EPA-AA-TEB-511-81-9

EPA Evaluation of the Petromizer System Device Under Section 511 of the Motor Vehicle Information and Cost Savings Act

by

Edward Anthony Barth

May, 1981

Test and Evaluation Branch
Emission Control Technology Division
Office of Mobile Source Air Pollution Control
U.S. Environmental Protection Agency

6560-26

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 610]

[FRL _____]

FUEL ECONOMY RETROFIT DEVICES

Announcement of Fuel Economy Retrofit Device Evaluation for "PETROMIZER SYSTEM"

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of Fuel Economy Retrofit Device Evaluation.

SUMMARY: This document announces the conclusions of the EPA evaluation of the "PETROMIZER SYSTEM" device under provisions of Section 511 of the Motor Vehicle Information and Cost Savings Act.

BACKGROUND INFORMATION: Section 511(b)(1) and Section 511(c) of the Motor Vehicle Information and Cost Savings Act (15 U.S.C. 2011(b)) requires that:

(b)(1) "Upon application of any manufacturer of a retrofit device (or prototype thereof), upon the request of the Federal Trade Commission pursuant to subsection (a), or upon his own motion, the EPA Administrator shall evaluate, in accordance with rules prescribed under subsection (d), any retrofit device to determine whether the retrofit device increases fuel economy and to determine whether the representations (if any) made with respect to such retrofit devices are accurate."

(c) "The EPA Administrator shall publish in the Federal Register a summary of the results of all tests conducted under this section, together with the EPA Administrator's conclusions as to -

(1) the effect of any retrofit device on fuel economy;

(2) the effect of any such device on emissions of air pollutants; and

(3) any other information which the Administrator determines to be relevant in evaluating such device."

EPA published final regulations establishing procedures for conducting fuel economy retrofit device evaluations on March 23, 1979 [44 FR 17946].

ORIGIN OF REQUEST FOR EVALUATION: On January 13, 1981, the EPA received a request from Chandler Associates, Inc. for evaluation of a fuel saving device termed "PETROMIZER SYSTEM". This Device is claimed "... to better control exhaust emissions and increase the miles per gallon of automobile engines. This device consists of two units (1) a carburetor base plate adapter which admits additional air and swirls the air-fuel mixture and (2) a fuel line diverter valve to regulate fuel pressure.

Availability of Evaluation Report: An evaluation has been made and the results are described completely in a report entitled: "EPA Evaluation of the PETROMIZER SYSTEM Device Under Section 511 of the Motor Vehicle Information and Cost Savings Act," report number EPA-AA-TEB-511-81-9 consisting of 24 pages including all attachments.

Copies of these reports may be obtained from the National Technical Information Center by using the above report numbers. Address requests to:

National Technical Information Center
U.S. Department of Commerce
Springfield, VA 22161
Phone: Federal Telephone System (FTS) 737-4650
Commercial 703-487-4650

Summary of Evaluation

EPA fully considered all of the information submitted by the Device manufacturer in the application. The evaluation of the "PETROMIZER SYSTEM" device was based on that information. The Applicant submitted the request for evaluation three times. The first and second applications were returned to the Applicant because to honor the confidentiality statements contained in the application would have precluded EPA from conducting a complete evaluation and making it available to the public as required by the Motor Vehicle Information and Cost Savings Act.

The Applicant submitted a third application for evaluation that contained no confidentiality restrictions. However, the Applicant submitted no valid test data to support the claims for increased fuel economy. The Applicant had been advised by letter on several occasions of EPA's requirement that Applicants submit valid test data following the proper EPA test procedures.

Since the Applicant was unable to provide the required test data, the Applicant requested the application be returned. The Applicant stated they would attempt to obtain the required information at a later date and would resubmit the more complete application at some future date. The Applicant was advised that EPA was still required to complete the evaluation based on the available information and publish the results.

Therefore, based on the information provided by the Applicant, there was no technical basis to support any claims for a fuel economy improvement or emissions reduction with the "PETROMIZER SYSTEM."

FOR FURTHER INFORMATION CONTACT: Merrill W. Korth, Emission Control Technology Division, Office of Mobile Source Air Pollution Control, Environmental Protection Agency, 2565 Plymouth Road, Ann Arbor, Michigan 48105, 313-668-4299.

Date

Edward F. Tuerk
Acting Assistant Administrator
for Air, Noise, and Radiation

EPA Evaluation of the PETROMIZER SYSTEM Device under Section 511 of the Motor Vehicle Information and Cost Savings Act

The following is a summary of the information on the device as supplied by the Applicant and the resulting EPA analysis and conclusions.

1. Marketing Identification of the Device:

PETROMIZER SYSTEM Trade Mark

2. Inventor of the Device and Patents:

A. Inventor

"A patent application is filed and is pending. The owner of the patent rights is"

Chandler Associates, Inc.
1730 K Street, N. W., Suite 1302
Washington, D.C. 20006

B. Patent

"Until the U. S. Patent Office allows the claim made, Chandler Associates, Inc. declines to submit this data to protect its patent rights. The device is described in item 7 herein."

3. Manufacturer of the Device:

"The proto-type has been manufactured by Chandler Associates, Inc., the owner of patent rights. It is contemplated that large scale manufacturing will be accomplished by licensing several well established manufacturers of carburetors and/or other auto parts."

4. Manufacturing Organization Principals:

"Not Applicable."

5. Marketing Organization in U.S. making Application:

Chandler Associates, Inc.
1730 K Street, N. W., Suite 1302
Washington, D.C. 20006
Telephone (202) 785-5025

6. Applying Organization Principals:

President:	Charles R. Chandler
Vice President:	A. Robert Verna, Jr.
Secretary/Treasurer	Arthur H. Berndtson

"Any of the three individuals named above are authorized to represent Chandler Associates, Inc. with EPA. Mr. Chandler is the primary contact."

7. Description of Device:

A. Purpose of the Device (as supplied by Applicant):

"The purpose of the device is to better control exhaust emissions and to increase the mileage per gallon of automobile engines. The device is designed to provide a more precise measure of fuel to the conventional carburetor, then to optimize the fuel-air ratio at varying speeds and finally to provide an optimum fuel-air mixing in the intake manifold for more efficient combustion in the cylinders."

B. Theory of Operation (as supplied by Applicant):

"The invention is a modification of any conventional automobile (or other) gasoline engine.

"Two expedients are used, in combination, to economize the gasoline consumption.

"On the one hand, the carburetor is spaced from the intake manifold by an economizer plate which is provided with means to admit a speed-dependent metered amount of air to the air-fuel mixture passages and by a swirl plate to swirl the air-fuel mixture.

"On the other hand, the fuel line leading to the carburetor from the fuel pump is provided with a diverter valve which permits excess fuel to return to the gasoline tank.

"The increased economy of fuel usage when these two expedients are used jointly is unexpectedly and substantially larger than that which could be attributed to the summation of the individual effects of the two expedients, used alone.

"The carburetor economizer plate invention differs from all other carburetor economizers because it employs a vacuum principal [sic] (a varying venturi effect vacuum) which is contrary to conventional knowledge about the vacuum phenomenon in carburetor barrels. Further, the unique swirl plate produces a more perfect fuel-air mixture in the manifold than any other device. The resultant pressure balance when matched with the unique diverter valve in the fuel line results in a synergistic fuel economy.

"Also of importance is the substantial reduction of excess, undesirable exhaust gases, as a result of the more perfect fuel-air mixture and combustion in the engine. Further, it has been noted that the spark plugs and valves remain remarkably clean with invention functioning."

C. Detailed Description of Construction (as supplied by Applicant):

"For detailed description of construction see Detailed Description, Appendix A hereto and The Drawings page 1, and Figures 1 thru 5, extracts from patent application attachment

(Form NBS 1019)". Appendix A was the patent application. It was not included as an attachment to this evaluation since (1) the Applicant notified EPA that the Applicant was unable to supply the required valid test data, (2) requested the Application be withdrawn, and (3) requested that the copies of the pending patent be returned.

8. Applicability of the Device (as supplied by Applicant):

"The device is applicable to all gasoline internal combustion engines with conventional carburetors currently in use. The proto-type installation is in a stock 1980 Dodge Mirada with a 318-V8, 2 barrel carburetor engine with automatic transmission, full power accessory package and factory air conditioning. Variations necessary for other engines would be dependent on the configuration of the interface between the carburetor and the intake manifold."

9. Device Installation - Tools and Expertise Required (as supplied by Applicant):

A. "General Instructions are contained in pages A1 thru A4 of Appendix A hereto." Appendix A is not included. See comments in Section 7C.

B. "Specific instructions are not required for individual vehicle make/model/year/engine/etc. except possibly for a modification of external carburetor linkages in some cases because of the thickness of the economizer spacer plate. Preparation of installation kits could alleviate such problems."

C. "Tools normal to any reasonably well equipped automotive shop are adequate for the installation."

D. "Equipment normal to any reasonably well equipped automotive shop are adequate to check the accuracy of the installation."

E. "After installation the engine should be tuned to the vehicle manufacturers specifications, or to the optimum timing as indicated by an electronic diagnostic system, if available."

F. "A journeyman automobile mechanic can be expected to have the necessary skills associated with the installation of the device."

10. Device Operation (as supplied by Applicant):

"Once the device is properly installed and adjusted no additional variation from normal operation of the vehicle is required."

11. Maintenance (claimed):

"Once the device is properly installed and adjusted no additional variation from normal maintenance of the vehicle is required."

12. Effects on Vehicle Emissions (non-regulated) (claimed):

"Since the device does not change the input of matter into the engine and since it achieves greater efficiency of combustion, there are no additional pollutants and the normal pollutants are substantially reduced."

13. Effects on Vehicle Safety (claimed):

"The use of the device has no effect on the safety of the vehicle."

15. Test Results (Regulated Emissions and Fuel Economy) (submitted by Applicant):

A. "Tests to Date: A stock 1980 Dodge Mirada, with a 318-V8 engine, EPA rated 24 and 15 mpg, was driven 2,000 miles for break-in and then fitted with the invention prototype and a special, metered, one gallon gasoline tank. After precise engine tuning to factory specifications, the best road mileage obtained before installation was highway 19.5 mpg and city 12.0 mpg.

"With the invention installed and the engine again tuned to factory specifications, the road mileage was increased to highway 35.0 mpg and city 16.0 mpg, increases of 79.0% and 33.3% respectively, with no loss of power or performance."

B. "EPA Tests: During the period July 28 - August 1, 1980, Chandler Associates, at its own expense, had dynamometer tests of the device conducted at Automotive Testing Laboratories, Inc. at East Liberty, Ohio. The test vehicle was a stock 1980 Dodge Mirada, 318-V8 engine, with automatic transmission, power steering, power brakes, air conditioner, heater and AM-FM radio-tape player. The results of the four 1975 FTP urban L-4 [LA-4] tests are as follows:

Test	HC	C [CO]	NOx	MPG
Without Device				
1	.72	25.8	.98	13.0
2	.66	24.3	1.04	13.3
With Device				
1	.43	4.1	1.48	14.5
2	.45	3.9	1.51	14.5

"It will be noted that the device brought an engine grossly exceeding the present EPA standards, despite the full factory emission control equipment, into conformity with the 1980 EPA standard with a 10% increase in mileage per gallon.

"It is also considered significant that the test vehicle was driven from the Washington Metropolitan Area to East Liberty, Ohio (492.4 miles) over Interstate highways at 55 mph with a gasoline consumption of 16 gallons with the device installed and 24.3 gallons on return with the device removed."

16. Discussion

EPA corresponded extensively (see Attachments A through J) with the Applicant in an attempt to resolve problems associated with the application and the validity of submitted data.

The first two submittals of the application contained proprietary/ confidentiality statements that would have precluded EPA from properly and adequately publishing the results of the evaluation.

The Applicant removed these restrictions on the third (January 9, 1981) submittal. This application contained duplicate FTP tests on one vehicle in both baseline and Device configurations. However, since the vehicle was not initially at manufacturer's specifications, the data could not be used in the EPA evaluation of the Device. Also, EPA requires a device to be tested on a minimum of two vehicles. The Applicant was advised of these deficiencies (Attachment H).

The Applicant was unable to provide the required valid test data[1] and so informed EPA (Attachment J). EPA had previously notified the Applicant (Attachment I) that EPA was obligated to complete the evaluation based on the information available and publish the results.

17. Conclusions

EPA fully considered all of the information submitted by the device manufacturer in the application. The evaluation of the "PETROMIZER SYSTEM" device was based on that information. The Applicant submitted the request for evaluation three times. The first and second applications were returned to the Applicant because to honor the confidentiality statements contained in the application would

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(1) From EPA 511 Application test policy documents:

Test Results (Regulated Emissions and Fuel Economy):
Provide all test information which is available on the effects of the device on vehicle emissions and fuel economy.

The Federal Test Procedure (40 CFR Part 86) is the only test which is recognized by the U.S. Environmental Protection Agency for the evaluation of vehicle emissions. The Federal Test Procedure and the Highway Fuel Economy Test (40 CFR Part 600) are the only tests which are normally recognized by the U.S. EPA for evaluating vehicle fuel economy. Data which have been collected in accordance with other standardized fuel economy measuring procedures (e.g. Society of Automotive Engineers) are acceptable as supplemental data to the Federal Test Procedure and Highway Fuel Economy Data will be used, if provided, in the preliminary evaluation of the device. Data are required from the test vehicle(s) in both baseline (all parameters set to manufacturer's specifications) and modified forms (with device installed).

have precluded EPA from conducting a complete evaluation and making it available to the public as required by the Motor Vehicle Information and Cost Savings Act.

The Applicant submitted a third application for evaluation that contained no confidentiality restrictions. However, the Applicant submitted no valid test data to support the claims for increased fuel economy. The Applicant was advised by letter on several occasions (Attachments C, E, and H) of EPA's requirement that Applicants submit valid test data following the proper EPA test procedures.(1)

Since the Applicant was unable to provide the required test data, the Applicant requested the application be returned. The Applicant stated they would attempt to obtain the required information at a later date and would resubmit the more complete application at some future date. The Applicant was advised that EPA was still required to complete the evaluation based on the available information and publish the results.

Therefore, based on the information provided by the Applicant, there was no technical basis to support any claims for a fuel economy improvement or emissions reduction with the "PETROMIZER SYSTEM."

List of Attachments

Attachment A	Copy of September 2, 1980 letter from Chandler Associates, Inc. to EPA submitting confidential 511 Application.
Attachment B	Copy of November 17, 1980 letter from EPA to Chandler Associates, Inc. advising Applicant that application is being reviewed.
Attachment C	Copy of November 28, 1980 letter from EPA to Chandler Associates, Inc. returning the application since it contained proprietary information which would have been required to be published in the official evaluation.
Attachment D	Copy of December 8, 1980 letter from Chandler Associates, Inc. to EPA resubmitting application and permitting EPA to include description of device and theory of operation in published evaluation.
Attachment E	Copy of December 23, 1980 letter from EPA to Chandler Associates, Inc. returning the second application since it still contained cofidential information. Letter also notified Applicant EPA had completed an initial review and that EPA would require additional data/information to further process the application.
Attachment F	Copy of January 9, 1981 letter from Chandler Associates, Inc. to EPA again resubmitting application. This application contained no proprietary or confidential information.
Attachment G	Copy of February 12, 1981 letter from Chandler Associates, Inc. to EPA advising EPA of status of Chandler testing.
Attachment H	Copy of February 25, 1981 letter from EPA to Chandler Associates, Inc. notifying Application of data deficiencies and providing EPA test policy for Applicants.
Attachment I	Copy of April 3, 1981 letter from EPA to Chandler Associates, Inc. notifying Applicant of data deficiencies and of requirement for EPA to complete evaluation.
Attachment J	Copy of April 13, 1981 letter from Chandler Associates, Inc. notifying EPA that Applicant was currently unable to provide required data, intended to resubmit in future, and requested return of original application.

CHANDLER ASSOCIATES, INC.

1730 K Street, N.W., Suite 1302
Washington, D.C. 20006
Telephone: 202-785-5025

CONFIDENTIAL
(until attachment is removed)

September 2, 1980

Mr. Peter Hutchins
Emission Control Technology Division
U.S. Environmental Protection Agency
2565 Plymouth Road
Ann Arbor, Michigan 48105

Dear Mr. Hutchins:

Following up on your recommendation in the recent telephone conversation you had with Art Berndtson, I am forwarding our application for evaluation of the new fuel economizer and emissions control device developed by Chandler Associates, Inc.

By way of background, we purchased the 1980 Dodge Mirada, referred to in the application, because we knew it was a poor fuel and emissions performer. After extensive road testing we became convinced that our device really did work on the road. We are aware that EPA has been criticised for indicating mpg ratings for automobiles which were rarely achieved by owners on the road. We submit that our device does indeed perform well on the road, particularly on interstate highway driving. After our road testing experience, we talked at length personally with Bruce Everling in the EPA Washington office. Bruce recommended that we contract with an independent laboratory and conduct two EPA 1975 FTP urban tests with the device and two tests without the device. We conducted these tests at the Automotive Testing Laboratories, Inc. in East Liberty, Ohio and the test results are referred to in the application. As a result of these tests, Bruce Everling then recommended to Art Berndtson that he get in touch with you. So here we are!

Chandler Associates is a small group with limited resources. We do not have the financial resources to conduct the more extensive tests on multiple vehicles etc. referred to in the EPA policy documents. We have applied for evaluation of the device under the Department of Energy/National Bureau of Standards program and we have requested a $100,000 grant for the broad testing program of the type EPA desires. Our DOE application is in the paper shuffling mill at NBS and it could be a couple of months before we hear anything from them. With EPA interest indicated perhaps the DOE action could be expedited, but this is conjecture.

Your general counsel's office here in Washington has assured us that if our papers containing proprietary information are properly marked the confidentiality will be observed by EPA. Accordingly, we have marked our application pages as being exempt from Freedom Of Information requests and of a proprietary confidential nature.

We are prepared to cooperate with EPA in any way we can without surrendering our proprietary interest in the device.

Very truly yours,

Charles R. Chandler
President
Chandler Associates, Inc.

CRC:elj

Enclosure

Attachment B

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ANN ARBOR, MICHIGAN 48105

OFFICE OF
AIR, NOISE AND RADIATION

November 17, 1980

Mr. Charles R. Chandler
Chandler Associates, Inc.
1730 "K" Street, N.W., Suite 1302
Washington, D.C. 20006

Dear Mr. Chandler:

This is to advise you that your application for evaluation of the Petromizer device under Section 511 of the Energy Policy and Conservation Act has been forwarded to the EPA Engineering Evaluation Group, where it will be analyzed according to the requirements of the regulation. They will review the material submitted with your application and determine if EPA testing is warranted.

We will contact you if further information is needed with respect to your application.

Sincerely,

Merrill W Korth

Merrill W. Korth, Device Evaluation Coordinator
Test and Evaluation Branch

Attachment C

November 23, 1980

Mr. Charlee R. Chandler
Chandler Associates, Inc.
1730 K Street, N.W., Suite 1302
Washington, DC 20006

Dear Mr. Chandler:

I have been informed by the EPA Engineering Evaluation Group that the information and data contained in your application for evaluation of "Petromizer" under Section 511 of The Motor Vehicle Information and Cost Savings Act are regarded, by your firm, as proprietary. The EPA is required by Section 511 to publish a report detailing the results of any device evaluation and make this report available to the general public upon request. Included in that report, per Section 511 directives, are a detailed description of the theory of operation of the device and the U.S. Patent documentation.

Since your firm has not as yet received a Patent Certificate, it is understandable that your firm would wish to protect its invention. However, due to the requirements of Section 511 this Agency can not adequately safeguard the submitted information. Therefore, I am returning your application in good faith and assure you that duplicates of your submission have not been made.

If you are still interested in having your device evaluated by this Agency, there are two alternatives which can be immediately identified:

- Resubmit your 511 Application, as is, <u>without</u> the need for confidentiality with the expectation that a Patent Certificate will be received prior to EPA publication of its evaluation results.
- Wait until a Patent Certificate has been received and resubmit your 511 Application <u>without</u> the need for confidentiality.

Please advise this office of your decision so that our files may be updated.

I apologize for the delay your firm has incurred. If I can be of any assistance in your decision making process, please feel free to contact my office (313-668-4299).

Sincerely,

Merrill W. North, EPA Device Evaluation Coordinator
Test and Evaluation Branch

Enclosure

cc: E. P. Hutchins

ECD:TEB:North:cd:X259:25b2Plymouth Rd:11/23/80

CHANDLER ASSOCIATES, INC.
1730 K Street, N.W., Suite 1302
Washington, D.C. 20006
Telephone: 202-785-5025

December 8, 1980

Mr. Merrill W. Korth
EPA Device Evaluation Coordinator
Test and Evaluation Branch
Ann Arbor, Michigan 48105

RE: Petromizer - Fuel economy system

Dear Mr. Korth:

In response to your letter of November 28, we have opted to re-submit our 511 application, as is, with the understanding that upon completion of the evaluation that EPA is required to publish the evaluation results including a description of the device and the theory of operation.

Sincerely,

Charles R. Chandler
President

CRC/meb

Encl: 511 application

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ANN ARBOR, MICHIGAN 48105

OFFICE OF
AIR, NOISE AND RADIATION

December 23, 1980

Mr. Charles R. Chandler
Chandler Associates, Inc.
1730 K Street, N.W., Suite 1302
Washington, DC 20006

Dear Mr. Chandler:

Your application for an EPA evaluation of the Petromizer device is labeled as confidential and we returned it to you on 11/28/80 explaining that we can not protect confidential information. After you talked to the EPA Office of General Council you returned the application to EPA with the misunderstanding that EPA can protect it on a confidential basis.

After receiving the Petromizer application the second time I called Mr. Bochenek with the EPA Office of General Council who informed me that I can not guarantee Chandler Associates, Inc. that EPA will be able to protect confidential material in all Freedom of Information Act situations. As a result I must return your application a second time and suggest the same two alternatives listed in my letter of November 28, 1980.

- Resubmit your 511 Application, as is, without the need for confidentially with the expectation that a Patent Certificate will be received prior to EPA publication of its evaluation results.

- Wait until a Patent Certificate has been received and resubmit your 511 Application without the need for confidential.

We do not plan to take further action on your application until the confidential problem is resolved.

In the meantime the EPA Engineering Evaluation Group has completed an initial review of your application and has found that the following additional information/data are required in order to process your application further:

- What was the actual test vehicle mileage at the time of the ATL, Inc. testing?

- Please provide a detailed description of the test program conducted at ATL, Inc. to include all vehicle maintenance, engine design parameter settings (air-fuel ratio, initial ignition time, etc.), dynamometer settings (inertia and power absorber), ambient temperature, etc.

Received 1/14/81
MWK

CHANDLER ASSOCIATES, INC.

1730 K Street, N.W., Suite 1302
Washington, D.C. 20006
Telephone: 202-785-5025

Attachment F

January 9, 1981

Dr. Merrill Korth
EPA Device Evaluation Coordinator
Test and Evaluation Branch
Ann Arbor, Michigan 48105

Dear Dr. Korth:

Thank you for your letter of December 23. I'm sorry about the apparent confusion concerning the protection of the proprietary information. We are aware that EPA cannot protect proprietary information in all situations. Suffice to say that the correspondence on this subject presently in the file is not without value should a future determination be required. Our application is resubmitted herewith in an unclassified form - that is in original form with the "confidential" designation removed.

We appreciate the preliminary review made by Engineering Evaluation Group and submit the additional information and data requested in Enclosure A.

Chandler Associates is a new company with modest resources, which has limited our capacity to do laboratory dynamometer tests. We believe it is in the public interest to conduct further evaluation testing of this new system and wish to cooperated fully with your staff. We can offer to send the Dodge Mirada test vehicle or the 1978 Chevrolet Caprice to your laboratory for further testing, or alternatively, build a prototype system for installation on test vehicles on which you may already have test data. We would also be pleased to make available Mr. A. Robert Verna, who built the present prototypes and was present at the ATL tests. Mr. Verna is completely knowledgeable on the system and results to date.

Please let us know how we may be of further help in this matter.

Sincerely yours,

Charles R. Chandler
President

CRC/meb

Encls. (2)

- Has the device been installed on any other vehicles to determine if air cleaner-to-hood clearance is acceptable?

- Exactly how is the appropriate amount of "excess fuel" to be returned to the fuel tank determined for each engine application? What is fuel diverter valve's effect on driveability and safety?

- Please provide installation instructions representative of those to be supplied to the ultimate consumer for each engine application (to include any carburetor linkage and modifications, engine design parameter adjustments, etc.).

- Were any tests performed on the 1980 Dodge Mirada according to the EPA Highway Fuel Economy Test Procedure at ATL, Inc.? If so, please provide those data.

- Please provide test data to support the claim of a synergistic fuel economy effect with use of your invention.

Your cooperation in this matter and rapid response are appreciated. I look forward to receipt of the requested information/data so that we can continue processing your application for evaluation on a non confidential basis. If you require any further information or assistance, please feel free to contact my office (313) 668-4299.

Sincerely,

Merrill W Korth

Merrill W. Korth, Device Evaluation Coordinator
Test and Evaluation Branch

cc: F. P. Hutchins
R. N. Burgeson

CHANDLER ASSOCIATES, INC.
1730 K Street, N.W., Suite 1302
Washington, D.C. 20006
Telephone: 202-785-5025

February 12, 1981

Dr. Merrill W. Korth
EPA Device Evaluation Coordinator
Test and Evaluation Branch
Ann Arbor, Michigan 48105

RE: Petromizer Gasoline
Economy Device

Dear Dr. Korth:

In our letter of January 9, 1981 we indicated we were installing the new device on a 1978 Chevrolet Caprice with a 305, 8 cylinder engine. This is to advise that we have made the installation and tuned the engine to factory specifications with encouraging results.

We are not yet prepared to submit mileage statistics because we have no yet complied sufficient accurate data. However, we were pleased to note that on the Sun computer analyzer, with probe inserted in the exhaust pipe, we obtained readings of CO-0.53, HC-0.06. The odometer mileage was and the original catalytic converter crystals had not been changed.

The latest tune-up on the 1980 Mirada; with the device installed, on the Sun analyzer, at 24,740 miles with the original catalytic converter crystals showed CO-0.0 and HC 0.03-0.06. These Mirada readings were obtained despite the fact that the dealer could not adjust the engine to comply with the EPA standards while the device had been removed and only the catalytic converter was operating.

The foregoing information is forwarded to assist in the preliminary evaluation of our application.

Sincerely yours,

Charles R. Chandler
President

CRC/meb

Attachment H

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ANN ARBOR, MICHIGAN 48105

OFFICE OF
AIR, NOISE AND RADIATION

February 25, 1981

Mr. Charles Chandler
Chandler Associates, Inc.
1730 K Street, N.W., Suite 1302
Washington, D.C. 20006

Dear Mr. Chandler:

The EPA has performed a preliminary evaluation of the Petromizer using the information provided. Our findings to date are that:

1. The vehicle tested was not at manufacturer specifications when tested in baseline; (high HC and CO and low NOx on FTP and very high idle CO levels).

2. Tests on a single vehicle are insufficient basis for EPA confirmatory testing.

Enclosed are copies of documents which specify the testing which is necessary for support of confirmatory testing by the EPA. As you will see, we require a minimum of two test vehicles with duplicate tests before and after the device is installed. This is a total of eight hot start tests.

As you may have several questions on the procedures etc, please feel free to contact me after you have read the enclosed documents.

Sincerely,

Merrill W. Korth, Device Evaluation Coordinator
Test and Evaluation Branch

Enclosures

Attachment 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ANN ARBOR, MICHIGAN 48105

OFFICE OF
AIR, NOISE AND RADIATION

April 3, 1981

Mr. Charles Chandler
Chandler Associates, Inc.
1730 K Street, N.W. - Suite 1302
Washington, DC 20006

Dear Mr. Chandler:

Since you have not supplied EPA with complete independent laboratory data for the "Petromizer", we have insufficient data to support a fuel economy claim for the device. As explained in my letters to you on 2/25/81, and 2/26/81, we cannot jusify the expenditure of Government funds for EPA testing of a device which has not shown positive results when tested by a recognized independent laboratory.

Under the provisions of Section 511 of the Motor Vehicle Information and Cost Savings Act, EPA is now required to prepare a report on your device and publish notice in the Federal Register that we have completed our evaluation. We are presently preparing such documents that will be published, if we have not received sufficient independent laboratory data by 5/11/81.

Please contact me immediately if you do not understand this course of action.

Sincerely,

Merrill W. Korth

Merrill W. Korth
Device Evaluation Coordinator
Test and Evaluation Branch

cc: P. Hutchins
T. Barth
511 File (Petromizer)