

# Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

## DEPARTMENT OF ENERGY

### Office of Energy Efficiency and Renewable Energy

#### 10 CFR Part 490

[Docket No. EE-RM-02-200]

#### Alternative Fuel Transportation Program; Fischer-Tropsch Diesel Fuels

**AGENCY:** Office of Energy Efficiency and Renewable Energy, Department of Energy.

**ACTION:** Notice of public workshop, document availability, and opportunity for comment.

**SUMMARY:** The Department of Energy (DOE) announces a public workshop to discuss whether Fischer-Tropsch diesel (FTD) fuels meet the energy security and environmental criteria of the Energy Policy Act of 1992 (EPAct) and to resolve a number of technical and EPAct implementation issues relating to this fuel. DOE has prepared an analysis, "Discussion of Issues Pertinent to Rulemaking to Designate FTD Fuels as Alternative Fuel Under Section 301(2) of the Energy Policy Act of 1992," that summarizes the various issues related to evaluation of FTD fuels against the EPAct criteria. DOE encourages interested parties to respond to these questions and submit related analysis and data as requested in the document in the form of written comments, which will be discussed at the workshop. The discussion paper finds that there is a basis for designating certain FTD fuels as alternative fuels, but identifies a number of outstanding questions and data gaps.

**DATES:** To be considered at the workshop, comments must be received by October 10, 2002. The public workshop will be held in Washington, DC, beginning at 9:30 a.m. on October 16, 2002.

Requests to speak at the workshop and a copy of your statement must be received no later than 4 p.m., October 1, 2002. We request that you also provide

an e-mail of your statement by October 8, 2002.

All comments on the discussion paper and workshop must be received by November 15, 2002.

**ADDRESSES:** The workshop will begin at 9:30 a.m., on October 16, 2002, in Room 1E-245 at the U.S. Department of Energy, Forrestal Building, 1000 Independence Avenue, SW, Washington, DC 20585-0121. Submit written comments, oral statements, and requests to speak at the workshop to Linda Bluestein, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Office of FreedomCAR and Vehicle Technologies, Docket No. EE-RM-02-200, EE-2G, 1000 Independence Avenue, SW, Washington, DC 20585-0121. You may send e-mail to: [linda.bluestein@ee.doe.gov](mailto:linda.bluestein@ee.doe.gov).

Copies of the discussion paper and related DOE laboratory analyses, petitions, and any public comments can be found at the website address [http://www.ott.doe.gov/epact/fuel\\_pet.shtml](http://www.ott.doe.gov/epact/fuel_pet.shtml). You 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. To request a copy of the discussion paper or to arrange on-site access to paper copies or other information in the docket at the Office of FreedomCAR and Vehicle Technologies, contact Linda Bluestein at the phone number or e-mail address below.

**FOR FURTHER INFORMATION CONTACT:** Linda Bluestein on (202) 586-9171, or [linda.bluestein@ee.doe.gov](mailto:linda.bluestein@ee.doe.gov).

#### SUPPLEMENTARY INFORMATION:

##### I. Introduction

##### a. Determination Criteria for Alternative Fuel Designation

Title III, section 301(2) of EPAct includes the definition of "alternative fuel." That definition states: "Alternative fuel" means methanol, denatured ethanol, and other alcohols; mixtures containing 85 percent or more (or such other percentage, but not less than 70 percent, as determined by the Secretary, by rule, to provide for

requirements related to cold start, safety, or vehicle functions) by volume of methanol, denatured ethanol, and other alcohols with gasoline or other fuels; natural gas, including liquid fuels domestically produced from natural gas; liquefied petroleum gas; hydrogen; coal-derived liquid fuels; fuels (other than alcohol) derived from biological materials; electricity (including electricity from solar energy); and *any other fuel the Secretary determines, by rule, is substantially not petroleum, and would yield substantial energy security benefits and substantial environmental benefits.*" [Emphasis added.] The emphasized portion of that definition states the minimum procedural and substantive requirements for adding a new fuel to the list of fuels enumerated or implicitly covered by the provisions of section 301(2). As part of the Consolidated Appropriations Act (Pub. L. 106-554), section 301(2) of the Energy Policy Act of 1992 (Pub. L. 102-486); 42 U.S.C. 13211(2) was amended by inserting, "including liquid fuels domestically produced from natural gas" after "natural gas."

DOE has conducted technical analyses to help make a determination as to whether certain non-domestically produced FTD fuels meet the requirements as an "alternative fuel" under EPAct, and to resolve a number of technical issues relating to DOE's understanding of how these fuels might satisfy EPAct requirements. This notice of DOE's discussion paper and upcoming workshop constitutes the next step in the technical review which will lead to making that determination by way of a notice of proposed rulemaking.

##### b. Petitions To Designate Fischer-Tropsch Diesel

The action DOE is undertaking is partly in response to three petitions DOE has received for a rulemaking to consider adding FTD fuels to the definition of "alternative fuels" under the Alternative Fuel Transportation Program (Program) regulations (10 CFR part 490). These petitions have been submitted by MossGas (PTY) Limited, Syntroleum Corporation, and Rentech, Inc. Fischer-Tropsch diesel fuel is diesel fuel made from natural gas or other carbon-bearing feedstocks using the Fischer-Tropsch process. The three petitioners are proposing that their FTD

fuels be added to the definition of "alternative fuel" because the fuel conforms to the requirement of being substantially not petroleum and yielding substantial energy security and environmental benefits. [Note: By rule, effective June 16, 1999, DOE added three specific blends of methyltetrahydrofuran, ethanol, and hydrocarbons known as "P-series" fuels to the definition of alternative fuel, 64 FR 26822, May 17, 1999.]

## II. Technical Review

DOE has had national laboratory contractors conduct a technical review of pertinent issues regarding FTD fuel, including review of the three petitions. This technical review involved independent verification and findings related to the claims made in these petitions about FTD fuel in the following areas: (1) Whether the fuel is substantially not petroleum; (2) whether the fuel would yield substantial energy security benefits; and (3) whether the fuel would yield substantial environmental benefits. In addition to the FTD discussion paper, technical support documents by DOE laboratories and contractors are available in the docket for review and comment.

## III. Generic Designation

DOE is interested in promulgating a non-company specific, or generic, designation for FTD fuels. Therefore, information and data from the individual petitions are being viewed in aggregate, along with other industry data, engineering analyses, and other analysis. After completion of its technical review, if it is determined FTD fuels meet the EPCA section 301(2) criteria, DOE by rule would add any non-domestically produced FTD fuels to the list of "alternative fuels" under the Program. Should non-domestic FTD fuels fail to meet the criteria, they would not be considered as "alternative fuels" under the Program.

## IV. Explanation of FTD Fuels

FTD fuels are made from carbon-bearing feedstocks (such as natural gas or coal) using the Fischer-Tropsch process. The resulting diesel fuel is essentially sulfur-free and can be used in any diesel vehicle without modification.

The Fischer-Tropsch process for producing diesel fuel can be separated into three main parts: the production of synthesis gas from the main feedstock; the catalytic reaction which converts the synthesis gas into hydrocarbon components; and the refining of these hydrocarbon components into diesel fuel. Production of synthesis gas is

accomplished by reforming the feedstock through partial oxidation reforming, autothermal reforming, or steam reforming. Autothermal reforming can be done with the use of ambient air, enriched air, or pure oxygen.

The catalytic reaction converting synthesis gas into liquid hydrocarbons is performed by reacting the synthesis gas in the presence of an iron or cobalt catalyst. The end products of the catalytic reaction are long-chain hydrocarbons, which can then be refined using conventional refinery techniques into FTD fuels.

The main chemical processes of the Fischer-Tropsch method are exothermic and produce waste heat. This waste heat can be radiated to the surrounding environment or can be used to produce steam, either for resale to local electricity generation plants or for the direct generation of electricity at the Fischer-Tropsch plant.

All three of the petitioning companies use (or plan to use) natural gas as the main feedstock for the production of Fischer-Tropsch diesel. Rentech is also examining the possibility of using coal as an alternate feedstock, and states that petroleum refinery bottoms can also be used. The Syntroleum autothermal reformer uses ambient air to produce synthesis gas, while the Mossgas process uses a combination of steam reforming and oxygen-fired secondary reforming to produce synthesis gas. Rentech calls for either partial oxidation reforming or autothermal reforming, depending on the feedstock used (coal would require the use of partial oxidation reforming), and use of pure oxygen. Both Rentech and Mossgas use iron catalysts in producing the heavy hydrocarbons from synthesis gas, while Syntroleum is using a proprietary cobalt-based catalyst. For the purposes of determining whether to designate FTD fuels, DOE is looking specifically at natural gas as the feedstock to be used in production of the fuels.

Issues related to production, energy use, and greenhouse gas emissions from processing FTD fuels are included in the discussion paper at the website address listed above. DOE believes that FTD fuels have potential to offer substantial environmental benefits if greenhouse gas emissions are not increased substantially and some other environmental issues are addressed.

## V. Issues Related to FTD Fuels

DOE seeks comment on the following issues that may be relevant to any future DOE decision to propose the designation of non-domestically produced Fischer-Tropsch diesel fuel made from natural gas as an alternative

fuel under the Alternative Fuel Transportation Program. (These questions are posed in the context of the FTD discussion paper. It is recommended that interested parties intending to submit comments or participate in the workshop read the FTD discussion paper at the website address [http://www.ott.doe.gov/epact/fuel\\_pet.shtml](http://www.ott.doe.gov/epact/fuel_pet.shtml) to better understand the questions below:)

1. How should DOE define natural gas-based diesel fuels, and particularly FTD fuels, if designation is ultimately limited to that process?

2. DOE requests comments on analysis provided by the Argonne National Laboratory (ANL) and the National Renewable Energy Laboratory (NREL), which will be used for making a determination regarding designation of FTD fuels. DOE also requests that interested parties submit any additional emissions data not cited in the NREL report.

3. Should DOE set process energy use limits in its EPCA designation process to ensure that qualifying FTD fuels provide substantial energy security benefits? If so, which levels are appropriate?

4. How should DOE balance its determinations about designating fuels if the fuels provide substantial benefits in some areas with regard to section 301(2) criteria, while being a slight detriment to others (e.g., positive attributes regarding criteria pollutants versus a slight increase in greenhouse gas emissions)? Is such an approach desirable?

5. DOE requests comments on findings in NREL's report about NO<sub>x</sub> emissions benefits of 6–20 percent (compared to post-2006 diesel fuels) related to control of fuel aromatic content and cetane number. Should these benefits be considered "substantial" with regard to section 301(2) criteria?

6. DOE is seeking additional data on actual test and control fuels for FTD when used in later-model diesel engines to gauge how fuel composition affects emissions from these engines.

7. What parameters should be set for aromatics, cetane, sulfur, and other standards to assure emissions reductions based on NREL's findings or other sources of information? Also, will FTD fuels in the lower end of the aromatics range result in materials compatibility problems and should polyaromatic content be included in addition to, or in lieu of, a limit on total aromatics? Should paraffin content be used to assure emissions reductions, and if so, do both normal- and iso-paraffin content need to be specified?

8. There are various ways DOE might designate fuels with relation to greenhouse gas (GHG) emissions. The discussion paper located at the website address listed above suggests three such ways to view this question. DOE requests comments on which option would be most appropriate, and what levels of GHG emissions should be set if a particular option is chosen.

9. DOE seeks any information and data collected about toxicity issues and ecotoxicity/biodegradability issues related to FTD.

10. DOE requests comments on limiting oxygenated compounds in FTD fuels or suggestions on alternative approaches. Possibilities are outlined in the discussion paper.

11. Are any of FTD fuels' characteristics sufficiently unique to justify inclusion of specific additives to assure that inherent environmental benefits are not degraded or negated due to negative impacts on engine components or emission control systems?

12. Are there other issues that DOE should consider related to Fischer-Tropsch diesel fuel production and use relative to its possible designation as an alternative fuel?

## VI. Public Comment

### A. Written Comment Procedures

The Department invites interested persons to participate in DOE's technical review of FTD fuels by submitting data, comments, or information with respect to the proposed issues set forth in the FTD discussion paper and subsequent workshop to Linda Bluestein, at the address indicated at the beginning of this notice. We will consider all submissions received by the date specified at the beginning of this notice.

Pursuant to the provisions of 10 CFR 1004.11, anyone submitting information or data that he or she believes to be confidential and exempt by law from public disclosure should submit one complete copy of the document, as well as two copies, if possible, from which the information has been deleted. The DOE will make its determination as to the confidentiality of the information and treat it accordingly.

### B. Public Workshop

#### 1. Attendance at Workshop

You will find the time and place of the public workshop listed at the beginning of this notice. If you would like to attend the public workshop, please notify Linda Bluestein at (202) 586-9171. Please note that foreign nationals visiting DOE Headquarters are

subject to advance security screening procedures. If you are a foreign national and wish to participate in the workshop, please inform DOE of this fact as soon as possible by contacting Linda Bluestein at (202) 586-9171 so that the necessary procedures can be completed.

#### 2. Procedures for Submitting Requests to Speak

The Department invites any person who has an interest in FTD fuels, or who is a representative of a group or class of persons that has an interest in these issues, to make a request for an opportunity to make an oral presentation. The person making the request should state why he or she, either individually or as a representative of a group or class of persons, is an appropriate spokesperson. Please also briefly describe the nature of the interest in the rulemaking and provide a telephone number and e-mail address for contact. You may hand-deliver speaking requests to the address indicated at the beginning of this notice between the hours of 8 a.m. and 4 p.m., Monday through Friday, except Federal holidays. You may also send requests by mail or e-mail to [linda.bluestein@ee.doe.gov](mailto:linda.bluestein@ee.doe.gov).

The Department requests that each person wishing to speak submit an advance copy of his or her statement no later than 4 p.m., October 1, 2002. DOE requests that a copy of your statement also be e-mailed by October 8, 2002. The Department, at its discretion, may permit any person wishing to speak who cannot meet this requirement to participate if that person has made alternative arrangements with the Office of FreedomCAR and Vehicle Technologies in advance. The letter making a request to give an oral presentation must ask for such alternative arrangements. DOE's panel will read statements in advance of the hearing. Speakers should limit their oral presentations to 10 minutes and should specifically address DOE's technical questions (in this notice and the discussion paper) and other issues included in the rulemaking discussion paper.

#### 3. Conduct of Workshop

The workshop will be conducted in an informal, conference style. The Department may use a professional facilitator to facilitate discussion, and a court reporter will be present to record the transcript of the meeting. We will present at the workshop information about DOE's review process, technical analyses to date, and summaries of comments received before the workshop. DOE will also allow time for

presentations by workshop participants, and encourage all interested parties to share their views on issues affecting DOE's potential determination to designate the candidate fuel. Attendees will have an opportunity to ask questions. Following the workshop, interested parties will have an opportunity to comment on the proceedings at the workshop and the FTD discussion paper. All comments must be received by November 15, 2002.

The Department will make the entire record of this notice available on the website at [http://www.ott.doe.gov/epact/fuel\\_pet.shtml](http://www.ott.doe.gov/epact/fuel_pet.shtml). The transcript will be available for inspection at DOE's Headquarters in Washington, DC. Inspection of the transcript may be arranged by contacting Linda Bluestein at (202) 586-9171.

Issued in Washington, DC, on September 4, 2002.

**David K. Garman,**

*Assistant Secretary, Energy Efficiency and Renewable Energy.*

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 2001-SW-44-AD]

RIN 2120-AA64

#### Airworthiness Directives; Robinson Helicopter Company Model R22 Helicopters

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This document proposes adopting a new airworthiness directive (AD) for Robinson Helicopter Company (RHC) Model R22 helicopters. The AD would require inspecting the pitch control assembly for roughness or binding of the pitch control bearings (bearings) by hand-rotating the pitch control bearing housing (housing). If the housing does not rotate freely, the proposed AD would require replacing the unairworthy pitch control assembly with an airworthy unit. This proposal is prompted by reports of failure of the tail rotor assembly due to improperly lubricated bearings on the RHC Model R22 and R44 helicopters. The actions specified by the proposed AD are intended to detect corrosion of the bearings and prevent bearing failure, breakup of the tail rotor assembly, tail