

DEPARTMENT OF ENERGY**Office of Energy Efficiency and Renewable Energy****10 CFR Part 490****RIN 1904-AB67****Alternative Fuel Transportation Program; Replacement Fuel Goal Modification**

AGENCY: Office of Energy Efficiency and Renewable Energy (EERE), Department of Energy (DOE).

ACTION: Final rule.

SUMMARY: DOE is publishing this final rule pursuant to the Energy Policy Act of 1992 (EPA 1992). DOE is extending the EPA 1992 goal of achieving a production capacity for replacement fuels sufficient to replace 30 percent of the projected U.S. motor fuel consumption (Replacement Fuel Goal) to 2030. DOE determined through its analysis that the 30 percent Replacement Fuel Goal cannot be met by 2010, as established in section 502(b)(2)(B). DOE has determined that the 30 percent goal can be achieved by 2030.

DATES: *Effective Date:* This rule is effective June 1, 2007.

FOR FURTHER INFORMATION CONTACT: To request a copy of this Final Rule notice or arrange on-site access to paper copies of other information in the docket, or for further information, contact Mr. Dana V. O'Hara, Office of Energy Efficiency and Renewable Energy (EE-2G), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585-0121; (202) 586-9171; regulatory_info@afdc.nrel.gov; or Mr. Chris Calamita, Office of the General Counsel, U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585-0121; (202) 586-9507. Copies of this final rule and supporting documentation for this rulemaking will be placed at the following Web site address: <http://www1.eere.energy.gov/vehiclesandfuels/epact/private/index.html>. Interested persons may also access these documents using a computer in DOE's Freedom of Information (FOI) Reading Room, U.S. Department of Energy, Forrestal Building, Room 1E-190, 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-3142, between the hours of 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

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I. Introduction

On September 19, 2006, DOE published a notice of proposed rulemaking (NOPR) announcing its proposed determination that the EPA 1992 (Pub. L. 102-486) Replacement Fuel Goal of 30 percent by 2010 is not achievable and announcing its proposal to extend the time for achieving the 30 percent replacement fuel production capacity goal to 2030. 71 FR 54771, Sept. 19, 2006.

EPA 1992, section 502(a) directed DOE to establish a replacement fuel program. (42 U.S.C. 13252(a)) The purpose of this program is to "promote the replacement of petroleum motor fuels with replacement fuels to the maximum extent practicable." (Id., emphasis added.) The focus of this program, as indicated in section 502(b)(2), is on expanding replacement fuels production capacity. (42 U.S.C. 13252(b)(2)) Further, section 502(b)(2) specifies an interim Replacement Fuel

Goal of producing sufficient replacement fuels to replace 10 percent by 2000 of the projected consumption of motor fuels in the United States and a final goal of 30 percent by 2010. (42 U.S.C. 13252(b)(2)(A) and (B)) Under section 504, DOE was tasked with evaluating these goals and if DOE finds the goals to be unachievable, then DOE is directed to modify the goals so that they are achievable. (42 U.S.C. 13254(a) and (b)) In modifying the goals DOE can either modify the goal percentage or timeframe or both. (42 U.S.C. 13254(b)) In evaluating and modifying the goals, DOE must balance considerations in order to establish goals that are "achievable." (42 U.S.C. 13254(b)) The Replacement Fuel Goals must promote replacement fuels to the "maximum extent possible" while remaining technologically and economically feasible. (42 U.S.C. 13254(a) and (b)(2)) The revised goal adopted today meets these requirements, for several reasons. First, DOE based its analysis on the best information available, from published and peer-reviewed sources. In particular, much of DOE's analysis was based on the Energy Information Administration's (EIA) Annual Energy Outlook (AEO) 2005 through 2007. Second, DOE's analysis generally was based on the current budget and policy framework, under which many technologies show reasonable potential for success and market penetration. Thus, the analysis assumed virtually no major new policies or funding initiatives beyond those already in place. Third and last, the modified goal balances the minimum and maximum projected replacement fuel production capacities from several reasonable scenarios.

In the NOPR, DOE evaluated four scenarios, which identified projected replacement fuel capacities of 8.65 percent, 17.84 percent, 35.25 percent, and 47.06 percent, by 2030. (Updated analyses conducted in this final rule resulted in the first and third of these becoming 7.38 percent and 33.13 percent, respectively.) These projections reflect considerations of numerous variables including oil prices, technological breakthroughs, and market acceptance. The goal proposed by DOE fell in the mid-range among these scenarios. Also, the proposed goal did not rest upon a single technology, but instead relied on a portfolio of options. Explicit in this approach is the assumption that not all of the technologies will achieve the same measure of success; some will be more successful than others. Similarly, the proposed goal did not rely on the most advantageous market conditions.

Therefore, DOE determined that the proposed goal would meet the requirement to balance the objective of section 502(a) to promote replacement fuels to the "maximum extent practicable" and the section 504(b) requirement that the Replacement Fuel Goal be "achievable." (42 U.S.C. 13252(a) and 13254(b))

In today's Final Rule, DOE determines that the EPC 1992 goal of establishing sufficient replacement fuel production capacity to replace 30 percent on an energy equivalent basis of all U.S. motor fuel by 2010 is not achievable. This determination is based on a similar evaluation of the projected U.S. production capacity of replacement fuels as was presented in the NOPR. 71 FR 54711. Further, today's Final Rule extends the 30 percent Replacement Fuel Goal out to 2030 based on an analysis similar to that presented in the NOPR and discussed further below. Today's Final Rule complies with DOE's obligation under section 504(b) of EPC 1992 to "establish goals that are achievable, for the purposes of this title." (42 U.S.C. 13254(b))

Today's final rule also implements the March 6, 2006 order of the U.S. District Court for Northern District of California to prepare and publish a final rule to modify EPC 1992's replacement fuel production goal for 2010. See *Center for Biological Diversity v. U.S. Department of Energy et. al.*, 419 F.Supp. 2d 1166 (N.D. Cal. 2006).

DOE reminds interested parties that the Replacement Fuel Goal is an administrative goal guiding the replacement fuel program, including administering the EPC 1992 title V fleet mandates. It is *not* a program plan, implementation plan, national policy, or any other type of major program for achievement of the Replacement Fuel Goal. In addition, the statutory requirement for the Replacement Fuel Goal is potential production capacity. This does not require the fuel quantities implied by this goal actually be produced or used.

II. Background

A. Replacement Fuel Program

Section 502(a) of EPC 1992 requires the Secretary of Energy (Secretary) to establish a program to promote the development and use of "domestic replacement fuels" and to "promote the replacement of petroleum fuels with replacement fuels to the maximum extent practicable" (42 U.S.C. 13252(a)). Section 502(a) states:

The Secretary shall establish a program to promote the development and use in light duty motor vehicles of domestic replacement

fuels. Such a program shall promote the replacement of petroleum fuels to the maximum extent practicable. Such program shall, to the extent practicable, ensure the availability of those replacement fuels that will have the greatest impact in reducing oil imports, improving the health of our Nation's economy and reducing greenhouse gas emissions.

(42 U.S.C. 13252(a))

Since 1992, DOE has taken a number of steps to implement EPC 1992's replacement fuel programs, under the authority provided in titles III, IV and V of the Act. DOE coordinates various aspects of the Federal fleet's efforts to comply with the vehicle acquisition requirements established under section 303 of EPC 1992. (42 U.S.C. 13212). DOE has also promulgated and implemented regulations and guidance for alternative fuel providers and State government fleets, which are subject to the fleet provisions contained in sections 501 and 507(o) (42 U.S.C. 13251 and 13257(o), respectively). 10 CFR Part 490. DOE also established the Clean Cities initiative, which supports public and private partnerships that deploy alternative fueled vehicles (AFVs) and build supporting infrastructure. Clean Cities works closely with both voluntary and regulated fleets in specific geographic areas, to bring together the necessary "critical mass" of demand for alternative fuels to support expansion of the refueling infrastructure. In addition, DOE conducts research and development on replacement fuels production and utilization technologies in conjunction with other Federal agencies (such as the U.S. Department of Agriculture (USDA)), States, private industry, and universities. All of these programs work together to increase the production and utilization of replacement fuels and improve the efficiency of vehicles.

In particular, the regulatory fleet programs have been successful in moving fleets covered under EPC 1992 toward the use of AFVs and alternative fuels and reducing the use of petroleum fuels. The regulatory fleet programs established under EPC 1992 have seen extremely high levels of compliance. Nearly all individual Federal agencies have met their AFV acquisition requirements, and the Federal fleet as a whole has exceeded the required 75 percent acquisition level for the last four years. Among State and alternative fuel provider fleets, compliance has also been high and DOE has been able to work out nearly all the relatively few instances of deficient acquisitions with the involved fleets, either through the

fleets purchasing credits or agreeing to acquire additional AFVs in future years.

Original equipment manufacturers (OEMs) have expanded the number and type of AFV models offered, mostly due to the demand from EPC regulated fleet programs, regulatory incentives (Corporate Average Fuel Economy (CAFE) credits), and coordinated voluntary activities (Clean Cities). In model year 1993, OEMs were only offering a handful of different AFVs models. The availability of models and fuel types has increased substantially over the past decade. During model year 2006, there were over 20 light-duty fuel/vehicle model combinations available (with more models promised over the next several years). Virtually all of these were E85 flexible fuel vehicles (FFVs). Overall, there are now on the order of one million FFVs manufactured annually in the U.S., largely to take advantage of the CAFE benefits. At the same time, the regulated fleets do acquire many of these vehicles each year.

The Replacement Fuel Program efforts have also assisted in expanding the infrastructure for alternative fuels. In 1992 when EPC was passed, there were not that many alternative fuel refueling stations in operation (approximately 3,600) and nearly all were for propane. Today, there are approximately 5,400 alternative fuel refueling stations in the U.S., including over 1,000 E85 stations in operation, with several hundred coming on-line each year over past few years. There are also many more compressed natural gas (CNG) stations than in 1992, although this number has begun to decrease slightly in the last few years as OEM offerings have dwindled. (For the current number and location of alternative fuel refueling stations, visit the Alternative Fuel Data Center (AFDC) station locator, <http://www.eere.energy.gov/afdc/infrastructure/refueling.html>.) This overall growth in stations has been primarily through the demand generated through the regulated fleets and related voluntary efforts under Clean Cities. The number of alternative fuel refueling stations remains small when compared to the 180,000 total refueling stations Nationwide, but is projected to continue increasing.

In the State of the Union address in January 2006, the President announced the Advanced Energy Initiative (AEI), which focuses on increasing the use of non-conventional fuels like replacement fuels in all sectors of the U.S. economy, with a central focus on the transportation sector. AEI sets out an aggressive course for reducing the

Nation's dependence on foreign petroleum, setting a national goal of replacing more than 75 percent of the U.S. imports from foreign sources by 2025. AEI emphasizes technology developments as the key to reducing energy dependence, including several of the same technologies such as efficiency improvements, biofuels, and hydrogen. These appear under the portion of the Initiative focused on "Changing the way we fuel our vehicles." AEI is available on the White House Web site at the following location: <http://www.whitehouse.gov/stateoftheunion/2006/energy/>.

On January 23, 2007, the President, in the State of the Union Address, proposed replacing 20 percent of the projected gasoline usage in 10 years ("Twenty in Ten" initiative). Twenty in Ten builds on the foundation established by the AEI from the previous year's State of the Union Address with two major elements relevant to today's final rule. The first element is to increase the use of alternative fuels to 35 billion gallons in 2017, reducing projected gasoline consumption by 15 percent, through advancements in many fields including cellulosic ethanol, butanol, and biodiesel. In the second element of Twenty in Ten, the President has asked Congress to give the Administration authority to reform the fuel efficiency system for passenger cars, as was recently done for light trucks and sport utility vehicles (SUVs). It is estimated that the projected gains in mileage for passenger cars could save another 5 percent of our projected gasoline usage in 2017.

The Twenty in Ten initiative, which sets a goal for 2017, is consistent with the Replacement Fuel Goal adopted today. However, there are several notable differences. First, DOE notes that the Twenty in Ten initiative relates to projected gasoline consumption, whereas today's final goal relates to projected gasoline and diesel fuel consumption. Second, the Replacement Fuel Goal is established in terms of energy equivalency, whereas the Twenty in Ten initiative is in terms of absolute volume. Third, while the Twenty in Ten initiative emphasizes the same elements as the Replacement Fuel Goal, the Twenty in Ten initiative is more aggressive than the revised goal in terms of assumptions of increased fuel efficiency of light trucks and passenger cars and increased use of renewable and alternative fuels to replace a significant portion petroleum usage.¹

¹ The President's initiative notes that given the changing nature of the marketplace for both cars

The more aggressive components of the Twenty in Ten initiative are based on policy and legislative actions proposed by the President that were not considered in today's final rule. The final rule generally considered only policies and programs currently in place, and therefore the policies proposed in the Twenty in Ten initiative were not considered in today's final rule. DOE intends to continue monitoring the Twenty in Ten initiative as policies and programs begin to develop, and will determine if the Replacement Fuel Goal requires additional modification. The Twenty in Ten initiative is available on the White House Web site at: <http://www.whitehouse.gov/stateoftheunion/2007/initiatives/energy.html>.

B. Replacement Fuel Goals

As previously discussed, section 502(a) requires DOE to implement a replacement fuel program. Under such program the Secretary is required to review appropriate information and estimate the production capacity for replacement fuels and AFVs. The Secretary also has to determine the technical and economical feasibility of achieving the capacity to produce on an energy equivalent basis, 10 percent of the projected motor fuel in the U.S. in 2000 and 30 percent in 2010. Section 502(b) established production goals for replacement fuels, and states:

(b) Development Plan and Production Goals—[T]he Secretary * * * shall review appropriate information and—

* * * * *

(2) Determine the technical and economic feasibility of achieving *the goals of producing sufficient replacement fuels* to replace, on an energy equivalent basis—

(A) At least 10 percent by the year 2000; and

(B) At least 30 percent by the year 2010, of the projected consumption of motor fuel in the United States for each such year, with at least one half of such replacement fuels being domestic fuels[.]

(42 U.S.C. 13252(b)(2)) (Emphasis added.) Thus section 502(b) sets two goals, an interim goal of developing sufficient U.S. domestic replacement fuel production capacity to replace 10 percent of projected total motor fuel use

and light trucks, the Secretary of Transportation would determine in a flexible rulemaking process the *actual* fuel economy standard and accompanying fuel savings. Additionally, under the Twenty in Ten initiative the EPA Administrator and the Secretaries of Agriculture and Energy will have authority to waive or modify the required levels of alternative and renewable fuel use if they deem it necessary, and the new fuel standard will include an automatic "safety valve" to protect against unforeseen increases in the prices of alternative fuels or their feedstocks.

by the year 2000, and a final goal of 30 percent by the year 2010, with at least one half of such replacement fuels being domestic fuels. (42 U.S.C. 13252(b)(2)(A) and (B))

While the goals in section 502(b) and the programs established under section 502(a) are related, the goals are not mandates for the programs. Today's review of the Congressional goals is in the context of the section 502(a) programs. Section 502(b) states that, "under the programs established under subsection (a), the [DOE] * * * shall review appropriate information and" evaluate the achievability of the goals. (42 U.S.C. 13252(b)) Further, in the context of the section 502(a) programs, DOE must "determine the most suitable means and methods of developing and encouraging the production, distribution, and use of replacement fuels and alternative fueled vehicles[.]" (42 U.S.C. 13252(b)(3)) As discussed above, DOE has established various programs to implement the goals of sections 502(a) and (b). However, no where in the text of section 502 are the goals established as mandates for the section 502(a) programs.

Pursuant to section 504 of EPAct 1992, DOE is required to review these goals periodically and publish the results and provide opportunities for public comments. (42 U.S.C. 13254(a)) If DOE determines that the goals are not achievable, section 504(b) directs DOE to modify, by rule, the percentage requirements and/or dates, so that the goals are achievable. (42 U.S.C. 13254(b)) DOE has determined that in order for a goal to be achievable, there must be a reasonable expectation that the desired level of replacement fuels production capacity will develop within the relevant timeframe.

While DOE has authority to modify the section 502(b) goals, DOE's authority to establish requirements under the replacement fuel and alternative fuel programs is limited. Section 504(c) provides DOE the authority to issue regulations if the achievement of the Replacement Fuel Goals contained in section 502(b) are likely to lead to "a significant and correctable failure" to meet the overall program goals established by section 502(a). (42 U.S.C. 13254(c)) However, EPAct 1992 does not provide DOE the authority "to mandate marketing or pricing practices, policies or strategies for alternative fuel, or to mandate the production or delivery of such fuels." (42 U.S.C. 13254(c)) Further, DOE's authority to

require the use of alternative fuels is limited.²

C. Definitions

The term “*replacement fuel*” is defined by EAct 1992 to mean “*the portion of any motor fuel that is methanol, ethanol, or other alcohols, natural gas, liquefied petroleum gas, hydrogen, coal derived liquids, fuels (other than alcohols) derived from biological materials, electricity (including electricity from solar energy), ethers,*” or any other fuel that the Secretary determines meets certain statutory requirements. (42 U.S.C. 13211(14)) (Emphasis added.)

The term “*alternative fuel*” is defined to include many of the same types of fuels (such as ethanol, natural gas, hydrogen, and electricity), but also includes certain “mixtures” of petroleum-based fuels and other fuels as long as the “mixture” is “substantially not petroleum.” (42 U.S.C. 13211(2) and 10 CFR 490.2) Thus, a certain mixture might constitute an “alternative fuel,” but only the portion of the fuel that falls within the definition of “replacement fuel” would actually constitute a “replacement fuel.” For example, M85, a mixture of 85 percent methanol and 15 percent gasoline, would, in its entirety, constitute an “alternative fuel,” but only the 85 percent that was methanol would constitute “replacement fuel.” Also by way of example, gasohol (a fuel blend typically consisting of approximately 10 percent ethanol and 90 percent gasoline) would not qualify as an “alternative fuel” because it is not “substantially not petroleum,” but the 10 percent that is ethanol would qualify as “replacement fuel.”

Section 301(12) of EAct 1992 defines “motor fuel” as “any substance suitable as fuel for a motor vehicle.” (42 U.S.C. 13211(12)) Moreover, the term motor vehicle is defined in EAct 1992 section 301(13), through reference to 42 U.S.C. 7550(2), as a self-propelled vehicle that is designed for transporting persons or property on a street or highway. (42 U.S.C. 13261(13)) The goals established in section 502(b)(2) require that DOE evaluate the capacity of producing sufficient replacement fuels to offset a certain percentage of U.S. “motor fuel” consumption. Therefore, DOE, for the purposes of Title V of EAct 1992, has interpreted the term motor fuel to include all fuels that are used in motor vehicles. This includes fuels used in light-, medium-, and heavy-duty on-

road vehicles. 71 FR 54771 (September 19, 2006).

D. Previous Review of the Goals

Section 504(a) of EAct 1992 requires DOE to periodically “examine” the goals established in section 502(b)(2) and determine whether they should be modified. (42 U.S.C. 13254(a)) The examination of the goals is to be made taking into account the program goals stated under section 502(a), namely to promote the development and use of “domestic replacement fuels” and to “promote the replacement of petroleum fuels with replacement fuels to the maximum extent practicable.” (42 U.S.C. 13254(a))

As an initial matter, DOE notes that it is unaware of any analysis or technical data that was used by Congress in 1992 as a basis for setting the 10 percent and 30 percent Replacement Fuel Goals set forth in EAct 1992. DOE is also not aware of any affirmative determination by Congress or by any agency that, at the time they were set, the statutory goals were explicitly considered achievable. Thus, DOE has treated these replacement fuel production capacity levels as the starting point for future goal analyses. Regardless of the original rationale for the goals, and as described and discussed below, DOE periodically has evaluated the feasibility of the goals as provided by Congress in EAct 1992.

Several previous efforts were made by DOE to analyze the Replacement Fuel Goal. The first effort was in 1996, as part of the Assessment of Costs and Benefits of Flexible and Alternative Fuel Use in the U.S. Transportation Sector, Technical Report Fourteen: Market Potential and Impacts of Alternative Fuel Use in Light-Duty Vehicles: a 2000/2010 Analysis (U.S. Department of Energy, Office of Policy and Office of Energy Efficiency and Renewable Energy, January 1996, report number DOE/PO-0042), to be referred to as Technical Report 14.

The second major attempt by DOE to evaluate the replacement fuel picture was made at the end of the last decade, in the report Replacement Fuel and Alternative Fuel Vehicle Analysis Technical and Policy Analysis, Pursuant to Section 506 of the Energy Policy Act of 1992 (U.S. Department of Energy, Energy Efficiency and Renewable Energy, Office of Transportation Technologies, December 1999 with amendments September 2000), hereinafter section 506 report. The report is available at http://www.eere.energy.gov/vehiclesandfuels/epact/pdfs/plf_docket/section506.pdf.

The next report to consider the achievability of the Replacement Fuel

Goals was the Transitional Alternative Fuels and Vehicles (TAFV) Model Report. See The Alternative Fuel Transition: Results from the TAFV Model of Alternative Fuel Use in Light-Duty Vehicles 1996–2000 (ORNL.TM2000/168) (September 17, 2000). This report was completed shortly after the section 506 report. It examined multiple pathways toward increased replacement and alternative fuel use. The major difference between the TAFV report and earlier reports is that it used a dynamic transitional model to analyze potential replacement fuel pathways. Many of the earlier studies and analyses used single-period equilibrium models and also assumed no transitional barriers to increased alternative fuel and replacement fuel use. The TAFV report includes a number of scenarios that assume no transitional barriers but it also includes multiple pathways that do include analysis of transitional barriers. The report is available for review at: http://www.eere.energy.gov/vehiclesandfuels/epact/pdfs/plf_docket/tafv99report31a_ornltn.pdf.

In summary, Technical Report 14, prepared only three years after EAct 1992’s passage, did indicate that the 2010 goal could be achieved, albeit only under several scenarios relying upon extensive policy additions. The section 506 report and TAFV Report both concluded that it would be difficult and unlikely, but not impossible, to achieve the 30 percent EAct 1992 Replacement Fuel Goal by 2010. In neither of the latter reports, issued in mid to late 2000, did DOE make a determination under EAct 1992 section 504(b) that the statutory Replacement Fuel Goals were not achievable. If DOE had made such a determination, it would have triggered a statutory obligation to set a new, achievable, Replacement Fuel Goal. Instead, DOE chose to take a “wait and see” approach regarding the need to revise the 2010 goal. A much more detailed discussion on each of the three reports and their conclusions was provided in section III. of the NOPR. 71 FR 54773, Sept. 19, 2006.

E. Previous Rulemakings and Court Order

Section 507(c) directed DOE to issue an Advanced Notice of Proposed Rulemaking (ANOPR) that, in part, would evaluate the progress toward achieving the Replacement Fuel Goal and assess the adequacy and practicability of the goal. (42 U.S.C. 13257(c)) In response to that directive, DOE issued an ANOPR on April 17, 1998, 63 FR 19372. DOE conducted three public hearings (Minneapolis,

² Fleets are not required to use alternative or replacement fuel in their AFVs (except for alternative fuel providers and Federal Fleet, which are required by section 501(a)(4) and 303 of EAct, respectively).

Minnesota; Los Angeles, California; and Washington, DC) and solicited written comments from the public on the ANOPR. More than 110 interested parties responded by providing written and oral comments. Comments were received through July 16, 1998.

In the ANOPR, DOE requested comments on 23 specific questions covering three broad areas: replacement fuels, fleet requirements, and urban transit buses. Only the first set of questions is relevant to today's rulemaking. A detailed discussion of these comments was previously provided in the NOPR for the Private and Local Government Fleet Determination (68 FR 10320, 10326–10328; March 3, 2003) and a summary of those comments was provided in the Replacement Fuel Goal NOPR. 71 FR 54771, Sept. 19, 2006.

Additionally, DOE previously addressed the issue of whether to revise the replacement fuel production goal for 2010 in the context of its determination that an AFV acquisition mandate for private and local government fleets was not necessary. 69 FR 4219 (January 29, 2004). Section 507(e) directs DOE to consider whether a fleet requirement program for private and local fleets is "necessary" for the achievement of the Replacement Fuel Goals. (42 U.S.C. 13257(e)) As part of DOE's decision under that directive, DOE stated in its notice of final rulemaking that a private and local government fleet rule would "not appreciably increase the percentage of alternative fuel and replacement fuel used by motor vehicles." 69 FR 4220, Jan. 29, 2004. DOE further concluded that "adoption of a revised goal would not impact its determination that a private and local government rule * * * would not provide any appreciable increase in replacement fuel use." 69 FR 4221, Jan. 29, 2004. DOE, therefore, did not revise the Replacement Fuel Goal at the time but indicated that it would continue to evaluate the need to revise the statutory goal in the future.

Subsequent to the publication of the January 29, 2004 final rule, DOE was sued in Federal court by the Center for Biological Diversity (CBD) and Friends of the Earth for failing to impose a private and local government fleet acquisition mandate and for not revising the replacement fuel production goal for 2010 as part of its determination. On March 6, 2006, the U.S. District Court for the Northern District of California vacated DOE's final determination regarding the private and local government fleet mandate and ordered DOE to revise the replacement fuel production goal for 2010. (See *Center for*

Biological Diversity, 419 F.Supp. 2d 1166.) In its order, the Court directed DOE to prepare notices of proposed rulemaking and final rules on both the Replacement Fuel Goal for 2010 and the private and local government fleets determination. (Id. at 1171.)

F. NOPR for the Replacement Fuel Goal

DOE proposed to revise the 30 percent by 2010 goal by extending the goal date to 2030. 71 FR 54771, Sept. 19, 2006. DOE based the proposed revised goal on an analysis which focused on projected production capacity for replacement fuels through 2030. DOE based the proposal on four reference cases, which were based on three building blocks. The three building blocks are: (1) The reference case projected by EIA in AEO 2006; (2) the high price case presented in AEO 2006; and (3) projections from the DOE programs conducting research and development on replacement fuel and vehicle technologies. These building blocks provide the basis for the reference cases which project varying levels of potential replacement fuel production capacity.

The four scenarios relied upon in the NOPR analysis were: (1) The reference case projected by EIA in AEO 2006; (2) the high price scenario presented in AEO 2006; (3) a combination of the AEO 2006 reference case with achievement of program goals (designated as program developments); and (4) a combination of the AEO 2006 high price case with program developments. The different scenarios represent the potential bounds for proposing a revised replacement fuel production goal under sections 502 and 504 of EPA Act 1992. Under a 2030 timeframe, these scenarios projected a replacement fuel production capacity as a percent of on-road fuel use of 8.65 percent, 17.84 percent, 35.25 percent, and 47.06 percent, respectively. 71 FR 54782–3, Sept. 19, 2006.

As presented in the NOPR, DOE proposed to maintain the 30 percent goal and move the goal date out 20 years, to 2030. 71 FR 54785, Sept. 19, 2006. Given the uncertainties inherent in projecting fuel prices and technology achievements, DOE tentatively determined that a goal slightly above the midpoint of the projections of the four reference cases represented an "achievable" goal as required by section 504(b). (42 U.S.C. 13254(b))

A detailed discussion of the building blocks and the reference cases is provided in section V. of the NOPR. 71 FR 54776, Sept. 19, 2006. Today's final rule relies on essentially the same analysis framework, with updated projections by the EIA. The analysis

framework and results are summarized below.

III. Comments

A. Comments Received

The NOPR solicited comments on the proposed Replacement Fuel Goal modification. Written comments were received from a total of sixteen organizations. This included the following four specific organizations providing substantive comments:

- The American Automotive Leasing Association (AALA),
- The CBD/Friends of the Earth,
- The National Association of Fleet Administrators (NAFA), and
- NGVAmerica.

The other twelve sets of comments were from Clean Cities coordinators or stakeholders, or were organizations that were not identified specifically as related to Clean Cities, but which provided similar type or level of comments to those received from the Clean Cities organizations. Thus, for most of the discussion below, these Clean Cities and related comments were grouped together. These organizations included:

- Central Texas Clean Cities.
- City of Victoria.
- DieselGreen/Austin Biodiesel Cooperative.
- Granite State Clean Cities.
- Greater New Haven Clean Cities Coalition, Inc.
- Greater New Orleans Regional Planning Commission.
- Kansas City Clean Cities.
- Maine Clean Communities.
- Norwich Clean Cities.
- Public Solutions Group, Ltd./Central Texas Clean Cities.
- St. Louis Clean Cities.
- Synetek Research Co.

It should be noted that within these comments, most Clean Cities organizations utilized a common framework for their comments, relying upon shared key points. Within these organizations, however, two (Granite State Clean Cities and Maine Clean Communities) provided somewhat more expansive and detailed comments.

On October 3, 2006, DOE held a hearing at DOE headquarters in Washington, DC. Approximately one dozen people attended, including representatives from AALA, NGVAmerica, several media organizations, and DOE program staff and related personnel. In addition, one member of the general public also attended. A list of attendees is available at http://www1.eere.energy.gov/vehiclesandfuels/epact/pdfs/plg_docket/hearing_attendee_list.pdf.

Program technical staff presented a short overview of the rulemaking process (available at http://www1.eere.energy.gov/vehiclesandfuels/epact/pdfs/plg_docket/ohara_presentation.pdf). No entities prepared or delivered detailed testimony at this hearing. Discussions during the hearing were relatively short and of a much more general nature with all points raised also included within the written comments received. Therefore, no separate discussion of the comments from the hearing is necessary. The transcript from this hearing is available at http://www1.eere.energy.gov/vehiclesandfuels/epact/pdfs/plg_docket/hearing_transcript.pdf.

Due to technical difficulties in receiving comments on the NOPR electronically, on January 18, 2007, DOE published a limited re-opening of the comment period; 72 FR 2212, Jan. 18, 2007. This notice re-opened the comment period until January 31, 2007. During this additional period, one additional set of comments was received from the National Propane Gas Association (NPGA).

B. Discussion of Comments

In order to address the comments in a clear manner, they were split out into several basic categories. These include:

- Approach—comments concerning DOE's approach to addressing its requirements concerning evaluating and modifying the Replacement Fuel Goal;
- Goal—comments concerning the level and time-frame for the proposed modified goal, schedule for review of the modified goal, and whether an interim goal was necessary;
- Assumptions—comments concerning the detailed assumptions made by DOE in its analysis; and
- Programmatic/DOE's Role—comments concerning possible programs or DOE's overall role concerning achievement of the Replacement Fuel Goal.

In addition to identifying the comments in each section below, the discussion of the final analysis further addresses, where appropriate, specific issues raised by commenters.

Approach

One commenter indicated that DOE's interpretation of "achievable" was reasonable, and that the current goal needed to be modified. This commenter also indicated that DOE was correct to focus on more than just a single technology, and on the entire fuel supply chain. Another commenter also indicated that DOE should base the revised goal upon reductions across the

entire transportation sector, and not just regulated fleets. In response, DOE reiterates that it did base its approach upon a number of technologies and fuels, and did look at fuel savings and substitution within the entire on-road transportation sector. As indicated in the NOPR, DOE looked at the entire highway transportation sector in determining the Replacement Fuel Goal. DOE also looked at technologies such as hybrids, fuel cell vehicles, advanced energy efficient vehicles, and dual-fuel/FFVs. The fuels used in the analysis included ethanol, biodiesel, natural gas, coal to liquids, gas to liquids, and hydrogen. 71 FR 54771, Sept. 19, 2006.

Different opinions were expressed concerning DOE's approach with respect to determining if the Private and Local Government Fleets Rule is necessary. One commenter specifically indicated its satisfaction with the approach taken by DOE, while another specifically indicated its objection. A third commenter simply cautioned DOE to resist the urge to set a new Replacement Fuel Goal level solely for the purpose of justifying a Private and Local Government Fleet Rule. This same commenter spent the majority of its comments stating why such a fleet rule is wrong.

In response, DOE is focused only on the development of an achievable goal that meets the requirements of sections 502(a) and 504(b) of EPA Act 1992 in this rule. DOE is not predisposed to any outcome beyond setting the goal. The Private and Local Government Fleet Rule determination is a separate rulemaking process from the Replacement Fuel Goal modification, and DOE is continuing to treat these as separate processes. The fleet rule determination will not be commenced until the revised Replacement Fuel Goal is set, and the determination process will specifically include an opportunity for comment on a proposed determination prior to development of the final determination.

Goal/Schedule/Interim Goal

Two specific commenters plus a number of the Clean Cities and related organizations objected to what they stated is a 20-year delay in the goal, from 2010 to 2030. They indicated that a more progressive goal is needed, and one that has a stronger focus upon program development and implementation. Similarly, one of the individual commenters indicated that it did not understand why the inability to meet the goal in 2010 permits a 20-year delay. While a number of these commenters indicated that they wanted to see DOE set a "higher goal," few

offered concrete proposals as to what that goal should be and how it would be achievable. Two Clean Cities coordinators did specifically suggest that DOE select one of the more accelerated paths included within its NOPR analysis, such as utilizing one of the "program development" cases. At the same time, one commenter felt that DOE's proposed goal was reasonable, based upon comparison to similar actions of States and several foreign governments.

In response to commenters requesting a more aggressive goal than what was proposed, DOE notes that it has a statutory obligation to balance certain considerations in order to establish goals that are "achievable." (42 U.S.C. 13254(b)) The replacement fuel production capacity goals must promote replacement fuels to the "maximum extent possible" while at the same time remaining technologically and economically feasible. (42 U.S.C. 13254(a) and (b)(2)) DOE interprets "achievable" to mean that there is a reasonable expectation of reaching the goal in the time period specified. DOE considered the various options within the current budgetary and policy framework and selected what DOE determined is a goal which is set at the "maximum extent practical" and still "achievable." The current EIA baseline projection for replacement fuels by 2030 is only 7.38 percent. Today's analysis indicated that if all DOE's technical programs were as successful as predicted and the technologies were fully adopted in the marketplace, the maximum replacement fuel that could be achieved is 33 to 47 percent. To expect DOE to be 100 percent successful in its development programs is unreasonable. By their very nature, many of the research programs are high risk.

One individual commenter and several Clean Cities and related organizations generally claimed that there are significant environmental, energy security, and economic impacts in delaying the goal. However, the commenters did not provide specific estimates of these potential impacts or how moving the goal to 2030 would result in such impacts.

One individual commenter and two Clean Cities coordinators specifically called for DOE to set an interim goal. DOE notes that in the Court's order directing DOE to revise the Replacement Fuel Goal, the Court focused almost entirely upon the 2010 goal. (*Center for Biological Diversity*, 419 F.Supp. 2d 1166.) Further, the Court clearly directed DOE to revise the "goal." (*Center for Biological Diversity v. U.S.*

Dept. of Energy et. al., No. 05-cv-01526-WHA Document 54 p. 2 (N.D. Cal. March 30, 2006) (*Order re Timing of Relief*) The Court's use of "goal" in the singular provides direction to revise the 2010 goal, and DOE developed the NOPR accordingly.

To the extent that an "interim goal" allows the public to understand the trajectory of the replacement fuel production necessary to meet the 2030 goal, DOE's analysis developed data points at 2020, 2025 and 2030 for all four scenarios evaluated. The charts provided below indicate a range of percentages which provide benchmarks for evaluating progress towards the achieving the goal. Moreover, the annual publication of EIA analyses of replacement fuel contributions in the Annual Energy Review (AER) and AEO provides an indication of progress. For example, the replacement fuel production capacity levels were estimated in the range between approximately 6 and 17 percent in the NOPR for 2020. As updated in the analysis for this final rule, the two 2020 reference case-based scenarios project a replacement fuel capacity between 5 and 14 percent. DOE and the public will be able to compare the AEO projections and AER data to the Replacement Fuel Goal analysis presented in today's final rule and the NOPR.

Two commenters specifically requested that DOE provide a specific schedule for reviewing the Replacement Fuel Goal in the future. These commenters stated that the information resulting from such reviews should be published more frequently. The statutory requirement in section 504(a) is for periodic review. As discussed above, EIA publishes the AEO report annually, which estimates the replacement fuel production capacity of the U.S. DOE will review the annual AEO reports and based in part on these reports determine whether a more comprehensive review of the Replacement Fuel Goal is warranted.

Finally, a commenter specifically indicated that "DOE should note that future reviews may also result in modifying the goal to reduce the timeframe or increase the replacement fuel percentage if achievable in order to effectuate the intent of the Act and the Replacement Fuel Program." DOE acknowledges that if future reviews show results more or less favorable to achievement of the goal, then DOE could increase/decrease the level or accelerate/push out the date. DOE has no pre-conceived concepts as to what any future reviews of progress toward the goal will show. The statutory requirement of the periodic review is for

DOE to evaluate the goal and determine if the goal is practical and achievable. If the goal is not achievable, DOE has the responsibility to develop an achievable goal that is "technically and economically feasible" and promotes replacement fuels to the "maximum extent practicable" in a specific timeframe, whatever that may be.

Analysis Assumptions

One individual commenter and two Clean Cities coordinators stated that the future oil prices upon which DOE based its analyses should have been much higher. Therefore, these commenters asserted, the decision on replacement fuel penetration levels should have been closer to the EIA high price case, or even based on prices higher than EIA's high price case. In response, DOE determined that it was inappropriate to assume significantly higher fuel prices than those presented in the AEO reports without a sufficient basis upon which to determine such prices. A case in point: there has been a significant drop in the cost of crude oil since the publication of the NOPR on September 19, 2006. Last summer crude prices were over \$70 per barrel, but prices had fallen below \$50 per barrel by late January, 2007. (EIA Petroleum Navigator at http://tonto.eia.doe.gov/dnav/pet/pet_pri_wco_k_w.htm) In addition, EIA analysis from AEO Reports indicates that higher oil prices do encourage more replacement fuel usage and increased energy efficiency. However, higher oil prices also cause drivers to use less petroleum overall. This coupled with the increased use of replacement fuels and increased energy efficiency can cause oil prices to fall.

DOE is required to develop a goal that is achievable. Commenters did not provide any data to justify reliance on abnormally high oil prices for a sustained period or years. Therefore, DOE based its analysis upon EIA analyses. If projections for future prices increase significantly, DOE will review the annual AEO and based in part on these reports determine whether further review of the Replacement Fuel Goal is warranted.

One commenter indicated that it felt DOE underestimated the contribution of conservation in the overall analysis. In response, DOE did address conservation, and believes that conservation was given a sizable role in both of the program development cases. The program development cases included energy efficiency gains from hybrids, advanced diesels, and fuel cell vehicles. The EIA data only takes into account the annual energy efficiency gains that vehicles have gained

historically, typically around 1.2 percent. As presented in the NOPR, DOE analyzed two cases that incorporated savings of approximately 3 million barrels per day in 2030, above and beyond any conservation efforts already taken into account in EIA data.

One commenter stated that DOE's assertion that research and development programs will accomplish their goals is unrealistic, and thus contradicts DOE's approach to "achievable." DOE notes that it used approximately a 50 percent, not 100 percent, success rate for all of DOE's programs in arriving at the final Replacement Fuel Goal. As reflected in the NOPR, estimates for the maximum contributions from successful commercialization of technologies resulting from DOE research and development to the overall goal by 2030 were no more than 30 percent replacement fuel. The two EIA base cases (reference and high price (NOPR Tables 1 and 2)) projected levels of approximately 9 to 18 percent replacement fuel. Adding approximately half of the DOE research and development technologies to the EIA base cases results in projected levels of approximately 24 to 33 percent replacement fuel. Therefore, DOE proposed in the NOPR a goal within the range of the identified scenarios, and did not rely upon DOE research and development programs achieving all of their goals.

One commenter plus a number of Clean Cities-related organizations specifically questioned the Department's exclusion of plug-in hybrid electric vehicles (PHEVs) as inadequate, and disagreed with projections showing that the contribution from electricity would not grow significantly during the period of the analysis. No commenter submitted any data supporting a more concrete role for these vehicles, or what their overall effect would be. As stated in the NOPR, DOE has determined that it is premature to specifically evaluate this new technology, especially to the level of detail of the analysis done for this action. DOE recognizes that PHEVs offer a significant potential for reducing petroleum use in the U.S. transportation sector. As such, PHEVs were evaluated as part of the total hybrid vehicle market analysis. Modeling used for this analysis indicates that conventional, flex-fuel, and PHEVs as well as fuel-cell hybrids will be vying for the same market segments by 2030. The entire market segment was evaluated and significant gains in fuel efficiency and replacement fuels were indicated. However, DOE does not have sufficient data to evaluate the specific contributions to petroleum

reduction attributable to PHEVs. Furthermore, DOE notes that its analysis is based upon replacement fuels competing in the marketplace. Nothing in the 30 percent goal prevents PHEVs from capturing a larger share of the replacement fuel market than is indicated by DOE's analysis. If PHEVs develop quickly and impact the relative contributions of electricity and energy efficiency relied upon in the current analysis, DOE will take notice and determine if the Replacement Fuel Goal requires additional modification.

Considerable analysis was done in the NOPR scenario 3 to determine what the vehicle sales would have to be in order to generate a demand for replacement fuel commensurate with a 35 percent Replacement Fuel Goal by 2030. 71 FR 54783. The VISION results are in Figures 5 and 6 in the NOPR. 71 FR 54784. For a level of replacement fuel demand that would be equivalent to the replacement fuel production capacity under a 35 percent by 2030 Replacement Fuel Goal, the VISION model projected that non-conventional light-duty vehicles would comprise 99 percent of new LDV sales in that model year. The breakdown of the LDVs were FFVs—24 percent of new vehicle sales; Hybrids—37 percent of new vehicle sales; Diesels—22 percent of new vehicle sales; Fuel Cell Vehicles—15 percent of new vehicle sales; and other AFVs—1 percent of new vehicle sales.

Similarly, two commenters and several Clean Cities-related organizations indicated that they felt the potential from natural gas and gas-to-liquids (GTL) was underestimated. One of these commenters also raised environmental concerns about GTL. Thus it was unclear whether this particular commenter wanted a greater role shown for this technology or not. In response to the overall concerns about potential for any particular technology, DOE relied upon the best information it had available, relying primarily upon the EIA AEO data. Neither commenter nor the Clean Cities-related organizations submitted specific data on these or other technologies.

In general, however, even if the contribution of a particular technology (whether natural gas, GTL, PHEVs, or others) were increased, DOE would anticipate that much of this change might be at the expense of another included technology. As presented above, the total level of replacement fuel usage is relatively fixed. Thus, the gains for one technology will likely be offset by reductions in another technology, as opposed to increasing the number of non-conventionally fueled motor vehicles. Therefore, given that other

replacement fuels may have a larger share of the market than our analysis might otherwise indicate, the overall results for replacement fuel production capacity will remain the same. Should better data become available DOE will review it and revise the goal as necessary.

One commenter also questioned EIA's projections about coal-to-liquids (CTL), since current oil prices already appear above the level needed for economic parity, but plants have not been built. As discussed in the NOPR, having economic parity now or achieving it only recently does not mean that the plants would already be in place. As DOE indicated in the NOPR, financial investors often need to see current and projected conditions that appear favorable for several years before they are moved to act. Once investment begins, it can be a number of years before any plants are on-line. Today, some of this initial investment appears to be happening, since conditions now appear favorable, but it may be many years before significant contributions are anticipated from this technology. In addition, as shown in section V.E. below, under the updated analysis based upon the AEO 2007, the projected contribution from CTL decreased significantly.

One commenter indicated that it was unclear if DOE used Government Performance and Results Act (GPRA) analyses, or if not, why not. DOE did use GPRA analyses for a number of the program developments technologies, as indicated in the NOPR. 71 FR 54777, 54778, 54781. Two such examples are the energy efficiency gains from the FreedomCAR and Vehicle Technologies (FCVT) program and in the Hydrogen Fuel Cell and Infrastructure Technologies (HFCIT) Program (commonly referred to as the "Hydrogen Program") in the building blocks section (V.B.3) of the NOPR. 71 FR 54777. Where current analyses existed for technology programs, they were used. Item D11 in the electronic docket (available at http://www1.eere.energy.gov/vehiclesandfuels/epact/private/plg_docket.html) specifically provides a link to EERE's GPRA analyses for all relevant technology programs.

One commenter questioned whether DOE's analysis assumed new Federal incentives for certain fuels, but not for others (particularly natural gas). This commenter also indicated that DOE needed to explain how different fuels react differently to higher prices. Generally, DOE did not assume new incentives or policies that would promote a specific alternative fuel. In

the limited instances in which a new policy was assumed, DOE identified its assumptions, which were based upon information received from EIA or the relevant technology programs.

One instance in which policies beyond those existing were assumed was for the hydrogen and fuel cell technologies. These technologies were identified as an exception because DOE recognizes that they will need additional support later in getting the technology into the market. Most of the other replacement fuels and technologies are viable in the market or they have or are getting tax breaks, subsidies, or other price supports until they become market viable. In order for fuel cell technologies to have the same opportunities in the market they may require similar types of support as previous technologies as well as potentially new types of assistance.

One commenter indicated that DOE did not adequately address the benefits of other Federal, State, local, and private efforts, including other EERE, FCVT, and USDA activities. In particular, this commenter indicated that DOE should include a discussion of other efforts and indicate how the President's AEI fits in. The commenter did not indicate specific programs that should be included in DOE's analysis that would contribute significantly to the Replacement Fuel Goal. It should be noted that DOE did much of what this commenter claims it did not. In particular, the "program developments" scenarios were specifically based upon EERE and FCVT efforts, and DOE did discuss the AEI in section VI.B. of the NOPR. 71 FR 54786. DOE also is working with USDA in development of biofuels especially in the area of cellulosic ethanol. In preparing this final rule, DOE has taken into account the Renewable Fuel Standard (RFS) from EPA Act 2005 and also considered the Twenty in Ten initiative.

The same commenter indicated that DOE did not address the utilization side of the equation sufficiently. Again, the Replacement Fuel Goal is a production capacity goal, not a utilization goal. However, DOE recognizes that production and use are related. DOE did look at utilization in the VISION modeling, provided in tables 5 and 6 of the NOPR. 71 FR 54784. Moreover, the commenter failed to provide data for a revised analysis to reflect the commenter's concern.

One commenter pointed out perceived discrepancies between the EIA and VISION model analyses concerning the makeup of the LDV market. While DOE acknowledges that these two analyses differ somewhat in

their pathways, they are in relative agreement on the overall destination points. DOE analysis looked at the potential capacity to produce replacement fuels as required by section 502(a) and (b). In order to validate that data, a second analysis was performed using a fuel usage model. The VISION model looked at what replacement fuels could be used in what type of vehicles based on available knowledge of the different vehicle technologies. The total replacement fuel figures were very similar even though there were slight variations of the fuel mix and vehicle technologies. These simply show two different paths to the same result, based upon the particular assumptions of their analysts and the mechanisms within the models. DOE is not stating any one specific fuel or technology advancement, or specific set of advancements, has to occur for the Replacement Fuel Goal to be achieved. DOE believes that a portfolio of technologies, some indicated here, as well as possibly some that were not included, are required to achieve any goal.

Finally, one commenter took particular issue with DOE's approach to its greenhouse gas (GHG) analysis. This commenter stated that DOE used the wrong baseline for assessing GHG emissions. The commenter indicated that DOE should have used the levels "the U.S. would have achieved if DOE had implemented Congress's original fuel replacement goals."

In response, DOE believes that the commenter's assertion is incorrect on several counts. First, DOE does not have authority to mandate achievement of the goal. DOE has authority to conduct programs in accordance with the goals, to review the goals, and modify the goals. The commenter's implication that DOE could have mandated achievement of the 30 percent goal by 2010 is therefore incorrect. Second, a GHG analysis as suggested by the commenter would require the establishment of a fictitious baseline based upon a completely fabricated fuel mix that possibly could be used to meet the goal in 2010 whether or not a 2010 goal was ever achievable. Since DOE has found that the goal is unachievable, it does not know what the fuel mix would have been in 2010 if the 30 percent goal had been achieved, which is critical to determining the baseline contribution of GHGs. Without such a breakdown, no such estimate can be made.

This commenter further asserted that DOE was required to perform an environmental assessment as part of this rulemaking. As discussed below in section VII, Regulatory Review, DOE has

not conducted an environmental assessment, which is consistent with the Court's holding in *Center for Biological Diversity*. (419 F. Supp 2d at 1173.)

Programmatic/DOE's Role

Three commenters and several Clean Cities-related organizations specifically called for DOE to promote programs or incentives and make recommendations to further the goals of the Replacement Fuel Programs. This Final Rule requires DOE to select a specific goal that is achievable. DOE notes that the Administration is making proposals and recommendations relevant to alternative fuel production and use. The President's 2007 State of the Union Address on January 23, 2007, made two clear and strong recommendations. Twenty in Ten proposed increasing the RFS to 35 billion gallons of renewable and alternative fuel in 2017 and giving Department of Transportation (DOT) authority to set CAFE standards for passenger vehicles based on vehicle attributes consistent with DOT's recent rule for light-duty trucks. Thus, the President's "Twenty in Ten" initiative contains replacement fuel and energy efficiency as its main elements, which is the same approach employed by the Replacement Fuel Goal established today.

In addition, one of the previous commenters cited CAFE standards as an opportunity for DOE to take action. As part of his Twenty in Ten initiative, the President has called for reforms in the CAFE standards. However, concerning CAFE, Congress has limited authority in this area to itself and the DOT, not DOE. While DOT does confer with DOE in this area, Congress has established the authority for CAFE regulations within DOT. (49 U.S.C. 32902).

Two commenters called for DOE to establish a replacement fuel program and develop a plan for its implementation. In addition, one of these specifically called for DOE to solicit input from stakeholders concerning measures to advance replacement fuels. In response, DOE notes that the research and development programs provided the data and development plans relied on for the analysis. As for a replacement fuel program under the context of EPAct 1992 (particularly section 502(a)), DOE has, for more than a decade, been conducting a program focused on the replacement of petroleum in the transportation sector. These on-going efforts include activities such as the Federal Fleet requirements, the State and Alternative Fuel Provider Fleets Regulations, and the Clean Cities initiative. As for soliciting input from

stakeholders, the NOPR specifically provided opportunity for comment by stakeholders interested in replacement fuels, both through written comments and testimony at the hearing. In addition, DOE continues an open dialog in this area with interested stakeholders, particularly through the Clean Cities initiative.

One commenter specifically called for DOE to work with the Environmental Protection Agency (EPA) to ensure that regulations for conversions "are not overly burdensome for those wishing to convert vehicles * * * to alternative fuels." DOE has a history of working with EPA in alternative fuel-related areas, and will continue to do so.

One commenter disagreed with DOE's assertion that its authority under this rulemaking is limited by EPAct 1992. It cited EPAct's section 504(c), which states that:

If the Secretary determines that the achievement of goals described in section 502(b)(2) of this title would result in a significant and correctable failure to meet the program goals described in section 502(a) of this title, the Secretary shall issue such additional regulations as are necessary to remedy such failure.

(42 U.S.C. 13254(c)).

DOE has read this clause to mean that, if the numerical Replacement Fuel Goal (30 percent in 2010 from 502(b)(2)) conflicts with the overall replacement fuel program goal of replacing motor fuels to the maximum extent practical (from 502(a)), then DOE has additional regulatory authority to rectify the conflict. However, DOE's additional authority to establish regulations under EPAct 1992 is limited. Section 504(c) continues:

The Secretary shall have no authority under this Act to mandate the production of alternative fueled vehicles or to specify, as applicable, the models, lines, or types of, or marketing or pricing practices, policies, or strategies for, vehicles subject to this Act. Nothing in this Act shall be construed to give the Secretary authority to mandate marketing or pricing practices, policies, or strategies for alternative fuels or to mandate the production or delivery of such fuels.

(42 U.S.C. 13254(c)).

Finally, several Clean Cities related organizations called for DOE generally to enforce EPAct, support mandated fleets with funding, increase funding to Clean Cities coalitions, and to "propose real solutions." An additional commenter also raised the issue of funding for relevant programs. In response, DOE asserts that it is indeed enforcing EPAct fleet programs, through programs focused specifically on regulated fleets under titles III and V of EPAct. These programs, as mentioned

above, have been highly successful at accomplishing their missions within the context of the scope and authority provided by Congress. DOE remains committed to Clean Cities as a key element of its replacement fuel efforts. DOE intends to continue to utilize Clean Cities to identify new opportunities for success in the implementation of replacement fuel and energy efficiency technologies as they become available for deployment. As for the non-specific request that DOE propose "real solutions," DOE has provided its detailed analysis supporting its decision concerning modification of the Replacement Fuel Goal, which also incorporates the technology development plans of many of its research and development programs.

C. Assessment of Comments

There are several important observations that can be made about the comments received. First, no commenter supplied any data to dispute DOE's analysis. Commenters did discuss the potential of particular technologies, but data from which DOE could make projections of the technology impacts was not provided, nor were any indications that modifying the analysis as generally proposed by several commenters would result in any significant net changes to the results of DOE's analysis. Second, a number of commenters (especially the Clean Cities and related organizations) merely asserted an objection to delaying the goal by 20 years, without any comment on the achievability of the proposed goal or an alternative goal. Third, many commenters did not appear to fully understand the purpose of the goal and the purpose of this rulemaking. As indicated in the NOPR and in the discussion above, DOE is directed by statute to analyze the existing goal of 30 percent replacement in 2010, and if found not to be achievable, modify the goal. However, many commenters discussed issues beyond the scope of this rulemaking, e.g., funding policies, establishment of particular programs, and other wide-ranging regulatory actions.

In conclusion, the comments received have not persuaded DOE that it erred in its analysis or in its choice of revised goal, as included in the NOPR. DOE does note its continuing responsibility to periodically conduct analyses of the progress toward this goal, and to modify the goal again if and when appropriate. Such modification could include proposing either earlier or later achievement, or also a higher or lower replacement fuel level.

IV. Determination That Congressional Goals Are Unachievable

DOE has determined that the 2000 goal was not achieved and that the 2010 goal is not achievable. DOE notes that it is unaware of any analysis or technical data that was used by Congress in 1992 as a basis for setting the 10 percent and 30 percent Replacement Fuel Goals set forth in EPCA 1992. DOE is also not aware of any affirmative determination by Congress or by any agency that, at the time they were set, the statutory goals were reasonably achievable.

As indicated in the NOPR, the actual data reported for 2000 indicated that the 10 percent Replacement Fuel Goal was not achieved. Replacement fuel use in that year totaled about 4.7 billion gallons, or only about 2.9 percent of the 162 billion gallons of motor fuel consumed. Of this amount, oxygenates in the form of ethanol and Methyl Tertiary Butyl Ether (MTBE) supplied about 92 percent of the replacement fuel production. (See Transportation Energy Data Book—26th Edit., Table 2.3 (2006) (replacement fuel use) and FHWA Motor Fuel Use Report, Table MF-21; <http://199.79.179.101/ohim/hs00/mf.htm>.)

Based on EIA's AER 2005 (the last such review completed prior to this final rule), replacement fuels supply approximately 2.5 percent of the total motor vehicle fuel used in motor vehicles. The amount of replacement fuel used, as a percent of total motor fuel consumed, has essentially been flat for the past decade despite some increased use of alternative and replacement motor fuels. There are two reasons for this trend. First, as discussed in the NOPR, the recently accelerated phase-out of MTBE as an additive in gasoline has limited the total amount of replacement fuels consumed since MTBE previously accounted for a significant portion of these fuels. Because a gallon of MTBE contains more energy than a gallon of ethanol, replacing MTBE with ethanol may result in more gallons of ethanol used, but not in a higher replacement fuel level, since the level of replacement (percentage) is calculated on an energy content basis. This replacement of MTBE with ethanol partly explains why replacement fuels have not garnered a larger share of the on-road fuels market on an energy basis, even as ethanol use has increased quite significantly in the past several years, increasing from a level of slightly more than 1 billion gallons in 2002 to 4 billion gallons in 2005. (AER 2005.) Second, the comparatively small growth in total replacement fuels production

and use has been matched by the growth in petroleum-based motor fuel use.

The EIA AEO 2007 reference case projected that replacement fuels in 2010 will account for approximately 4.5 percent of total motor fuel use, or approximately 8.7 billion gallons of gasoline equivalent replacement fuel (although it is possible higher oil prices and the President's recent proposals will result in greater use of biofuels during this period). Given the short-term nature of the 2010 goal, it appears that ethanol would be the primary replacement fuel option to consider. Some production capacity for ethanol now exists, with increases in capacity projected over the next few years. The changes in distribution and infrastructure needed for other fuels (e.g., gaseous fuels or electricity) to make major contributions would be much longer term in nature, and thus largely impractical for serious consideration before 2010. Therefore, ethanol in blends are expected to account for about 85 percent of the replacement fuels produced in 2010, with the remaining balance made up of mostly natural gas and propane.

DOE did not receive any data or information from commenters as to the projected production capacities of replacement fuel by 2010. In addition, the commenters did not provide any data or information to indicate how the replacement fuel production capacity of 30 percent in 2010 could be achievable. DOE therefore determines that the EPCA 1992 Replacement Fuel Goal of 10 percent for 2000 was not met and that the goal of 30 percent for 2010 is not achievable, considering all information available and the economic and technical feasibility of achieving the 2010 goal.

V. Goal Modification Analysis

As part of its preparation for the NOPR, DOE conducted an analysis focused on projecting potential production capacity for replacement fuels through 2030. This was necessary to determine how the Replacement Fuel Goal should be modified. DOE has relied upon this analysis and other more recent information and data currently available in the development of this final rule. DOE has identified and reviewed relevant internal and external reports, studies, and analyses on alternative and replacement fuel use and projected production. The pertinent information was compiled to assist in the development of an "achievable goal."

Because of the detailed analytical description provided in the NOPR concerning this analysis, and because

today's notice relies on substantially similar analytical framework (e.g., building blocks and scenarios, and assumptions), a discussion of the analysis conducted by DOE will primarily be provided in summary form here. For more detail on the analysis, consult section V. of the NOPR. 71 FR 54776. During the period since the publication of the NOPR, EIA released portions of the AEO 2007. In order to meet the court ordered deadline and because the full AEO 2007 is unavailable, DOE could not update all of its analysis described in the NOPR. DOE does provide a comparison of the results using AEO 2006 and the available portions of AEO 2007 at the end of this section.

A. Approach

As discussed previously, DOE has two statutory criteria for modification of the Replacement Fuel Goal. First, the goal has to be aggressive enough to meet the intent of the program goal to promote replacement fuels to the "maximum extent practicable." (42 U.S.C. 13252(a)). Secondly, the Replacement Fuel Goal has to be "achievable." (42 U.S.C. 13254(b)).

In meeting these criteria, DOE had several options in modifying the Replacement Fuel Goal, in accordance with the authority provided in section 504 of EPA Act 1992. First, DOE could modify the goal level to what it believed was achievable in the 2010 timeframe, probably around the 4.5 percent projected in the AEO 2007. Second, DOE could move the goal out in time, since the potential contributions from replacement fuels increase over time. A third option would be to combine the two primary options and modify both the replacement fuel level and date. In analyzing the data, DOE looked at all of these options. DOE's evaluated credible data, projections, and other information covering approximately the next 25 years, to see what could be achievable. DOE's evaluation and analysis went out to 2030, since that is the last date for which credible input existed, particularly in the form of data from AEO 2006 and the recently released portions of AEO 2007.

In general, the analytical framework included only existing statutory authorities and incentives in the development of the technologies. The only exception was in hydrogen and fuel cell technologies which did consider some level of additional or new incentives and/or mandates in the future. Therefore, the primary variables in DOE's analysis were projected technological and cost improvements. Hydrogen and fuel cell technologies

were specifically identified as an exception because DOE recognizes that the hydrogen economy will require additional support later in the market introduction phase. Most of the other replacement fuels and technologies are viable in the market or they are getting or have gotten tax breaks, subsidies, or other price supports until they become viable in the market.

One commenter claimed that DOE's analysis assumes continued support in terms of tax credits and other incentives that are currently provided but are scheduled to expire before 2030. In response, DOE believes it was careful to keep such variations to a minimum. Most of the technologies did not assume continue price support or other incentives. The projected results from technology programs were primarily based upon reaching technology cost goals that would result in cost competitiveness without subsidies. Therefore, DOE did not assume any new policies for nearly all technologies. The only exception, as indicated above, was hydrogen and fuel cell technologies, which embedded a higher level of support into its GPRA projections.

B. Building Blocks

The Replacement Fuel Goal proposed in this action was developed after careful consideration of existing market factors, energy forecasts, and programs directed by DOE and its national laboratories. Three combined building blocks were considered: (1) The reference case projected by EIA in the AEO 2006 with updates from AEO 2007; (2) the high price case presented in the AEO 2006; and (3) projections from the DOE programs conducting research and development on replacement fuel and vehicle technologies. The outcome of this effort is several different cases under which varying levels of replacement fuel are potentially achieved.

These building blocks include replacement fuel and vehicle technologies, with projected contributions based on either the high or reference prices from the AEO, or the DOE program development projections. Some of the building blocks are relevant to all of the scenarios, while others appear in a limited number of scenarios. As indicated above, DOE evaluated data out through 2030, at periodical intervals. In all cases, the highest levels of replacement fuels appear in 2030. Below is a description of the building blocks and "cases" which were used to develop the four scenarios, described in the subsequent section.

AEO Reference Case Description

The AEO reference case is the base case prepared by EIA. It takes into account developments that are likely to occur as a result of policies that existed at the time the forecast was developed. AEO takes into account expected improvements and cost reductions in many technologies, but does not attempt to project the impact of DOE technology development programs. It does not account for potentially new policies, or legislation. The reference case also includes a number of other critical assumptions including economic growth rates and oil prices. The AEO 2006 reference case assumes a U.S. economic growth rate of 3 percent per year. Oil prices in this case are projected to fluctuate from the high \$40 range to mid \$50 range and peak at \$57 in 2030 under AEO 2006. AEO 2006, which was first released in late 2005, indicates that the oil price projection in the reference case represents EIA's "current judgment regarding the expected behavior of the Organization of Petroleum Exporting Countries (OPEC) producers in the long term, adjusting production to keep world oil prices in a range of \$40 to \$50 per barrel". (AEO 2006, p. 206.)

In the AEO 2007 Reference Case update, EIA estimated that "the average world crude oil price declines slowly in real terms (2005 dollars), from a 2006 average of more than \$69 per barrel * * * to just under \$50 per barrel * * * in 2014 as new supplies enter the market, then rises slowly to about \$59 per barrel * * * in 2030." Thus the 2030 world oil price in the AEO 2007 reference case is slightly above the 2030 price in the AEO 2006 reference case (\$59 versus \$57). It should be noted that EIA specifically used the same rationale in developing its projections in the AEO 2007 as it had in the AEO 2006, indicating the following:

The world oil price in AEO2007 is defined as the average price of low-sulfur, light crude oil imported into the United States—the same definition used in AEO2006. This price is approximately equal to the price of the light, sweet crude oil contract traded on the New York Mercantile Exchange (NYMEX) and the price of West Texas Intermediate (WTI) crude oil delivered to Cushing, Oklahoma. The weighted average U.S. refiners' acquisition cost of imported crude oil is \$5 to \$8 per barrel less than the price of imported low-sulfur, light crude oil. (AEO 2007.) For more information on the AEO 2007 (Early Release), see <http://www.eia.doe.gov/oiaf/aeo/index.html>.

AEO High Price Case Description

The high price case makes "more pessimistic assumptions for worldwide

crude oil and natural gas resources than in the reference case” (AEO 2006, p. 204). In particular, OPEC resources and production capacity are projected to be lower in this case. As a result, oil prices rise to nearly \$90/barrel by 2030. Even in the high price case, however, some of the projected prices are lower than recent levels, rising to \$70/barrel in 2013 and \$80/barrel in 2018. The high oil price forecast for the next several years ranges from \$50 to \$60, roughly comparable to today’s prices. In this case, transportation energy demand also is reduced because of high petroleum prices, which tend to encourage fuel efficiency. At the same time, higher oil prices in general also encourage more replacement fuel use. It should be noted that at the time of preparation of this final rule, EIA had not yet released its updated High price case for the AEO 2007.

DOE Program Development Case Description

Section 504(b) of EAct 1992 requires that the goal, as modified, be achievable. (42 U.S.C. 13254(b)) As part of the determination as to whether a goal would be achievable, DOE considered technologies that are technically and economically feasible today. DOE also considered technologies that currently may not be technologically or economically feasible, but that may be reasonably expected to be technologically and economically feasible given the achievement of certain conditions in the timeframes necessary to contribute to the goal. Many of these technologies are currently being developed under DOE’s own programs.

The DOE program development case represents the estimated potential replacement fuel levels achieved if industry commercializes in significant amounts the new technologies and new fuels being developed by DOE and its industry partners through research and development programs. These estimated levels are predicated on continuing existing research and development

activities and the achievement of technology goals/milestones that have been set. They also depend on economic targets being achieved and market acceptance of the technologies and fuels reviewed; however, for the most part, they do not rely upon new policy or regulatory initiatives. Information to support these cases came primarily from the relevant EERE and Fossil Energy programs, and included GPRA (Public Law 103–62; August 3, 1993) analyses and recently released technical reports identifying potential contributions of various fuel and vehicle technologies. (For more information concerning GPRA analyses, see http://www1.eere.doe.gov/ba/pba/gpra_estimates/fy_07.html.)

The technologies and fuels for which information was received from DOE program offices include fuel efficiency measures, ethanol, gas-to-liquid fuels, hydrogen, and electricity in PHEVs. The GPRA analysis was specifically relied on for the figures used for the Hydrogen Program and the fuel-efficiency savings rates projected for technologies arising from the EERE’s FCVT Program. It should be noted that the GPRA figures are based on the AEO 2005 forecast and not AEO 2006 or AEO 2007 because AEO 2006 and AEO 2007 were not available when the most recent GPRA analysis was conducted. The GPRA analyses are updated every 2 or 3 years and have not been updated since the publication of the NOPR. In the case of hydrogen, therefore, this means that the analysis presented here is based on AEO 2007. In the case of energy efficient vehicle technology savings, DOE calculated a savings rate based on the 2007 GPRA report and applied this figure to AEO 2006’s (or for the updated Reference Case analysis for AEO 2007’s) projection of on-road motor fuel use.

The analysis conducted by DOE addressed a number of programs and fuels that contribute to the Replacement Fuel Goal, including energy efficiency measures, ethanol, biodiesel, coal-to-liquid fuels, gas-to-liquid fuels, hydrogen, and other alternative fuels. These programs and fuels were

described in section V. of the NOPR. 71 FR 54776.

C. Replacement Fuel Scenarios

The previous section summarized the building blocks reviewed by DOE. This section describes how the various building blocks are combined into separate and distinct scenarios. Four scenarios were considered: (1) The reference case projected by EIA in AEO 2006; (2) the high price scenario presented in AEO 2006; (3) a combination of the AEO 2006 reference case with achievement of program goals (designated as program developments); and (4) a combination of the AEO 2006 high price case with program developments. The different scenarios represent the potential bounds for proposing a revised replacement fuel production goal under sections 502 and 504 of EAct 1992. The analysis performed looked at values for replacement fuel penetrations in the 2020, 2025, and 2030 timeframes. Near the end of this section, a comparison of the reference case analyses based upon the AEO 2006 and AEO 2007 is provided.

Reference Case Scenario

As discussed earlier, the reference case represents the base case, or the most conservative approach to projecting potential replacement fuel production. The total projected replacement fuel production level by the year 2030 is approximately 8.65 percent in this scenario based upon AEO 2006. This level of petroleum replacement further assumes that all CTL fuel is used for transportation purposes. Aside from this assumption, the most noticeable difference between this scenario and the ones that include the program development case is the relatively low amount of biofuels that is projected to be used. (This is due to assumptions made about technological progress of ethanol production technologies in the program development case.) Results for this scenario are provided in Figure 1.

FIGURE 1.—SUMMARY OF RESULTS FOR REFERENCE CASE SCENARIO

Reference	2020	2025	2030
On-road Fuel Use ³	14.42	15.36	16.46
Additional Fuel Efficiency Savings (FCVT)	0.00	0.00	0.00
OnRoad Fuel Use w/Additional Fuel Efficiency Savings	14.42	15.36	16.46
Ethanol	0.49	0.51	0.51
Biodiesel	0.02	0.02	0.02
Hydrogen/FCVs	0.001	0.001	0.002
Coal to Liquids	0.23	0.58	0.76

³ On all summary results tables, the AEO 2006 cases have some fuel efficiency savings built into the forecasts, as a result of gradual improvements

in vehicle technologies. The fuel efficiency savings reflected in the line below in each table represent

those additional savings due to FCVT program developments.

FIGURE 1.—SUMMARY OF RESULTS FOR REFERENCE CASE SCENARIO—Continued

Reference	2020	2025	2030
Gas to Liquids	0.00	0.00	0.00
Other Alternative Fuels	0.10	0.11	0.12
Petroleum Use	13.58	14.14	15.03
Total Replacement Fuel	0.84	1.22	1.42
Portion Replacement Fuel	5.83%	7.95%	8.65%

[Note: Results in million barrels per day (mbpd) unless otherwise noted]

High Price Case Scenario

The high price case, which predicts higher oil prices throughout the forecast, indicates a potential for replacement fuel production level that is double that in the reference case. By 2030, replacement fuel production

potentially accounts for 2.65 million petroleum equivalent barrels per day, providing a replacement fuel production level of 17.84 percent. The most notable changes in this forecast are the reduction in total motor fuel consumption, dropping from 16.46 to 14.86 million barrels a day as a result

of reduced demand, and the significant increase in potential CTL production, which increases from a level of 0.76 million barrels a day in the reference case to 1.69 million barrels a day in the high price case. Results for this scenario are provided in Figure 2.

FIGURE 2.—SUMMARY OF RESULTS FOR HIGH PRICE CASE SCENARIO

High price	2020	2025	2030
On-road Fuel Use	13.20	13.97	14.86
Additional Fuel Efficiency Savings (FCVT)	0.00	0.00	0.00
OnRoad Fuel Use w/Additional Fuel Efficiency Savings	13.20	13.97	14.86
Ethanol	0.54	0.60	0.62
Biodiesel	0.03	0.03	0.03
Hydrogen/FCVs	0.001	0.001	0.002
Coal to Liquids	0.29	0.81	1.69
Gas to Liquids	0.04	0.19	0.19
Other Alternative Fuels	0.09	0.10	0.11
Petroleum Use	12.21	12.24	12.21
Total Replacement Fuel	0.99	1.73	2.65
Portion Replacement Fuel	7.49%	12.37%	17.84%

(Note: Results in mbpd unless otherwise noted).

Reference Case With Program Developments Scenario

This scenario combined the reference case assumptions regarding transportation energy demand with projections for successful DOE research and development programs. As in the reference case discussed above, this case assumes that all the CTL production capacity forecasted in the reference case is used for transportation purposes. The reference case with program developments further assumes additional fuel efficiency savings over

and above those included in the reference case based on the fuel efficiency improvements and change in vehicle penetration rates attributed to commercialization of technologies undergoing research and development at DOE. Each of the other program initiatives discussed in this notice are factored into this scenario so that estimates for replacement fuel production potential of GTL, ethanol, biodiesel, and hydrogen are included. The potential impact of combining these forecasts with the individual program goals results in a replacement fuel

production level potential of 35.25 percent in 2030. The most significant differences from the two previous forecasts (reference and high price stand-alone) are the incorporation of additional efficiency savings and significant biofuels (ethanol and biodiesel) production. The additional fuel efficiency improvements represent over 3 mbpd savings by 2030. The two biofuels also combine to replace more than 3 mbpd equivalent in this scenario. Results for this scenario are provided in Figure 3.

FIGURE 3.—SUMMARY OF RESULTS FOR REFERENCE CASE WITH PROGRAM DEVELOPMENT SCENARIO

Reference/program goals	2020	2025	2030
On-road Fuel Use	14.42	15.36	16.46
Additional Fuel Efficiency Savings (FCVT)	0.55	1.11	3.04
OnRoad Fuel Use w/ Additional Fuel Efficiency Savings	13.88	14.25	13.42
Ethanol	1.33	1.95	2.58
Biodiesel	0.37	0.51	0.65
Hydrogen/FCVs	0.001	0.16	0.47
Coal to Liquids	0.23	0.58	0.76
Gas to Liquids	0.05	0.15	0.15

FIGURE 3.—SUMMARY OF RESULTS FOR REFERENCE CASE WITH PROGRAM DEVELOPMENT SCENARIO—Continued

Reference/program goals	2020	2025	2030
Other Alternative Fuels	0.10	0.11	0.12
Petroleum Use	11.81	10.79	8.64
Total Replacement Fuel	2.07	3.46	4.73
Portion Replacement Fuel	14.94%	24.27%	35.25%

(Note: Results in mbpd unless otherwise noted).

High Price Case With Program Developments

This scenario combines the high price case assumptions with the program developments. It includes the same assumptions regarding CTL use as discussed above. The program development assumptions regarding

potential replacement fuels and fuel efficiency savings are the same as used in the previous scenario. The major difference in this scenario is that CTL production more than doubles due to higher oil prices. Ethanol and biodiesel again demonstrate the potential to replace a significant amount of

petroleum. The higher oil prices, however, have the effect of reducing overall motor fuel use, which magnifies the potential replacement fuel levels. The result in this scenario is a maximum potential replacement fuel level of 47.06 percent. Results for this scenario are provided in Figure 4.

FIGURE 4.—SUMMARY OF RESULTS FOR HIGH PRICE CASE WITH PROGRAM DEVELOPMENT SCENARIO

High price/program goals	2020	2025	2030
On-Road Fuel Use	13.20	13.97	14.86
Additional Fuel Efficiency Savings (FCVT)	0.50	1.01	2.74
On-Road Fuel Use w/Additional Fuel Efficiency Savings	12.70	12.96	12.12
Ethanol	1.33	1.95	2.58
Biodiesel	0.37	0.51	0.65
Hydrogen/FCVs	0.001	0.16	0.47
Coal to Liquids	0.29	0.81	1.69
Gas to Liquids	0.05	0.15	0.20
Other Alternative Fuels	0.09	0.10	0.11
Petroleum Use	10.58	9.28	6.41
Total Replacement Fuel	2.12	3.68	5.70
Portion Replacement Fuel	16.710%	28.400%	47.060%

Note: Results in mbpd unless otherwise noted.

D. DOE's VISION Model Analysis

To validate the results of its analysis, DOE used the VISION model to look at what the vehicle mix would have to be for the replacement fuel production levels suggested by the different scenarios considered. The Replacement Fuel Goal is a production capacity goal not a fuel use goal. However, production capacity (supply) is tightly linked with fuel usage (demand). The primary purpose of the VISION modeling exercise was to verify the replacement fuel production levels were reasonable given various potential vehicle mixes and fuel availability. The secondary use was to project the greenhouse emission impacts under each of the scenarios. (For more information on VISION, see <http://www.transportation.anl.gov/software/VISION/index.html>.)

The VISION model results matched very closely with those from the analysis for this rule. In most cases the VISION model projected slightly higher replacement fuel levels due to differences in assumptions about overall

petroleum consumption, efficiency gains, and heating values for fuels. The projected emission results indicated that the annual emissions will decrease from approximately 846 million metric tons of carbon equivalent (MMTc) for the AEO 2006 reference case scenario, to just under approximately 500 MMTc for the AEO 2006 reference case with program development scenario. Additional results and discussion on the VISION results for vehicle mix and greenhouse emissions impact can be found in section V.D. of the NOPR. 71 FR 54783.

One commenter pointed out apparent discrepancies between the EIA and VISION model analyses concerning the makeup of the LDV market. While DOE acknowledges that these two analyses differ somewhat in their pathways, they are in relative agreement on the overall destination points. Comparison of the VISION model with the combined scenarios validates that the combination of replacement fuels analyzed by DOE, is achievable under the framework of this rule.

E. AEO 2007 Results

DOE utilized AEO 2006 in conducting the analysis for the NOPR. In December 2006, EIA began to make available portions of its AEO 2007. (See <http://www.eia.doe.gov/oiaf/aeo/index.html>.) EIA released its reference case update, which allowed DOE to conduct comparative analysis of its Replacement Fuel Goal analysis, namely the two scenarios based specifically upon the reference case. At the time of preparation of this final rule, EIA had not yet released its high price case, thus DOE could not update all four scenarios.

Overall, the AEO 2007 update did result in a few differences in the Replacement Fuel Goal analysis, although overall (net) impacts were relatively minor. Figure 5 below shows a comparison of the year 2030 results for the reference case scenario and the reference case with program developments scenario (portrayed in the table as "Reference/Program Goals").

FIGURE 5.—SUMMARY OF RESULTS FOR REFERENCE CASE AND REFERENCE CASE WITH PROGRAM DEVELOPMENT SCENARIOS FOR 2030

AEO	Reference case	Reference case	Reference/program goals	Reference/program goals
	2006	2007	2006	2007
On-Road Fuel Use	16.46	16.27	16.46	16.27
Additional Fuel Efficiency Savings (FCVT)	0.00	0.00	3.04	3.01
On-Road Fuel Use w/Additional Fuel Efficiency Savings	16.46	16.27	13.42	13.26
Ethanol	0.51	0.62	2.58	2.58
Biodiesel	0.02	0.03	0.65	0.65
Hydrogen/FCVs	0.002	0.002	0.47	0.47
Coal to Liquids	0.76	0.44	0.76	0.44
Gas to Liquids	0.00	0.00	0.15	0.15
Other Alternative Fuels	0.12	0.11	0.12	0.11
Petroleum Use	15.03	15.07	8.64	8.87
Total Replacement Fuel	1.42	1.20	4.73	4.39
Portion Replacement Fuel	8.65%	7.38%	35.25%	33.13%

(Note: Results in mbpd unless otherwise noted.)

The first change seen from the AEO 2007 reference case update is that motor fuel use drops from 16.46 to 16.27 mbpd. As for the replacement fuels, ethanol and biodiesel increase slightly, while CTL drops significantly. This change in the biofuels reflects EIA's readjusting for the RFS and the accompanying increased use of blends. EIA has indicated that the primary cause for the change to the CTL projection is higher capital costs. Discussions with industry indicated that the capital costs for CTL facilities were higher than originally anticipated, resulting in less facilities being built. Other alternative fuels are relatively flat however, and within this number electricity actually grows by nearly 40 percent over the AEO 2006 with a corresponding reduction in liquid petroleum gas. Overall these figures are very small and the changes are a reflection of minor adjustments in EIA's earlier assumptions. AEI also indicated that PHEVs were incorporated in their modeling analysis but that the resulting electricity use was negligible. The overall impact on the reference case replacement fuel percentage is to reduce the replacement fuel contribution from 8.65 percent down to 7.38 percent, a change of approximately 1.3 percentage points or 15 percent.

The impact of the 2007 AEO reference case update has much less overall significance to the reference case plus program developments scenario. This is because the efficiency contribution and many of the replacement fuel contributions in this scenario were the result of programmatic inputs, such as from GPRA or other technical analyses conducted by DOE's research and

development programs. These did not change, as new analyses have not been conducted by the programs since publication of the NOPR. The programmatic inputs include additional fuel efficiency savings (implemented solely as an unchanging percentage of overall on-road fuel use), ethanol, biodiesel, hydrogen, and GTL. Thus, the biggest impact on this scenario came from the EIA change to its reference case projection for CTL (which was used in both the reference case and reference case plus program developments scenarios of this analysis). The resulting impact was to reduce the replacement fuel contribution under the reference case plus program developments scenario slightly from 35.25 percent to 33.13 percent, a reduction of just over 2 percentage points or 6 percent.

In summary, overall, the changes due to the use of the AEO 2007 reference case did not result in major impacts on the replacement fuel analysis as included in the NOPR. Thus, DOE did not see sufficient changes to warrant modifying the Replacement Fuel Goal as proposed in the NOPR.

F. Additional Reports

DOE also reviewed additional reports and analyses released during the period since the NOPR that are relevant to the development of the final rule. DOE notes three such reports.

In October 2006, the Council on Foreign Relations (CFR) released National Security Consequences of U.S. Oil Dependency, Report of an Independent Task Force (CFR Report). The CFR task force is chaired by John Deutsch (former director of Central Intelligence and Deputy Secretary of Defense) and James R. Schlesinger

(former Secretary of Defense and the first Secretary of Energy). This report was focused on examining "the consequences of dependence on imported energy for U.S. foreign policy." In doing so, it focused its attention on "how oil consumption (or at least growth in consumption) can be reduced and why and how energy issues must become better integrated with other aspects of U.S. foreign oil policy." (See CFR Report p. xi.) Consistent with DOE's analysis supporting today's final rule, the Council's analysis "concentrates on the next twenty years, a period long enough to put necessary policy measures into place but not so distant as to encounter a wider range of future geopolitical or technological uncertainties." (See CFR Report p. 4.) The Council then went on to emphasize many of the same technologies that DOE relies upon in today's action, such as energy efficiency, batteries, fuel cells, and biofuels. The Council also pointed out, as DOE did in the NOPR, that energy market forces are now leading to innovation by encouraging entrepreneurs to invest in new energy products and services, particularly research and development. While focusing on a different objective than today's final rule, the CFR Report relied on many assumptions and analyses that appear consistent with those employed by DOE in today's action.

In November 2006, the President's Council of Advisors on Science and Technology (PCAST) released The Energy Imperative: Technology and the Role of Emerging Companies (PCAST Report). PCAST was formed under Executive Order 13226 in September 2001 to advise the President "on matters

involving science and technology policy.” The PCAST Report recommendations focus on “immediate steps that could be taken to reduce our Nation’s reliance on foreign oil and to reduce atmospheric emissions from energy production and use.” (PCAST Report cover letter.) For transportation, PCAST suggests “steps for a major transition to biofuels and to electric or hydrogen-powered vehicles.” (PCAST Report cover letter.) The major transportation-related recommendations focus specifically on increasing production of and demand for biofuels, as well as reviewing CAFE standards to make needed reforms and encourage non-fossil-fuel use. Thus, the PCAST report highlights two of the more important elements of DOE’s replacement fuel analysis, biofuels and energy efficiency, and is also generally consistent with the President’s recent State of the Union Address.

The Energy Security Leadership Council (ESLC) released Recommendations to the Nation on Reducing U.S. Oil Dependence in December 2006. ESLC is chaired by General P.X. Kelley, USMC (Ret.), the former Commandant of the Marine Corps, and Frederick W. Smith, Chairman, President, and CEO, FedEx Corporation. Other Council members include various leaders of industry as well as former Defense and Homeland Security officials and high-ranking military officers. As in today’s action, the Council used the year 2030 as its focal point for analysis. Consistent with the DOE’s Replacement Fuel Goal analysis, ESLC focused heavily upon improved efficiency of vehicles and increasing supply and demand of biofuels. Its corollary recommendations included suggestions relating to improving the efficiency of medium- and heavy-duty trucks (through both hybrid technologies and fuel efficiency standards) and carbon sequestration (to enable coal-to-liquids and other fuels production). Thus, the ESLC’s portfolio also appears to be generally consistent with the portfolio relied upon by DOE.

Each of these reports provides interesting and thoughtful perspectives on issues that are closely related to those addressed in this final rule. While the reports do not include quantitative analyses that would either support or undercut DOE’s analysis, they do use approaches that are similar to those used by DOE and they draw conclusions that appear to be generally consistent with those reached by DOE in this final rule. For example, each focused on a portfolio of options, with the greatest emphasis on energy efficiency, biofuels, and other non-petroleum fuels. They

also considered 20–25 year time-frames, similar to those used by DOE.

G. Other Issues

Domestic Content

Section 502(b)(2) of EPCA 1992 directs that of the replacement fuels counted in the goal, at least half must be domestic replacement fuels. (42 U.S.C. 13252(b)(2)) The replacement fuels analyzed for today’s final goal are assumed to be primarily domestic in nature. The only replacement fuels analyzed that showed potential for being imported are GTL, which represent a relatively small contribution to the overall goals. In addition, the small amount of GTL fuels included in the analysis was assumed to be based solely upon domestic resources. Ethanol imports are also assumed to be small. All biodiesel, CTL, and hydrogen are assumed to be domestic. Thus, DOE has assumed that the overwhelming majority of the replacement fuels included in its analyses will be domestic in nature. However, since the actual contribution of imports to the supply of these replacement fuels will be determined by markets, DOE intends to closely monitor the development of markets in this area. If it determines that these assumptions are not valid, it will consider whether changes in the Replacement Fuel Goal are warranted.

One commenter did indicate a concern about any assumptions that may have been made about exports of replacement fuels, and that any decision to reduce exports might constitute a major shift in trade policy. It should be remembered that the Replacement Fuel Goal is a production capacity goal. Therefore, for the purposes of the analysis, DOE was concerned with whether there would be sufficient capacity to produce a given amount of replacement fuels. A consideration of whether some portion of those fuels might ultimately be exported, if export was the opportunity that made the most sense, was outside the scope of DOE’s analysis.

GHG

As part of its analysis of the replacement fuel levels considered in this Final Rule, DOE evaluated the overall GHG implications of the various scenarios. All scenarios show reduced carbon emissions over the reference case. Carbon emissions are reduced because more fuel efficient vehicles are used in these scenarios and the replacement fuels in general are less carbon intensive than petroleum motor fuels. The exception is the GHG emissions associated with CTL fuels if

the carbon dioxide emitted during fuel production is not captured and sequestered. EIA indicates that there are currently no plans to sequester the carbon associated with CTL production absent new policies or requirements, so DOE has not assumed such emissions will be sequestered. Even with the increased emissions of GHG from CTL, the net effect of the replacement fuel production goal proposed in today’s notice is a substantial reduction in GHG emissions.

On a life cycle basis, replacement fuel percentages projected by the VISION model goal would achieve a reduction in GHG emissions of over 40 percent compared to the reference case. The annual emissions are projected to decrease from 846.5 million metric tons of carbon equivalent (MMTc) from fuel mix represented by the AEO 2006 reference case scenario, to just under 500 MMTc from the fuel mix that most closely represents the AEO 2006 reference case with program development scenario. This projected reduction is primarily due to the high utilization of biofuels, most of which have significantly lower carbon emissions than petroleum-based fuels, especially when derived from biomass. As noted earlier, the exact carbon emissions cannot be pinpointed as the mix of fuels may ultimately be different than that projected; however, it is expected that significant reductions would occur.

The full VISION model is typically not updated until the middle of the calendar year, several months after release of all of the Annual Energy Outlook. Therefore, it was not possible to conduct a complete update to the GHG emission analysis conducted for the NOPR. A preliminary effort was made, focusing primarily upon the contribution from CTL because it was the only component of the analysis that changed significantly that could have a detrimental impact on GHG. Initial estimates indicate that GHG emissions from CTL are significantly greater than previously estimated. Additional studies since the original NOPR analysis indicated that the life-cycle GHG emissions from CTL produced was underestimated. At the same time, however, the updated analyses based upon the AEO2007 reference case indicate that the CTL contribution in the 2030 time-frame will be considerably less than estimated in the NOPR. The increase in per unit GHG emissions was of a comparable degree to the decrease in the projected contribution of CTL to the replacement fuel market. Thus, according to the most current analysis,

the net result is that there is no change in GHG emissions as compared to the estimates in the NOPR. There is still a projected 40 percent drop in GHG emissions versus the baseline reference case.

One commenter took particular issue with DOE's approach to its GHG analysis. This commenter claimed that DOE used the wrong baseline for assessing GHG emissions. The commenter indicated that DOE should have used the levels "the U.S. would have achieved if DOE had implemented Congress's original fuel replacement goals." DOE disagrees with this comment.

First, as stated above, the goal established by Congress and modified today is not a mandate. DOE's authority is limited to supporting achievement of the goal, reviewing the goal, and modifying the goal. As such, the commenter's suggestion that DOE was required to implement the goals is a mischaracterization.

Second, the baseline suggested by the commenter would be based upon a hypothetical fuel mix used to meet the goal in 2010. Since DOE has found that the goal is unachievable, it does not know what the fuel mix would have been in 2010 to achieve a 30 percent level. This fuel mix is critical for determining the baseline contribution of GHGs. Without such a breakdown, no such estimate can be made.

VI. Modified Goal

A. 30 Percent by 2030

DOE is establishing a modified Replacement Fuel Goal of 30 percent by 2030. The modified Replacement Fuel Goal is based primarily on the evaluation of four scenarios across a range of probable market conditions and involves a portfolio of technology options as presented in the NOPR. The four scenarios project a replacement fuel percentage that ranges from just over 7 percent to a little above 47 percent in the 2030 timeframe. DOE selected a goal that falls near the middle of this range, providing a balance between the most optimistic and pessimistic scenarios analyzed by DOE. Based on the analysis as presented in the NOPR and summarized in this notice DOE determines that a fuel production capacity of 30 percent by 2030 is achievable.

Section 504 makes clear that achievability of the goal is key, both for analysis of the goal as well as modifying the goal. (42 U.S.C. 13245(b).) EPA Act 1992, however, does not define "achievable" for the purpose of modifying the goal. Section 502(b)(2)

directs DOE to consider the technological and economic feasibility of the statutory goal in determining the goal's achievability under the initial review (42 U.S.C. 13242(b)(2).) As stated in the NOPR, DOE has determined that in order for a goal to be achievable there must be a reasonable expectation, based on technological and economic feasibility, that the desired level of production capacity will be created within the relevant timeframe. In order to further ensure that the final goal is achievable, as discussed above, the final rule generally considered only policies and programs that are currently in place.

In establishing the Replacement Fuel Goal adopted today, DOE assumed that not all technologies would be fully adopted into the marketplace. This assumption is consistent with statements provided by one commenter, who stated that to assume that research and development programs will accomplish all of their goals is unrealistic. This assumption provides an appropriate balance between the statutory requirements of the "maximum extent practicable" and "achievable."

DOE has determined that a timeframe of 2030 is necessary to achieve the 30 percent level of the Replacement Fuel Goal adopted today. There are important reasons why a timeframe extending out to 2030 is required to make major changes in motor fuel consumption patterns and thus production levels—the lead-time for investments to begin and bear fruit, and the retirement cycles for U.S. vehicles.

Major investments of capital are required to establish industrial capacity to produce replacement fuels. Such investments are typically focused over the entire operating life of a production facility (often 30 years) and potential investors may require a high degree of certainty that the cost of competing fuels will be higher than the cost of fuels produced by the subject plant far into the future, thus allowing a positive return on investment. Barriers to such major investments include uncertainty of world oil prices, high cost of production coupled with high initial capital cost, and the long decision-to-production lead times.

Once investments are made to develop replacement fuel production, production facilities must be built. It can take five years or more from the start of construction on a new facility until full operation is achieved, depending on the complexity and size of the production facility involved. Achievement of the 30 percent Replacement Fuel Goal is projected to

require a substantial number of new production facilities (such as plants to produce cellulosic ethanol and CTL fuels). Construction of production facilities is not expected to occur simultaneously, thereby resulting in an additional five or even ten years until production capacity is at a level necessary to achieve the Replacement Fuel Goal.

Many of the investments anticipated in 1992 have only recently begun. Recent high oil prices are beginning to spur more investment in alternative and replacement fuels, but not fast enough to allow DOE to set a 2010 replacement fuel production goal at levels any higher than the AEO 2007 (~4.5 percent).

Although the Replacement Fuel Goal is production (supply) based, production is closely linked to fuel usage (demand). On the vehicle side, a similar period of lead-time is typically required to make a significant impact on U.S. fuel consumption patterns. This is because it takes more than 25 years to turn over the U.S. fleet of in-use motor vehicles. According to the 25th Edition of the Transportation Energy Data Book (TEDB 25, U.S. DOE and Oak Ridge National Laboratory, ORNL-6974, 2006), after 30 years, approximately 93 percent of the 1990 model year vehicles are projected to be retired, and slightly less than 96 percent of the 1990 model year light trucks will have been scrapped. The median lifetime for 1990 cars is now 16.9 years, and 15.5 years for 1990 light trucks. While the truck numbers are relatively consistent (compared to 1970 and 1980 model years), the car numbers have increased substantially (from 11.5 years in 1970 and 12.5 years in 1980).

The effects of this can be seen by a U.S. vehicle population of 226 million in 2003, with annual new LDV sales of approximately 16.5–17 million/year (or approximately equal to 7 percent of the size of the in-use fleet). Thus, any replacement fuel or higher efficiency technology which requires actual replacement of vehicles must be phased into the U.S. fleet of vehicles over a number of years to eventually account for a significant portion of in-use vehicles. (See TEDB, Tables 3.8, 3.9, 4.5, 4.6, and 8.1.)

DOE has determined to maintain the level of the goal at 30 percent for two reasons. First, when Congress passed EPA Act 1992, it indicated that it believed the level of 30 percent replacement fuel was appropriate. Second, this level of replacement fuel production is both consistent with the overall goals of the President's AEI and Twenty in Ten initiatives, to promote replacement fuels and energy efficiency.

Since DOE's analysis of the Replacement Fuel Goal was originally published in the NOPR, DOE has continued to review relevant data and published reports to inform today's decision. Overall, the reports appear to rely on an analytical framework consistent with that relied upon for today's final rule, further supporting the reasonableness of DOE's approach.

DOE also reviewed comments received in response to the NOPR and found that none included data to support a Replacement Fuel Goal other than that adopted in this final rule. It should be noted that nearly all of the public comments agreed with the need to modify the goal, but a majority disagreed with the Department's choice to move the goal to 2030. As discussed above in section III, a variety of commenters requested that DOE establish a more aggressive goal with a stronger focus upon program development and implementation. While a number of these commenters indicated that they wanted to see DOE set a "higher goal," few offered concrete proposals as to what that goal should be and how it could be achieved.

DOE is required to set a goal that is deemed achievable. As illustrated in the analysis above and that provided in the NOPR, DOE has set out a rational pathway to the achievement of a goal, based upon widely accepted forecasts (such as the EIA forecast) and information provided by DOE research and development programs. In addition, the documents provided by the research and development programs and included within the docket, include the individual pathways for contributing to the achievement of the modified Replacement Fuel Goal. As for utilizing either of the "program developments" cases as the specific goal level, DOE explicitly rejected a goal based solely on these levels because of the fact that not all research and development programs can be expected to achieve *all* milestones. DOE is unable to set a more accelerated pathway based upon the information it has at this time.

In summary, due to both lead-times for fuel supply investments and the time required to turn over nearly all of the U.S. fleet of vehicles, a significant change in the utilization of U.S. motor fuel consumption patterns could take more than two decades. Today's decision is based primarily on the existing budgetary and policy framework. Therefore, it is largely a reflection of existing and expected conditions. In and of itself, it is not an action plan or roadmap for expanding replacement fuel production capacity. Nothing in this action precludes

appropriate parties (such as Federal, State, or local governments, or private industry) from taking steps to accelerate achievement of the goal.

B. Interim Goal

As proposed, today's final rule adopts a revised the Replacement Fuel Goal for 2030. Today's rule does not adopt an interim Replacement Fuel Goal. The court order under which today's final rule is being issued, directed DOE to "revise the goal for replacement fuels contained in the Energy Policy Act of 1992." *Center for Biological Diversity v. U.S. Dept. of Energy et. al.*, No. 05-cv-01526-WHA Document 54 p. 2 (N.D. Cal. March 30, 2006) (Order Re Timing of Relief); emphasis added. As indicated by the court, DOE is only required to revise a single goal, and not the final goal and the interim goal.

Several commenters urged DOE to establish a revised interim goal in conjunction with a revised final goal. Commenters stated that Congress established the ten percent by 2000 interim goal as a method of evaluating the Nation's progress in achieving the original thirty percent by 2010 final goal. Commenters further stated that a revised interim goal is necessary to provide for an evaluation of progress towards achieving the revised goal, and is necessary so that DOE may identify difficulties in achieving the revised goal earlier in the process.

A revised interim goal is not necessary for evaluating the progress in achieving the revised final goal adopted in today's final rule. The EIA AEO provides the current production capacity of alternative fuel in comparison to the consumption of motor fuel in the United States. The EIA AEO provides a de facto report on the progress in achieving the revised Replacement Fuel Goal. As such, DOE determined that an interim goal is not needed to monitor the progress of the Replacement Fuel Goal.

Further, DOE will periodically evaluate the prospects for achieving the Replacement Fuel Goal set in today's rule, including tracking the levels projected for intervening years, and will publish the results of its evaluations as appropriate. If the AEO projections should indicate that the goal, as revised in this action, no longer meets the criteria of achievable, or if it appears that the goal can be achieved earlier or a greater level can be achieved, DOE will institute a rulemaking process to modify the goal at that time.

VII. Regulatory Review

A. Review Under Executive Order 12866

Today's final rule action has been determined to be a "significant regulatory action" under Executive Order 12866, Regulatory Planning and Review, 58 FR 51735 (October 4, 1993). Accordingly, this action was subject to review under the Executive Order by the Office of Information and Regulatory Affairs in the Office of Management and Budget.

B. Review Under Regulatory Flexibility Act

The Regulatory Flexibility Act, 5 U.S.C. 601-612, requires preparation of a regulatory flexibility analysis for any rule that is likely to have a significant economic impact on a substantial number of small entities. Today's action merely modifies the Replacement Fuel goal, with no requirements imposed upon any entity. Therefore, this action will not result in compliance costs on small entities. DOE certifies that this final rule will not have a significant economic impact on a substantial number of small entities, and accordingly, no regulatory flexibility analysis has been prepared.

C. Review Under the Paperwork Reduction Act

No new record keeping requirements, subject to the Paperwork Reduction Act, 44 U.S.C. 3501, *et seq.*, are imposed by this final rule.

D. Review Under the National Environmental Policy Act of 1969 (NEPA)

DOE has not prepared an environmental impact statement (EIS) or an environmental assessment (EA) for the final rule, as neither is required. The final rule implements the March 6, 2006, Order of the U.S. District Court of California to modify the EPAct 1992 Replacement Fuel Goal. *Center for Biological Diversity*, 419 F.Supp 2d 1166. In its order, the Court determined that EPAct 1992 imposed mandatory action on the Secretary in requiring that the goal be modified, if the Secretary determines the goal is unachievable. Since DOE lacked discretion, the Court determined that NEPA did not apply. In the final rule, DOE has determined that the "30 percent by 2010" goal is unachievable. Therefore, modification of the goal is mandatory, and consistent with the Court's Order, neither an EA or EIS is required.

E. Review Under Executive Order 12988

With respect to the review of existing regulations and the promulgation of

new regulations, section 3(a) of Executive Order 12988, Civil Justice Reform, 61 FR 4729 (February 7, 1996), imposes on Executive agencies the general duty to adhere to the following requirements: (1) Eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; and (3) provide a clear legal standard for affected conduct rather than a general standard and promote simplification and burden reduction. With regard to the review required by sections 3(a) and 3(b) of Executive Order 12988 specifically requires that Executive agencies make every reasonable effort to ensure that the regulation: (1) Clearly specifies the preemptive effect, if any; (2) clearly specifies any effect on existing Federal law or regulation; (3) provides a clear legal standard for affected conduct while promoting simplification and burden reduction; (4) specifies the retroactive effect, if any; (5) adequately defines key terms; and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of Executive Order 12988 requires Executive agencies to review regulations in light of applicable standards in sections 3(a) and 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. Executive Order 12988 does not apply to this rulemaking notice because DOE is merely modifying the Replacement Fuel Goal provided in section 502(b)(2) of EAct 1992, and is not establishing any regulations that would impose any requirements on any person or entity.

F. Review Under Executive Order 13132

Executive Order 13132, Federalism, 64 FR 43255 (August 4, 1999), imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have federalism implications. Agencies are required to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and carefully assess the necessity for such actions. DOE has examined today's modification of the Replacement Fuel Goal and has determined that it will not preempt State law and will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

G. Review of Impact on State Governments—Economic Impact on States

Section 1(b)(9) of Executive Order 12866, Regulatory Planning and Review, 58 FR 51735 (September 30, 1993), established the following principle for agencies to follow in rulemakings: "Wherever feasible, agencies shall seek views of appropriate State, local, and tribal officials before imposing regulatory requirements that might significantly or uniquely affect those governmental entities. Each agency shall assess the effects of Federal regulations on State, local, and tribal governments, including specifically the availability of resources to carry out those mandates, and seek to minimize those burdens that uniquely or significantly affect such governmental entities, consistent with achieving regulatory objectives. In addition, as appropriate, agencies shall seek to harmonize Federal regulatory actions with regulated State, local and tribal regulatory and other governmental functions."

Because DOE is modifying the Replacement Fuel Goal under section 502(b)(2) of EAct 1992, and is not establishing any requirements, no significant impacts upon State and local governments are anticipated. The position of State fleets currently covered under the existing EAct 1992 fleet program is unchanged by this action.

H. Review of Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995, Public Law 104-4, requires each Federal agency to assess the effects of Federal regulatory actions on State, local and tribal governments and the private sector. The Act also requires a Federal agency to develop an effective process to permit timely input by elected officials on a proposed "significant intergovernmental mandate," and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect small governments. On March 18, 1997, DOE published in the **Federal Register** a statement of policy on its process for intergovernmental consultation under the Act. 62 FR 12820. The final rule published today does not establish or contain any Federal mandate, so the requirements of the Unfunded Mandates Reform Act do not apply.

I. Review of Treasury and General Government Appropriations Act, 1999

Section 654 of the Treasury and General Government Appropriations Act, 1999, Public Law 105-277, requires Federal agencies to issue a Family Policymaking Assessment for any proposed rule that may affect family well-being. Today's final rule does not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

J. Review of Treasury and General Government Appropriations Act, 2001

The Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516 note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by the Office of Management and Budget (OMB). OMB's guidelines were published at 67 FR 8452 (February 22, 2002), and DOE's guidelines were published at 67 FR 62446 (October 7, 2002). DOE has reviewed today's final rule under the OMB and DOE guidelines, and has concluded that it is consistent with applicable policies in those guidelines.

K. Review Under Executive Order 13175

Under Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, 65 FR 67249 (November 9, 2000), DOE is required to consult with Indian tribal officials in development of regulatory policies that have tribal implications. Today's final rule does not have such implications. Accordingly, Executive Order 13175 does not apply.

L. Review Under Executive Order 13211

Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy, Supply, Distribution, or Use, 66 FR 28355 (May 22, 2001) requires preparation and submission to OMB of a Statement of Energy Effects for significant regulatory actions under Executive Order 12866 that are likely to have a significant adverse effect on the supply, distribution, or use of energy. A modification to the Replacement Fuel Goal under EAct 1992 section 502(b)(2) does not require fleets, suppliers of energy, or distributors of energy to do or to refrain from doing anything. Consequently, DOE has concluded there is no need for a Statement of Energy Effects.

M. Congressional Notification

As required by 5 U.S.C. 801, DOE will submit to Congress a report regarding the issuance of today's Final Rule prior to the effective date set forth at the outset of this Final Rule. The report will state that it has been determined that the rule is not a "major rule" as defined by 5 U.S.C. 801(2).

VIII. Approval by the Office of the Secretary

The issuance of this Final Rule for the Replacement Fuel Goal modification has been approved by the Office of the Secretary.

List of Subjects in 10 CFR Part 490

Administrative practice and procedure, Energy conservation, Fuel economy, Gasoline, Motor vehicles, Natural gas, Penalties, Petroleum, Reporting, and recordkeeping requirements.

Issued in Washington, DC, on March 6, 2007.

Alexander A. Karsner,

Assistant Secretary, Energy Efficiency and Renewable Energy.

■ For the reasons set forth in the Preamble, the Department of Energy is amending Chapter II of title 10 of the Code of Federal Regulations as set forth below:

PART 490—ALTERNATIVE FUEL TRANSPORTATION PROGRAM

■ 1. The authority citation for part 490 is revised to read as follows:

Authority: 42 U.S.C. 7191 *et seq.*; 42 U.S.C. 13201, 13211, 13220, 13251 *et seq.*

■ 2. In § 490.1 of subpart A, paragraph (b) is revised to read as follows:

§ 490.1 Purpose and Scope.

* * * * *

(b) The provisions of this subpart cover:

(1) The definitions applicable throughout this part;

(2) Procedures to obtain an interpretive ruling and to petition for a generally applicable rule to amend this part; and

(3) The goal of the replacement fuel supply and demand program established under section 502(a) of the Act (42 U.S.C. 13252(a)).

■ 3. Subpart A is amended by adding § 490.8 to read as follows:

§ 490.8 Replacement fuel production goal.

The goal of the replacement fuel supply and demand program established by section 502(b)(2) of the Act (42 U.S.C. 13252(b)(2)) and revised by DOE pursuant to section 504(b) of the

Act (42 U.S.C. 13254(b)) is to achieve a production capacity of replacement fuels sufficient to replace, on an energy equivalent basis, at least 30 percent of motor fuel consumption in the United States by the year 2030.

[FR Doc. E7-4324 Filed 3-14-07; 8:45 am]

BILLING CODE 6450-01-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-27267; Directorate Identifier 2002-NE-40-AD; Amendment 39-14991; AD 2007-06-10]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc RB211-524 Series Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is superseding an existing airworthiness directive (AD) for Rolls Royce plc (RR) RB211-524 series turbofan engines with certain part number (P/N) intermediate pressure compressor (IPC) stage 5 disks installed. That AD currently requires new reduced IPC stage 5 disk cyclic limits. This AD requires the same reduced IPC stage 5 disk cyclic limits, requires removal from service of affected disks that already exceed the new reduced cyclic limit, and, removal from service of other affected disks before exceeding their cyclic limits using a drawdown schedule. This AD also exempts disks reworked to RR Service Bulletin (SB) No. RB.211-72-E182, Revision 1, dated July 30, 2004, and allows an on-wing eddy current inspection (ECI) on RB211-524G and RB211-524H series engines. This AD results from the manufacturer issuing a revised Alert Service Bulletin (ASB) to remove certain disks from applicability, and to allow an on-wing ECI on RB211-524G and RB211-524H series engines. We are issuing this AD to prevent failure of the IPC stage 5 disk, which could result in uncontained engine failure and possible damage to the airplane.

DATES: This AD becomes effective April 19, 2007. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of April 19, 2007.

ADDRESSES: You can get the service information identified in this AD from Rolls-Royce plc, P.O. Box 31 Derby,

DE248BJ, United Kingdom; telephone 011-44-1332-242424; fax 011-44-1332-249936.

You may examine the AD docket on the Internet at <http://dms.dot.gov> or in Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; telephone (781) 238-7178; fax (781) 238-7199; e-mail: ian.dargin@faa.gov.

SUPPLEMENTARY INFORMATION: The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to RR RB211-524 series turbofan engines with certain P/N IPC stage 5 disks installed. We published the proposed AD in the **Federal Register** on July 11, 2006 (71 FR 39025). That action proposed to require:

- Establishing new reduced IPC stage 5 disk cyclic limits.
- Removing from service affected disks that already exceed the new reduced cyclic limit.
- Removing from service other affected disks before exceeding their cyclic limits, using a drawdown schedule.
- Allowing optional inspections at each shop visit or an on-wing ECI to extend the disk life beyond the specified life.

Examining the AD Docket

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in **ADDRESSES**. Comments will be available in the AD docket shortly after the DMS receives them.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

Request To Add a Note

One commenter, Rolls-Royce plc, requests that we add a note, just above compliance paragraph (j)(5), that states: "To qualify for maximum alleviation since last NDT inspection (see Table 5 of this AD) it is recommended that discs be ECI inspected using paragraph 3.D. of the Accomplishment Instructions of RR