

Service	User fee
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Inspection for approval of biosecurity level three laboratories.	\$977.00 for all costs of inspection related to approving the laboratory for handling one defined set of organisms or vectors.
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4. In § 130.9, the introductory text of paragraph (a) would be revised to read as follows:

§ 130.9 User fees for miscellaneous import or entry services.

(a) User fees for import or entry services listed in paragraphs (a)(1) through (a)(4) of this section, except those services covered by flat rate user fees elsewhere in this part, will be calculated at \$56.00 per hour, or \$14.00 per quarter hour, with a minimum fee of \$16.50, for each employee required to perform the service. The person for whom the service is provided and the person requesting the service are jointly and severally liable for payment of these user fees in accordance with §§ 130.50 and 130.51.

* * * * *

Done in Washington, DC, this 8th day of July 1999.

A. Cielo,

Acting Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 99-17938 Filed 7-13-99; 8:45 am]

BILLING CODE 3410-34-P

DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

10 CFR Part 474

[Docket No. EE-RM-99-PEF]

[RIN: 1904-AA40]

Electric and Hybrid Vehicle Research, Development, and Demonstration Program; Petroleum-Equivalent Fuel Economy Calculation

AGENCY: Department of Energy.

ACTION: Notice of Proposed Rulemaking and Withdrawal of Previous Notice of Proposed Rulemaking.

SUMMARY: In response to public comments, the Department of Energy (DOE) revises its proposal to amend its regulations on electric and hybrid vehicles to provide a petroleum-equivalency factor (PEF) and procedures for calculating the petroleum-equivalent fuel economy of electric vehicles. The petroleum-equivalent fuel economy

values of an automobile manufacturer's electric vehicles may then be included in the calculation of that manufacturer's corporate average fuel economy (CAFE) according to regulations prescribed by the Environmental Protection Agency and the Department of Transportation.

DATES: To ensure your comments are considered, we must receive 7 copies of your comments on or before September 13, 1999.

You may present oral views, data, and arguments at the public hearing which will be held in Washington, DC, on Tuesday, August 17, 1999 beginning at 9:30 a.m. If you would like to speak at this hearing, contact Ms. Andi Kasarsky, (202) 586-3012, by Friday, August 13, 1999. In addition, you may request an opportunity to speak at the hearing itself. Each oral presentation is limited to 10 minutes. The hearing will last as long as there are persons requesting an opportunity to speak. The notice of proposed rulemaking published in the **Federal Register** on February 4, 1994 (59 FR 5336) is withdrawn as of July 14, 1999.

ADDRESSES: Send written comments to: Mr. Rogelio Sullivan, U.S. Department of Energy, EE-32, Docket No. EE-RM-99-PEF, 1000 Independence Avenue, SW, Washington, DC 20585. Questions concerning submitting written comments should be addressed to Ms. Andi Kasarsky, (202) 586-3012. We will hold a public hearing at the following address: U.S. Department of Energy, Room 1E-245, 1000 Independence Avenue, SW, Washington, DC. Please bring seven copies of the prepared oral statement to the hearing.

You may read and copy written comments received, a copy of the public hearing transcript, technical reference materials mentioned in this notice, and any other docket material received as a result of this notice at the DOE Freedom of Information Reading Room. The current docket material will be filed under "EE-RM-99-PEF." Copies of the hearing transcript and written comments received regarding the February 4, 1994 proposed rule are filed under Docket No.

EE-RM-94-101. Earlier materials related to the calculation of the PEF are contained in Docket No. EE-RM-93-301 and are also available at the DOE

Freedom of Information Reading Room, room 1E-190, (202) 586-3142, between the hours of 9:00 a.m.-4:00 p.m., Monday through Friday except Federal holidays.

For more information concerning public participation in this rulemaking proceeding, see section III of this notice of proposed rulemaking (Opportunities for Public Comment).

FOR FURTHER INFORMATION CONTACT:

Mr. Rogelio Sullivan, U.S. Department of Energy, Office of Transportation Technologies, Office of Advanced Automotive Technologies, EE-32, 1000 Independence Avenue SW, Washington, DC 20585, (202) 586-8042

Mr. Eugene Margolis, U.S. Department of Energy, Office of General Counsel, GC-72, 1000 Independence Avenue SW, Washington, DC 20585, (202) 586-9526

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I. Background

In an effort to conserve energy through improvements in the energy efficiency of motor vehicles, Congress passed the Energy Policy and Conservation Act (Pub. L. 94-163) in 1975. Title III of the Energy Policy and Conservation Act amended the Motor Vehicle Information and Cost Savings Act by mandating fuel economy standards for automobiles produced in, or imported into, the United States. (The Act's provisions appeared initially in the United States Code at 15 U.S.C. 1901 *et seq.* In 1994, Pub. L. 103-272 codified the Act's provisions in Title 49, U.S.C., Subtitle VI, Part C.) This statute, as amended, requires that every manufacturer or importer meet a corporate average fuel economy standard for the fleet of vehicles produced or imported in any model year. Although electric vehicles are included under the definition of the term "automobile" in the Motor Vehicle Information and Cost Savings Act, they do not consume "fuel" as defined in the Act. Therefore, calculation of an electric vehicle manufacturer's corporate average fuel economy is impossible without a petroleum equivalency value.

On January 7, 1980, the President signed the Chrysler Corporation Loan Guarantee Act of 1979 (Pub. L. 96-185). Section 18 of the Chrysler Corporation Loan Guarantee Act of 1979 added a new paragraph (2) to section 13(c) of the Electric and Hybrid Vehicle Research, Development, and Demonstration Act of 1976 (Pub. L. 94-413). Part of the new section 13(c) added subsection (a)(3) to section 503 of the Motor Vehicle Information and Cost Savings Act. That subsection, which has been codified at 49 U.S.C. 32904(a)(2), directs the Secretary of Energy to determine petroleum-equivalent fuel economy values for various classes of electric vehicles. The intent of the legislation is to provide an incentive for vehicle manufacturers to produce electric vehicles by including the expected high equivalent fuel economy of these vehicles in their corporate average fuel economy calculation. This will help to accelerate the early commercialization of electric vehicles.

Section 18 of the Chrysler Corporation Loan Guarantee Act of 1979 further amended the Electric and Hybrid Vehicle Research, Development and Demonstration Act of 1976 by adding a new paragraph (3) to section 13(c) which directed the Secretary of Energy, in consultation with the Secretary of Transportation and the Administrator of the Environmental Protection Agency, to conduct a seven-year evaluation

program of the inclusion of electric vehicles in the calculation of average fuel economy. In May 1980, as required by section 503(a)(3) of the Motor Vehicle Information and Cost Savings Act, DOE proposed a method of calculating the petroleum-equivalent fuel economy of electric vehicles. The rule was finalized in April 1981 (46 FR 22753). The seven-year evaluation program was completed and the calculation of the annual petroleum equivalency factors was not extended past 1987.

DOE published a proposed rule for a permanent PEF for use in calculating petroleum-equivalent fuel economy values on February 4, 1994, (59 FR 5336) and obtained oral and written comments from interested parties. Following consideration of the reviewers' comments, DOE's own internal re-examination of the assumptions underlying the proposed rule, and existing regulations for other classes of alternative fuel vehicles, DOE decided to modify the approach proposed in 1994 with several changes. DOE believes that the approach presented today is simpler, more consistent with the regulatory treatment of other alternative fuel vehicles, and better embodies the Congressional intent.

Administrative responsibilities for the corporate average fuel economy program are assigned to the Department of Transportation and the Environmental Protection Agency under the Motor Vehicle Information and Cost Savings Act. The Secretary of Transportation is responsible for prescribing the corporate average fuel economy standard and enforcing the penalties for failure to meet these standards. The Administrator of the Environmental Protection Agency is responsible for calculating a manufacturer's corporate average fuel economy value. DOE is responsible for developing and promulgating the petroleum equivalency factor, the key component in the calculation of petroleum-equivalent fuel economy values for electric vehicles.

II. Discussion

A. Requirements of the Motor Vehicle Information and Cost Savings Act, as Amended

Section 503(a)(3) of the Motor Vehicle Information and Cost Savings Act (49 U.S.C. 32904(a)(2)) requires DOE to determine the petroleum-equivalent fuel economy values for electric vehicles, taking into account the following parameters:

(i) The approximate electric energy efficiency of the vehicles considering the vehicle type, mission, and weight;

(ii) The national average electricity generation and transmission efficiencies;

(iii) The need of the Nation to conserve all forms of energy, and the relative scarcity and value to the Nation of all fuel used to generate electricity; and

(iv) The specific driving patterns of electric vehicles as compared with those of petroleum-fueled vehicles.

Section 503(a)(3) also provides for revision of such values if necessary.

B. PEF Development Process

When DOE published a proposed rule for a permanent PEF in 1994, many of the comments criticized one of the key factors of the proposed PEF: An intermediate factor that used a complex approach to quantify the relative scarcity and value of all fuels used to generate electricity in the U.S., which was referred to as the "scarcity factor." This proposed scarcity factor was based on estimates of the U.S. share of world reserves of fossil fuels and estimated rates of depletion of world reserves. In general, the criticisms of this approach were more "philosophical" than specific. The comments, however, led DOE to reexamine the issue in greater detail. DOE concluded that faulty assumptions and calculations were present in some of the steps in the development of the scarcity factor.

For example, the number of years until exhaustion of fossil fuel reserves was estimated by using forecast energy consumption growth rates to estimate the length of time needed to deplete the Energy Information Administration-reported "proved reserves" of each fuel. This is misleading because "proved reserves" are defined based on current economic and technical conditions, and have in fact been observed to grow over time. In a subsequent step, the calculation summed the years-to-depletion values for each individual fuel into a total years-to-depletion value. This too, is misleading because once the least-abundant fuel is totally consumed, energy needs will have to be met by increasing the consumption rates of the remaining fuels. In addition, since the scarcity of nuclear and renewable fuels could not be determined by this method (because their "reserves" are essentially unlimited), arbitrary scarcity values were assigned to these fuels. Several other questionable mathematical operations were subsequently performed during the calculation of the scarcity factor. DOE therefore decided to

replace the scarcity factor rather than attempt to refine it.

DOE then considered alternative approaches to the determination of suitable factors for quantifying scarcity and value. These included both modifications of the reserves-based approach, as well as market price (of the fuels used to generate electricity) approaches. DOE determined, however, that such approaches were highly sensitive to the assumptions used, and that many possible assumptions were contradictory or highly subjective. Other approaches evaluated included: Factoring in the national average price of electricity; quantifying and comparing the total fuel cycle greenhouse gas emissions from petroleum, and those of electricity generating fuels; and applying an arbitrary scaling factor to the electricity to gasoline conversion. Upon careful examination, each of these approaches was found to have shortcomings of a technical or policy nature, or internal inconsistencies.

In light of the number of criticisms related to the scarcity factor, DOE elected to perform an additional search of the literature regarding reserves of the fuels used to generate electricity. This research led to a very significant conclusion: Although reserves of all fossil fuels are obviously finite, fuels used to produce electricity are in fact widely available from diverse sources at relatively low prices. DOE carefully considered the scarcity of these fuels, as required by Congress, but determined that the fuels used to produce electricity, including renewables, are quite abundant rather than scarce. Thus, scarcity does not appear to be a concern, and should not be a guiding factor in the rulemaking at this time.

DOE then examined existing law (49 U.S.C. 32905 (a) and (c)) that specifies procedures for determining the petroleum-equivalent fuel economy of other types of alternative fuel vehicles. 49 U.S.C. 32905 (a) states that "the fuel economy measured for [post-1992 dedicated alternative fuel vehicles] shall be based on the fuel content of the alternative fuel used to operate the automobile. A gallon of liquid alternative fuel used to operate a dedicated automobile is deemed to contain 0.15 gallon of fuel." Two of the most common liquid alternative fuels are M85 (85 percent methanol and 15 percent unleaded gasoline by volume) and E85 (85 percent ethanol and 15 percent unleaded gasoline by volume). The petroleum equivalent fuel economy of E85 and M85 powered vehicles is then determined by dividing the measured fuel economy value by 0.15.

Section 32905(c) extends this approach to gaseous fueled vehicles, stating that "[t]he fuel economy of dedicated gaseous fueled vehicles shall be based on the fuel content of the gaseous fuel used to operate the automobile. One hundred cubic feet of natural gas is deemed to contain 0.823 gallon equivalent of natural gas. . . . A gallon equivalent of gaseous fuel is deemed to have a fuel content of 0.15 gallon of fuel." Since gaseous fueled vehicles do not store their fuel in liquid form, a conversion factor must be applied to express the volume of gas consumed as an equivalent liquid volume of gasoline. This factor is based on the volume of natural gas that contains the same chemical energy as a gallon of gasoline. To determine the petroleum-equivalent fuel economy of a gaseous fueled vehicle, the vehicle's gaseous fuel consumption is measured directly (for example, in units of miles per 100 standard cubic feet of gas), and then the conversion factor of 0.823 gasoline-equivalent gallons per 100 standard cubic feet of natural gas is applied. Finally, the result is divided by 0.15 to obtain the petroleum equivalent fuel economy.

Unlike the case of M85 and E85 powered vehicles, the factor of 0.15 serves a different function in the case of gaseous fueled vehicles, since natural gas contains no gasoline whatsoever. The true energy efficiency of both liquid and gaseous fueled alternative fuel vehicles is intentionally and substantially overstated by the methods specified in 49 U.S.C. 32905, since only 15 percent of their actual energy consumption is accounted for in determining their petroleum-equivalent fuel economy. The use of the 0.15 factor for both types of vehicles provides a similar regulatory treatment to both types of alternative fuel vehicles.

DOE proposes to use an approach similar to that in 49 U.S.C. 32905 for calculating petroleum-equivalent fuel economy values for electric vehicles. DOE proposes to adopt the 0.15 factor to be applied in a manner similar to that prescribed for natural gas vehicles. This approach has the following advantages:

- (i) It is consistent with existing regulatory and statutory procedures for other types of alternative fuel vehicles,
- (ii) It provides a similar treatment to manufacturers of all types of alternative fuel vehicles, including electric vehicles,
- (iii) It is relatively simple and straightforward to apply, compared to other approaches considered.

C. Test Procedures

The Environmental Protection Agency is responsible for specifying the test procedures and calculations used to derive the fuel economy values to be used in all CAFE determinations. The energy efficiency values used in CAFE calculations are determined using the test cycles commonly referred to as the "city" and "highway" test cycles described in the Environmental Protection Agency's regulations at 40 CFR Parts 86 and 600. The number of replications of these driving cycles needed to adequately determine the energy efficiency of each vehicle will depend upon the type of storage devices (e.g., lead-acid batteries).

The electrical systems of each vehicle may require special tools and/or measuring equipment to satisfactorily measure the energy consumed during testing. The Environmental Protection Agency has promulgated the "Special Test Procedures" provisions of 40 CFR 86.090-27 to accommodate any such special needs.

D. Calculation Procedures

The proposed PEF is conceptually based on the previously described regulatory approach at 49 U.S.C. 32905 (c) for determining the petroleum-equivalent fuel economy of gaseous fueled vehicles. The proposed PEF converts the measured electrical energy consumption of an electric vehicle into a raw gasoline-equivalent fuel economy value, and then divides this value by 0.15 to arrive at a final petroleum-equivalent fuel economy value which may then be included in the calculation of the vehicle manufacturer's corporate average fuel economy. Two additional factors are present in the equation, but these will normally have a value of unity and thus will not influence the value of the PEF in most cases. The terms comprising the PEF and the procedure for applying the PEF are described in greater detail below.

1. General Form of the PEF Equation

The general form of the PEF equation is:

$$\text{PEF} = E_g * 1/0.15 * \text{AF} * \text{DPF}$$

Where:

E_g =Gasoline-equivalent energy content of electricity factor
 $1/0.15$ = "Fuel content" factor
 AF=Petroleum-fueled accessory factor
 DPF=Driving pattern factor

The development of these factors is described below.

2. Gasoline-Equivalent Energy Content of Electricity Factor

When comparing the fuel economy of two gasoline vehicles to one another, it

is sufficient to measure the quantity of fuel consumed and the distance each vehicle can travel on that fuel. Since the same fuel is used to power both vehicles, useful comparisons of the relative energy efficiency of the two vehicles can be made without considering the efficiency of the process of getting the fuel to the vehicles.

When comparing gasoline vehicles with electric vehicles, however, it is essential to consider the efficiency of the respective "upstream" processes in the two fuel cycles. A full description of

the differences in the processes is beyond the scope of this rulemaking, but the critical difference is that a gasoline vehicle burns its fuel on-board the vehicle, and an electric vehicle burns its fuel (the majority of electricity in the U.S. is generated at fossil fuel burning powerplants) off-board the vehicle. In both cases, the burning of fuels to produce work is the least efficient step of the respective energy cycles. If one considers only the energy supplied as gasoline to the gasoline vehicle (from refueling), or as electricity

to the electric vehicle (from recharging), then this inefficient step is counted against the gasoline vehicle but not against the electric vehicle. The result is that the fuel economy of the electric vehicle will be substantially overstated.

For these reasons, the PEF includes a term for expressing the relative energy efficiency of the full energy cycles of gasoline and electricity. This term, the gasoline-equivalent energy content of electricity factor, abbreviated as E_g , is defined as:

$$E_g = \text{gasoline-equivalent energy content of electricity} = \frac{T_g * T_t * C}{T_p}$$

Where:

- T_g =U.S. average fossil-fuel electricity generation efficiency = 0.328
- T_t =U.S. average electricity transmission efficiency = 0.924
- T_p =Petroleum refining and distribution efficiency = 0.830
- C =Watt-hours of energy per gallon of gasoline conversion factor=33,440 Wh/gal

$$E_g = \frac{0.328 * 0.924 * 33440}{0.830}$$

= 12,211 Wh/gal

Note that T_g and T_t are included in order to satisfy a requirement from Congress (49 U.S.C. 32904(a)(2)(B)) as well as for the technical reasons given above.

The derivation of these values is straightforward but lengthy and is therefore not discussed in this notice. Details on the assumptions, calculations, and data sources (primarily monthly and annual statistical reports from the Energy Information Administration) used to derive these values are described in materials contained in Docket No. EE-RM-99-PEF which may be reviewed at the DOE Freedom of Information Reading Room, at the address and times stated in the ADDRESSES section of this notice of proposed rulemaking.

3. "Fuel Content" Factor

The fuel content factor has a value of 1/0.15 and is included in the PEF for the reasons described in section II.B and summarized as follows:

- (i) Consistency with existing regulatory and statutory procedures,
 - (ii) Provision of similar treatment to manufacturers of all types of alternative fuel vehicles,
 - (iii) Simplicity and directness.
- The fuel content factor value of 1/0.15 is equivalent to a multiple of 6.67.

4. Petroleum-Fueled Accessory Factor

Some electric vehicles, particularly those that may be operated in colder climates, may be equipped with auxiliary petroleum-fueled cabin heater/defroster systems. DOE considered the possible use of such petroleum-fueled accessories in the PEF calculations by incorporating an Accessory Factor (AF). This factor has been assigned a usage factor that reduces the PEF by approximately ten percent per accessory, and it is assumed that no vehicle will ever be equipped with more than two such accessories. The majority of electric vehicles are expected to have no petroleum-fueled accessories installed. This results in 3 possible accessory factor values:

Number of petroleum-fueled accessories	Accessory factor (AF)
0	1.00
1	0.90
2	0.81

DOE recognizes that this is a crude accounting of the impact of the petroleum-fueled accessories. However, because this approach penalizes electric vehicles equipped with petroleum-

fueled accessories, it provides an incentive for manufacturers to develop vehicles with more-desirable all-electric climate control systems.

Interested persons should also be aware that the definition of an electric vehicle (Zero Emission Vehicle) codified in 40 CFR Part 88.104(g) places certain restrictions on the fuel, operation, and emissions from fuel fired heaters. The definition of "electric vehicle" in section 474.2 of this part incorporates these restrictions.

5. Driving Pattern Factor

One of the factors that DOE must consider in determining petroleum-equivalent fuel economy values for electric vehicles is the relative driving patterns of electric and petroleum-fueled vehicles (49 U.S.C. 32904(a)(1)(B)(iv)). The purpose of the driving pattern factor (DPF) is to recognize the fact that electric vehicles may be used differently than gasoline vehicles, primarily due to their shorter range and longer "refueling" times. However, existing EPA regulations do not make driving-pattern-based adjustments to the fuel economy of various classes of gasoline vehicles when calculating a manufacturer's CAFE, even though gasoline-powered vehicles are also used in a large variety of different ways. Therefore, DOE proposes that for now the DPF be assigned a value of unity (1.00). The driving pattern factor term would be retained in the PEF equation, however,

to allow this value to be adjusted if doing so is warranted in the future.

6. Use of the PEF

The value of the PEF is equal to the product of the values of the gasoline-equivalent energy content of electricity (E_g), the fuel content factor of 1/0.15, the petroleum-fueled accessory factor (AF), and the driving pattern factor (DPF):

$$PEF = E_g * 1/0.15 * AF * DPF$$

substituting values,

$$PEF = (12,211 \text{ Wh/gal}) * 1/0.15 * (1.00 \text{ or } 0.90 \text{ or } 0.81) * (1.00)$$

or,

$$PEF = 81,407 \text{ Wh/gal} \quad (\text{zero petroleum-fueled accessories})$$

$$PEF = 73,266 \text{ Wh/gal} \quad (\text{one petroleum-fueled accessory})$$

$$PEF = 65,940 \text{ Wh/gal} \quad (\text{two petroleum-fueled accessories})$$

Dividing the PEF by the combined (city and highway) energy consumption of an electric vehicle yields the petroleum-equivalent fuel economy of that electric vehicle in miles per gallon:

$$mpg = PEF \text{ (Wh/gal)} \div \text{combined [electrical] energy consumption (Wh/mile)}$$

Care should be taken to distinguish the assigned petroleum-equivalent fuel economy value from the actual energy-equivalent fuel economy.

7. Sample Calculations

DOE includes sample calculations of the petroleum-equivalent fuel economy of hypothetical electric vehicles in the Appendix of this proposed rule. DOE intends to include these sample calculations as an Appendix to 10 CFR Part 474.

III. Opportunities for Public Comment

A. Participation in Rulemaking

The Department encourages public participation in this rulemaking. Individual vehicle manufacturers, fuel producers and providers, trade groups, associations, vehicle owners and operators, States or other governmental entities, and other affected or interested parties are urged to submit written comments on the proposal.

The Department has established a period of 60 days following publication of this notice for persons to comment on this notice of proposed rulemaking. You may review all public comments and other docket material in the DOE Freedom of Information Reading Room at the address shown at the beginning of this notice. The materials will be filed under docket number EE-RM-99-PEF.

B. Written Comment Procedures

Interested persons and organizations are invited to participate in this

rulemaking by submitting data, views, or comments with respect to the proposed rulemaking. Please provide seven copies of your comments to the address indicated in the ADDRESSES section of this notice. Please include the designation "Inclusion of Electric Vehicles in Corporate Average Fuel Economy Calculation—Notice of Proposed Rulemaking" (Docket No. EE-RM-99-PEF) on the outside of the envelope and on individual documents submitted. DOE will consider all timely-submitted comments and other relevant information before issuing a final rule.

If you are submitting information you believe to be confidential and that may be exempt by law from public disclosure, you should submit one complete copy along with three copies from which you have removed the confidential information. DOE will make its own determination regarding any claim that information submitted be exempt from public disclosure. Our procedures regarding confidential information are in 10 CFR Part 1004.11.

C. Public Hearing

1. Request To Speak Procedures

The time and place of the public hearing are indicated in the DATES and ADDRESSES sections of this notice. The Department invites any person or organization having an interest in the proposed rulemaking to request to make an oral presentation. Your request should be directed to DOE at the address indicated in the ADDRESSES section of this notice. You should bring seven copies of your statement to the hearing. In the event that you cannot provide seven copies, contact Ms. Kasarsky at the number indicated in the ADDRESSES section in advance of the hearing to make alternative arrangements.

2. Conduct of the Hearing

DOE will designate an official to preside at the hearing. This will not be an evidentiary or judicial-type hearing but will be conducted in accordance with 5 U.S.C. 553 and section 501 of the Department of Energy Organization Act, 42 U.S.C. 7191. Only those conducting the hearing may ask questions. At the conclusion of all initial oral statements, each person who has made an oral statement will be given the opportunity, if he or she so desires, to make a rebuttal or clarifying statement. The statements will be given in the order in which the initial statements were made and will be subject to time limitations.

DOE will prepare a transcript of the hearing. DOE will retain the transcript and other records of this rulemaking

and make them available for public inspection at the DOE Freedom of Information Reading Room as provided at the beginning of this notice. Any person may purchase a copy of the transcript from the transcribing reporter.

The presiding officer will announce any further procedural rules needed for the proper conduct of the hearing.

IV. Procedural Requirements

A. Environmental Protection Agency Review

Pursuant to section 7(a) of the Federal Energy Administration Act of 1974 (15 U.S.C. 766(a)), DOE submitted a copy of this notice to the Administrator of the Environmental Protection Agency for the Administrator's concurrence. The Administrator has concurred.

B. National Environmental Policy Act Review

This rulemaking has been reviewed in accordance with the requirements of the DOE National Environmental Policy Act Final Rule as published in 10 CFR Part 1021. This rulemaking amends 10 CFR Part 474 so that electric vehicles receive similar treatment to what Congress has required for other alternative fuel vehicles under 49 U.S.C. 32905. The Department has determined that this rule is covered by Categorical Exclusion in paragraph A5 to subpart D, 10 CFR Part 1021 (rulemaking, interpreting or amending an existing regulation, no change in environmental effect). Accordingly, neither an Environmental Assessment or an Environmental Impact Statement is required.

C. Regulatory Review

Today's proposed rule has been determined not to be a "significant regulatory action," as defined in section 3(f) of Executive Order 12866, "Regulatory Planning and Review." 58 FR 51735 (October 4, 1993). Accordingly, this action was not subject to review under the Executive Order by the Office of Information and Regulatory Affairs in the Office of Management and Budget.

D. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601-612) requires that an agency prepare an initial regulatory flexibility analysis to be published at the time the proposed rule is published. This requirement (which appears in section 603) does not apply if the agency certifies that the rule will not, if promulgated, have a "significant economic impact on a substantial number of small entities."

DOE certifies that this action will not have a significant economic impact on

a substantial number of small entities. It is directed at vehicle manufacturers that will be concerned with a mix of petroleum and electric fueled vehicles in their annual production. None of these manufacturers is a small entity.

E. Federalism Review

Executive Order 12612 (52 FR 41685, October 30, 1987) requires that regulations or rules be reviewed for any substantial direct effects on States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among various levels of government. If there are sufficient substantial direct effects, then Executive Order 12612 requires preparation of a federalism assessment to be used in all decisions involved in promulgating such a regulation or rule.

This action and 10 CFR Part 474 serve only to provide a method of interpreting 40 CFR Part 600 (Fuel Economy of Motor Vehicles) for electric vehicles. The action does not involve any substantial direct effects on States or other considerations stated in Executive Order 12612. Hence, no federalism assessment is required.

F. "Takings" Assessment Review

It has been determined that pursuant to Executive Order 12630 (52 FR 8859, March 18, 1988), this proposed regulation, if adopted, would not result in any takings which might require compensation under the Fifth Amendment to the United States Constitution.

G. 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 section 3(a), section 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 section 3(a) and section 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that, to the extent permitted by law, this proposed rule meets the relevant standards of Executive Order 12988.

H. Review Under the Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4) requires each Federal agency to prepare a written assessment of the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million in any one year. The Act also requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and tribal governments on a proposed "significant intergovernmental mandate," and requires an agency plan for giving notice and opportunity to timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect small governments. The proposed rule published today does not contain any Federal mandate, so these requirements do not apply.

I. Review Under the Treasury and General Government Appropriations Act, 1999

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. No. 105-277) requires Federal agencies to issue a Family Policymaking Assessment for any proposed rule or policy that may affect family well-being. Today's proposal would 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.

The notice of proposed rulemaking published in the **Federal Register** on February 4, 1994 (59 FR 5336) is withdrawn as of July 14, 1999.

List of Subjects in 10 CFR Part 474

Electric power, Energy conservation, Motor vehicles, Research.

Issued in Washington, DC, on June 10, 1999.

Dan W. Reicher,

Assistant Secretary, Energy Efficiency and Renewable Energy.

For the reasons set forth in the preamble, DOE proposes to revise Part 474 of Chapter II of Title 10 of the Code of Federal Regulations as set forth below:

PART 474—ELECTRIC AND HYBRID VEHICLE RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAM; PETROLEUM-EQUIVALENT FUEL ECONOMY CALCULATION

Sec.

474.1 Purpose and scope.

474.2 Definitions.

474.3 Petroleum-equivalent fuel economy calculation.

474.4 Test procedures.

474.5 Review and update.

Appendix to Part 474—Sample Petroleum-Equivalent Fuel Economy Calculations

Authority: 49 U.S.C. 32901 *et seq.*

§ 474.1 Purpose and scope.

This part contains procedures for calculating a value for the petroleum-equivalent fuel economy of electric vehicles, as required by 49 U.S.C. 32904(a)(2). The petroleum-equivalent fuel economy value is intended to be used by the Environmental Protection Agency in calculating corporate average fuel economy values pursuant to regulations at 40 CFR Part 600—Fuel Economy of Motor Vehicles.

§ 474.2 Definitions.

For the purposes of this part, the term: *Combined energy consumption value* means the weighted average of the Urban Dynamometer Driving Schedule and the Highway Fuel Economy Driving Schedule energy consumption values (weighted 55% / 45%, respectively), as determined by the Environmental Protection Agency in accordance with 40 CFR Parts 86 and 600.

Electric vehicle means a vehicle that is powered by an electric motor drawing current from rechargeable storage batteries or other portable electrical energy storage devices, provided that:

(1) Recharge energy must be drawn from a source off the vehicle, such as residential electric service; and
(2) The vehicle must comply with all provisions of the Zero Emission Vehicle definition found in 40 CFR 88.104(g).

Highway Fuel Economy Driving Schedule energy consumption value means the average number of watt-hours of electrical energy required for an electric vehicle to travel one mile of the Highway Fuel Economy Driving Schedule, as determined by the Environmental Protection Agency.

Petroleum equivalency factor means the value specified in section 474.3(b), which incorporates the parameters listed in 49 U.S.C. 32904(a)(2)(B) and is used to calculate petroleum-equivalent fuel economy.

Petroleum-equivalent fuel economy means the value, expressed in miles per gallon, that is calculated for an electric vehicle in accordance with § 474.3(a), and reported to the Administrator of the Environmental Protection Agency for use in determining the vehicle manufacturer's corporate average fuel economy.

Petroleum-powered accessory means a vehicle accessory (e.g., a cabin heater, defroster, and/or air conditioner) that:

- (1) Uses gasoline or diesel fuel as its primary energy source; and
- (2) Meets the requirements for fuel, operation, and emissions in 40 CFR 88.104(g).

Urban Dynamometer Driving Schedule energy consumption value means the average number of watt-hours of electrical energy required for an electric vehicle to travel one mile of the Urban Dynamometer Driving Schedule, as determined by the Environmental Protection Agency.

§ 474.3 Petroleum-equivalent fuel economy calculation.

(a) The petroleum-equivalent fuel economy for an electric vehicle is calculated as follows:

(1) Determine the electric vehicle's Urban Dynamometer Driving Schedule energy consumption value and the Highway Fuel Economy Driving Schedule energy consumption value in units of watt-hours per mile;

(2) Average the Urban Dynamometer Driving Schedule energy consumption value and the Highway Fuel Economy Driving Schedule energy consumption value using a weighting of 55% urban/45% highway to determine the combined energy consumption value of the electric vehicle in units of watt-hours per mile; and

(3) Calculate the petroleum-equivalent fuel economy by dividing the appropriate petroleum equivalency factor for the number of petroleum-powered accessories installed (see paragraph (b) of this section) by the combined energy consumption value, and round to the nearest 0.01 miles per gallon.

(b) The petroleum-equivalency factors for electric vehicles are as follows:

(1) If the electric vehicle does not have any petroleum-powered accessories installed, the value of the petroleum equivalency factor is 81,407 watt-hours per gallon.

(2) If the electric vehicle has one petroleum-powered accessory installed,

the value of the petroleum equivalency factor is 73,266 watt-hours per gallon.

(3) If the electric vehicle has two petroleum-powered accessories installed, the value of the petroleum equivalency factor is 65,940 watt-hours per gallon.

§ 474.4 Test procedures.

(a) The electric vehicle energy consumption values used in the calculation of petroleum-equivalent fuel economy under § 474.3 will be determined by the Environmental Protection Agency using the Highway Fuel Economy Driving Schedule and Urban Dynamometer Driving Schedule test cycles at 40 CFR parts 86 and 600.

(b) The "Special Test Procedures" provisions of 40 CFR 86.090-27 may be used to accommodate any special test procedures required for testing the energy consumption of electric vehicles.

§ 474.5 Review and update.

The Department will review this part [five years after the date of publication as a final rule] to determine whether any updates and/or revisions are necessary. The Department will publish the results of this review in the **Federal Register**.

Appendix to Part 474—Sample Petroleum-Equivalent Fuel Economy Calculations

Example 1:

An electric vehicle is tested in accordance with Environmental Protection Agency procedures and is found to have an Urban Dynamometer Driving Schedule energy consumption value of 265 watt-hours per mile and a Highway Fuel Economy Driving Schedule energy consumption value of 220 watt-hours per mile. The vehicle is not equipped with any petroleum-powered accessories. The combined electrical energy consumption value is determined by averaging the Urban Dynamometer Driving Schedule energy consumption value and the Highway Fuel Economy Driving Schedule energy consumption value using weighting factors of 55% urban, and 45% highway:

Combined electrical energy consumption value = (0.55 * urban) + (0.45 * highway)
= (0.55 * 265) + (0.45 * 220) = 244.75 Wh/mile

Since the vehicle does not have any petroleum-powered accessories installed, the value of the petroleum equivalency factor is 81,407 watt-hours per gallon, and the petroleum-equivalent fuel economy is:
(81,407 Wh/gal) ÷ (244.75 Wh/mile) = 332.61 mpg

Example 2:

The vehicle from Example 1 is equipped with an optional diesel-fired cabin heater/defroster. For the purposes of this example, it is assumed that the electrical efficiency of the vehicle is unaffected.

Since the vehicle has one petroleum-powered accessory installed, the value of the

petroleum equivalency factor is 73,266 watt-hours per gallon, and the petroleum-equivalent fuel economy is:

(73,266 Wh/gal) ÷ (244.75 Wh/mile) = 299.35 mpg

[FR Doc. 99-17786 Filed 7-13-99; 8:45 am]

BILLING CODE 6450-01-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 98-NM-381-AD]

RIN 2120-AA64

Airworthiness Directives; McDonnell Douglas Model DC-9, DC-9-80, and C-9 (Military) Series Airplanes, and Model MD-88 Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to certain McDonnell Douglas Model DC-9, DC-9-80, and C-9 (military) series airplanes, and Model MD-88 airplanes. This proposal would require a one-time inspection to determine the type of engine ignition switch installed in the hinged forward overhead switch panel, and replacement of certain rotary ignition switches with new design rotary ignition switches. This proposal is prompted by reports of smoke in the flight compartment during engine ignition selection. The actions specified by the proposed AD are intended to prevent an internal electrical short in the engine ignition switch, which could result in smoke in the flight compartment.

DATES: Comments must be received by August 30, 1999.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 98-NM-381-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Boeing Commercial Aircraft Group, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Technical Publications Business Administration,