2000 OBD-I/M proposal, EPA conducted three pilot studies to determine the relative effectiveness of the OBD-I/M check compared to existing I/M tests, as well as to identify possible implementation issues related to the use of the OBD-I/M test in a real world I/M environment. One of the studies (the so-called "tailpipe" pilot) compared the effectiveness of the OBD-I/M check to traditional tailpipe tests and included a comparison of both OBD-I/M check and IM240 test results to a common benchmark, the FTP. As a result of the tailpipe pilot study, EPA concluded that the OBD-I/M check was at least as good as (and possibly better than) the IM240 when it comes to identifying MY 1996 and newer vehicles in need of repair and/or maintenance.

On May 4, 2001, Ethyl sent EPA a petition for reconsideration of the OBD-IM amendments, reminding the Agency of its promise to respond to Ethyl's comments in its response to the petition for reconsideration of the CAP 2000 final rule.

B. Regulatory Background

Section 202(m)(1) of the Clean Air Act requires that EPA promulgate regulations requiring manufacturers to install in all new light-duty vehicles and light-duty trucks diagnostic systems ("onboard diagnostic" or "OBD" systems) capable of:

(A) accurately identifying for the vehicle's useful life as established under this section, emission-related systems malfunction, including at a minimum, the catalytic converter and oxygen sensor, which could cause or result in failure of the vehicles to comply with emission standards established under this section,

(B) alerting the vehicle's owner or operator to the likely need for emission-related components or systems maintenance or repair,

(C) storing and retrieving fault codes specified by the

Administrator, and

(D) providing access to stored information in a manner specified by the Administrator.

Subsection (m)(4) requires that such regulations also require:

(A) that any connectors through which the emission control diagnostics system is accessed for inspection, diagnosis, service or repair shall be standard and uniform on all motor vehicles and motor vehicle engines;

(B) that access to the emission control diagnostics system through such connectors shall be unrestricted and shall not require any access code or device which is only available from a vehicle manufacturer; and

(C) that the output of the data from the emission control diagnostics system through such connectors shall be usable without the need for any unique decoding information or device.

EPA promulgated regulations implementing these requirements on February 19, 1993 (58 FR 9467). These

regulations were applicable to all light-duty vehicles and light-duty trucks in model year 1996. The regulations have been revised from time to time since 1993.²¹

In addition, section 202(m)(3) of the Act requires EPA to promulgate regulations requiring states "that have implementation plans containing motor vehicle inspection and maintenance programs to amend their plans ... to provide for inspection of onboard diagnostics systems (as prescribed by regulations under paragraph (1) of this subsection) and for the maintenance or repair of malfunctions or system deterioration identified by or affecting such diagnostics systems. Such regulations shall not be inconsistent with the provisions for warranties promulgated under section 207(a) and (b)." EPA promulgated regulations implementing this paragraph on August 6, 1996 (61 FR 40940). These regulations were subsequently amended on May 4, 1998 (63 FR 24429) and April 5, 2001 (66 FR 18155). The latter action is the subject of Ethyl's petition for reconsideration.

Under section 207(b) of the Act, if EPA determines that "(i) there are available testing methods and procedures to

²¹Section 202(m)(5) of the Act requires that EPA, by regulation, "require (subject to the provisions of section 208(c) regarding the protection of methods or processes entitled to protection as trade secrets) manufacturers to provide promptly to any person engaged in the repairing or servicing of motor vehicles or motor vehicle engines ...any and all information needed to make use of the emission control diagnostics system prescribed under this subsection and such other information including instructions for making emission related diagnosis and repairs." EPA published regulations under this paragraph on August 9, 1995 (60 FR 40474).

ascertain whether, when in actual use throughout ... the warranty period ..., each vehicle and engine to which regulations under section 202 apply complies with the emission standards of such regulations, (ii) such methods and procedures are in accordance with good engineering practices, and (iii) such methods and procedures are reasonably capable of being correlated with tests conducted under section 206(a)(1), then -

(1) [the Administrator] shall establish such methods and procedures by regulation, and

(2) at such time as [the Administrator] determines that inspection facilities or equipment are available for purposes of carrying out testing methods and procedures established under paragraph (1), [the Administrator] shall prescribe regulations which shall require manufacturers to warrant the emission control device or system of each new motor vehicle or new motor vehicle engine to which a regulation under section 202 applies..."

The regulations promulgated in 1996 implementing section 202(m)(3) also included provisions implementing the OBD-I/M test as a warranty test under section 207(b). These regulations were revised in the April 5, 2001 final rule (66 FR 18155) that is the subject of Ethyl's petition for reconsideration.

C. Response to Petition

Ethyl raises three related issues in its request for reconsideration: 1) EPA's failure to provide the "design parameters" for vehicle OBD systems violated section 207(b), 2) the pilot studies EPA performed for this rule are insufficient to show correlation to the FTP, and 3) even if the pilot studies did establish correlation of the OBD-I/M check to the FTP, it did so only for those makes, models, and model years included in the study, and proves nothing with regard to future vehicles. EPA reviews these issues in turn.

1. "EPA Must Require 'Methods and Procedures' for Measuring In-Use Compliance 'By Regulation'"

Ethyl first claims that EPA failed to meet section 207(b) because it did not specify the OBD design parameters ("i.e. the precise method by which each manufacturer's OBD system monitors the performance of the individual emission control devices") in its regulations. Ethyl's analysis is incorrect.

Section 207(b) does not require that EPA specify the particular design characteristics of each manufacturer's OBD system in its regulations. Section 207(b) requires that EPA

show that (1) test methods and procedures for determining compliance with regulations are available (i.e., that the necessary equipment may be readily obtained and that the procedure is reasonably expected to serve its function); (2) the procedures are consistent with good engineering practices; and (3) the results are reasonably capable of being correlated to tests conducted under section 206(a)(1). See 60 FR 43092 (August 18, 1995).

The regulations for OBD inspection meet these criteria.²² The OBD test procedure in 40 CFR §§ 85.2222 and 2231 has provisions ensuring that it can be performed on a generic scan tool (these are generally available and used by service stations), that it meets specifications provided by the Society of Automotive Engineers, and that it tests the continued performance of the OBD system²³. Moreover, as discussed in the next section, the OBD-I/M test is reasonably capable of being correlated to the appropriate tests conducted under section 206(a)(1).

²²EPA made this determination regarding the OBD test in the context of the initial OBD-I/M rule. See 61 FR 40940 (August 6, 1996) and 60 FR 43092 (August 18, 1995). This was the rule where EPA initially incorporated the OBD check into its section 207(b) warranty procedures. Neither Ethyl nor any other party challenged EPA's determination at that time. The rule that Ethyl is requesting reconsideration on did not affect the previous determination regarding the appropriateness of the OBD check under section 207(b) and made only minor changes in the regulations affecting section 207(b).

²³40 CFR § 85.2222 checks the evaluation status of the OBD system, the system's ability to provide trouble codes when the malfunction indicator light (MIL) is illuminated, its ability to illuminate the MIL when commanded to do so, and its ability to illuminate the MIL when the vehicle is in key-on/engine-off condition, as required.

Ethyl is not correct that in order to define the "methods and procedures" in the OBD test, EPA must define the specific design parameters that manufacturers must have on their OBD systems. EPA's regulations generally provide that manufacturers must design their products to meet certain performance requirements. EPA generally will not tell manufacturers how they must design their products to meet those performance requirements. EPA does this for several reasons. One is that specifying a particular way to meet a standard stifles the ability of manufacturers to choose different, and possibly more efficient or less costly ways to meet the standard. Also, particular design features may be the intellectual property of particular manufacturers, and requiring the use of a particular product may give a manufacturer a competitive advantage over its competition.

Similarly, EPA does not need to mandate the particular designs that manufacturers of testing equipment must use to make their testing equipment, so long as the equipment meets the performance specifications of the test regulations. See, for example, 40 CFR 85.2225(c), which describes the performance specifications for the analyzers used in EPA 91 Emission Performance Warranty testing. Any analyzer meeting those specifications may be used to perform the testing.

Thus, just as we do not tell manufacturers what type of emission control system they must use to meet our numerical pollutant emission standards, we do not tell manufacturers what specific design parameters they must use to meet the regulations regarding the manufacture of OBD systems [see 40 CFR § 86.094-17 (and succeeding regulations)] or the OBD test procedures. The methods and procedures required under 40 CFR §§ 85.2222, 85.2223, and 85.2231 are sufficient to test the continued performance of the OBD system. Moreover, as OBD systems tested under these regulations have been certified as meeting the OBD system requirements of 40 CFR § 86-094.17, the continued performance of that system also provides for the continued monitoring of other emission control equipment, as is the intent of section 202(m) of the statute.

Finally, the information that Ethyl believes should be provided is often confidential business information. The Clean Air Act specifically protects the privacy of such information [see CAA section 208(c)] and section 202(m)(5) contains an explicit admonition to EPA regarding the protection of methods or processes entitled to protection as trade secrets. In *Motor and Equipment Manufacturers Ass'n v. Nichols*, 142 F. 3d 449 (D.C. Cir. 1998), the Court of Appeals for the D.C. Circuit found that section 202(m)(5) does not entitle aftermarket manufacturers "to the

information needed to make replacement OBD parts. EPA has accordingly concluded that the term 'information needed' refers to information that mechanics can use to repair automobiles," and does not include the internal information contained on computer chips controlling the OBD system. *Id.* at 465. The court found that EPA's interpretation of section 202(m)(5):

Reasonably comports not only with the statute's discussion of 'information needed,' but also with its protection of the trade secrets of automobile manufacturers. Easy access to the computer programs underlying the OBDs and protected by anti-tampering devices would make protection of the intellectual property contained therein difficult, without making the servicing of vehicles containing OBDs any easier....Congress sought to balance the need of all mechanics for information from the devices ... with the right of those manufacturers to protect their trade secrets, promoting further innovation in OBD technology.

Id. The material that the aftermarket parts manufacturers wanted divulged in *MEMA* is the same type of information that Ethyl wants EPA to require manufacturers to divulge here.

For the reasons provided above, EPA does not believe such a requirement is mandated or would be appropriate under the Act.

2. "EPA's Pilot Studies Describing Correlation Between OBD Checks and IM240 on 1996 and Newer Model Year Vehicles are Insufficient to Establish that OBD Checks 'Are Reasonably Capable of Being Correlated' to the FTP"

Ethyl is incorrect in its suggestion that section 207(b) requires a correlation between the OBD-I/M test and the "FTP." Ethyl's suggestion seems to assume that the "tests conducted under section 206(a)(1)" referred to in section 207(b) is a single test -- specifically, the dynamometer-based EPA Urban Dynamometer Driving schedule in 40 CFR §86.115, which is a tailpipe exhaust emission test and is sometimes referred to as the FTP.²⁴ In fact, section 206(a)(1) requires a suite of tests to be conducted as part of the overall certification process, including not only tailpipe emission testing, but also evaporative emission testing and -- most importantly with regard to Ethyl's comments -- OBD requirements for all MY 1996 and newer cars

²⁴The term FTP has been used loosely in the past and can refer to either the single dynamometer exhaust test or to the entire suite of tests required under section 206(a)(1).

and light-duty trucks sold in the U.S. Because testing of the OBD system is actually part of the requirements of section 206(a)(1), it does not make sense to argue whether or not the OBD-I/M test "correlates" to the FTP; by definition, the OBD-I/M check has a 100% correlation to the OBD portion of the certification requirements under section 206(a)(1).

In conducting the pilot testing summarized in the Technical Support Document (TSD) and discussed in the September 20, 2000 OBD-I/M proposal (i.e., the 200 vehicle tailpipe study, the evaporative emission study, and the Wisconsin OBD-I/M implementation study), EPA was trying to answer two questions regarding the relative effectiveness of the OBD-I/M test: 1) is the OBD-I/M test as good as, better than, or worse than existing I/M tests when it comes to identifying dirty and/or broken vehicles²⁵, and 2) is it necessary to conduct both existing I/M tests and OBD-I/M tests on MY 1996 and newer vehicles. The purpose of these studies was not to determine whether or not the OBD-I/M test should be used in I/M programs; that question was answered by Congress when the OBD-I/M test was required as one of the minimum program elements for both basic and enhanced I/M

²⁵It should be noted that the OBD-I/M pilot studies did demonstrate that the OBD-I/M test is at least as effective as the best available, traditional I/M tests when it comes to identifying vehicles in need of repair. Based upon this finding, EPA has concluded that it is appropriate to allow states the flexibility to drop traditional I/M tests on MY 1996 and newer, OBD-equipped vehicles in favor of performing the OBD-I/M check on those same vehicles.

programs. Nor were the pilots designed to show the appropriateness of the OBD-I/M test for section 207(b) purposes; that decision was made in the earlier rulemaking promulgated in 1996. The purpose of the studies was merely to establish how best to use the OBD-I/M test in such programs while minimizing the testing burden on MY 1996 and newer vehicles.

However, the results of the pilot studies did in fact provide strong evidence that the OBD-I/M test is indeed reasonably correlated to "tests conducted under section 206(a)(1)." The pilot tests show that the OBD check does identify "emissions-related systems deterioration or malfunction ... which could cause or result in failure of the vehicles to comply with emission standards," as required under section 202(m) and as defined in EPA's OBD regulations (40 CFR § 86.094-17).

3. EPA provides no proof that "untested and future model year vehicles" will respond to OBD-I/M testing the same way vehicles did during the Agency's pilot testing

Ethyl's objection that the pilot tests do not show conformance by future vehicles is dubious, at best. By that

standard, no study could ever be used under section 207(b), because by definition a study on existing vehicles (or testing equipment, for that matter) can never absolutely ensure that future vehicles (and testing equipment) are accurate. What the studies do show is that vehicles that have been certified as complying with EPA's OBD certification requirements are responding appropriately when subjected to the OBD-I/M test in the field. As noted above, it would be inappropriate for EPA to mandate the specific manner in which manufacturers meet our performance-based certification requirements for OBD because to do so would unnecessarily restrict innovation and may also raise issues with regard to the intellectual property of certain manufacturers. By definition, any MY 1996 and newer vehicle subject to 207(b) has been certified by EPA as meeting the OBD certification requirements. This will be true with regard to all future vehicles certified as meeting OBD requirements, whether or not they use the specific design parameters used by the vehicles tested in EPA's pilot studies. The pilot studies merely indicate that the OBD-I/M check is a reasonable test to ensure that certified OBD systems (whatever their design parameters) are performing appropriately in use. Section 207(b) does not require anything further.

D. Conclusion

For the reasons detailed above, EPA denies Ethyl's request for reconsideration of the April 5, 2001 OBD-I/M rule.