UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL VEHICLE AND FUEL EMISSIONS LABORATORY
2565 PLYMOUTH ROAD
ANN ARBOR, MICHIGAN 48105-2498

OFFICE OF
AIR AND RADIATION

April 22, 1999 VPCD-99-06(LDV,LDT,SVM)

Dear Manufacturer,

SUBJECT: CAP 2000 Implementation: Guidance Documents and Workshop

As you are likely aware, the CAP 2000 final rule was signed by the Administrator on March 15, 1999. This rule significantly restructures the emission certification procedures for light-duty vehicles and light-duty trucks. Included in the rule are requirements for grouping and testing vehicles and for reporting information to EPA. During the rulemaking process, manufacturers requested that EPA provide additional guidance on implementing aspects of the CAP 2000 procedures. To this end, we have developed the enclosed guidance document, which covers the following topics:

1. When should I submit an application?
2. How do I obtain a certificate while confirmatory testing is pending?
3. Standardized group name.
4. Electronic submission of applications.
5. CFEIS and CAP 2000.
6. Early opt-in for MY 2000.
7. Using aged components on EDVs.
8. Selection criteria for manufacturer-performed confirmatory certification testing (including a sample test waiver check sheet).
9. Suggested format for the Application for Certification.

To get CAP 2000 off to a running start, we would like to invite you and any other key personnel to attend a workshop, to be held in Ann Arbor on May 18, 10:00AM until no later than 3:00PM at the Morris J. Lawrence Building of the Washtenaw Community College (this is the same location as some of EPA's previous CFEIS workshops). We will go over the guidance documents, and will include ample opportunity for you to ask questions about the implementation of the CAP 2000 rule. We are asking that you review the enclosed information, and submit in advance your questions about them by May 7th, so that we have time to respond to them. Of course you may ask questions at the workshop, but we may not be able to answer them immediately. While the focus of this workshop will be on pre-production certification, you may submit questions about the in-use verification program as well. If needed, we will issue a separate guidance document on in-use testing.

Printed on Recycled Paper

Please send your workshop questions to Linda Hormes, preferably via e-mail "hormes.linda@epa.gov", or call 734-214-4502. You should continue to direct specific certification and fuel economy questions to your certification team representative.

Sincerely,

Jane Armstrong, Director
Vehicle Programs and Compliance Division

Attachments

-CAP 2000 GUIDANCE-

When should I submit an Application?

You must submit a complete Part 1 application to obtain a certificate of conformity. Please do not submit a partial application. All information and data, including confirmatory testing, should be present in the application. All CFEIS information including the summary sheet should be entered and correct prior to submission of the application. Incomplete applications or inaccurate CFEIS data will result in significant delays. We expect to be able to review and respond to completed applications within two to four weeks.

How do I Obtain a Certificate while Confirmatory Testing is Pending?

It is possible to obtain a certificate of conformity when EPA-ordered confirmatory testing is still pending completion. This option is not available for manufacturer-conducted confirmatory testing.

A certificate issued without EPA confirmatory test data is ?conditional" as explained in 86.1835-01 (d).

<u>To obtain a conditional certificate under these circumstances</u>:

Tell your cert team member that you wish to obtain a conditional certificate without EPA confirmatory test data.

Complete the CFEIS summary sheet using manufacturer data. A new conditional cert code will be added to one of the Summary Sheet input records to indicate that EPA confirmatory testing is pending.

Submit an application containing all information available, a statement that confirmatory test data is pending, and that you wish to obtain a certificate of conformity under the provisions of 86.1835-01(d). Place a statement to that effect on the cover sheet as well.

We will issue a conditional certificate. This certificate will be your permanent certificate and it will not be reissued after the confirmatory testing was completed.

Once the EPA confirmatory testing has been completed, contact

your cert team member to unlock the summary sheet. Update the summary sheet to remove the manufacturer data it and replace it with the EPA confirmatory data (if appropriate). Once all the data is correct, change the conditional cert code on the summary sheet to ?confirmatory test complete and entered". You will receive a new summary sheet with an appropriate statement indicating that the confirmatory test was completed; keep this copy for your records. We will not issue a new certificate.

Standardized Durability Group Name

Durability groups should be named using the 12-character format as follows:

Character Number	Description
1	Model year -- Use the same codes as test group
2,3,4	MFR -- Use the same letter codes as test group
5	Combustion cycle -- See table below
6	Engine type -- See Table Below
7	Primary fuel used -- See table below
8	Second fuel used -- Use this field for dual fueled, flexible fueled, and bi-fuel vehicles
9	Third fuel used -- Use this field for dual fueled, flexible fueled, and bi-fuel vehicles
10,11,12	Open, for manufacturer use (catalyst code)

Cycle Code for Durability Group Name

Cycle	Code
Otto Cycle - two stroke	2
Otto Cycle - four stroke	G
Diesel Cycle - two stroke	A
Diesel Cycle - four stroke	D
Dedicated Electric	E

Hybrid Electric with Otto cycle - 4 stroke engine	H
Electric - fuel cell	C

Engine Type Code for Durability Group Name

Engine Type	Code
Piston	P
Rotary	R
Electric	E
Hybrid Electric	H

Fuel Code for Durability Group Name

Fuel Used	Code
Gasoline	G
Diesel	D
Methanol	M
Ethanol	E
CNG	C
LNG	L
LPG	P
Electric	E
Hybrid Electric	Use Code for Other Fuel
Not Applicable (used for second and third fuels)	N

Electronic Submission of Applications

We are seeking several volunteers to participate in a program to

develop a procedure to electronically submit application information. We believe that the technology exists commercially (such as Adobe Acrobat) to allow transfer of information created in essentially any computer program without any significant burden.

Electronic submission represents savings to both manufacturers and EPA:

- Reduce the amount of paper generated
- Improve the submission process
- Aid EPA's review of the application
- Safeguard confidential information
- Improve access to the information

Contact Eldert Bontekoe or Linda Hormes to volunteer for this program.

CFEIS and CAP 2000

We are currently modifying CFEIS to handle CAP 2000 for the 2001 model year. The basic design of CFEIS will remain the same. The ESI sheet is being expanded to contain information for both durability and test groups. A few fields are being moved from the ESI sheet to the VI sheet. A few new codes are being added to handle CAP 2000 options (such as aged components, durability group, and conditional certificates). We will present an outline of the changes at the workshop.

Early Opt-in for MY 2000

The regulations allow manufacturers to optionally use the CAP 2000 procedures in the 2000 model year (early opt-in) prior to its mandated use in the 2001 model year.

<u>To be eligible for early opt in:</u>

You must meet all requirements of the CAP 2000 program (Subpart S) to be eligible for early opt in. This includes the durability and test grouping procedures, new durability requirements, and in-use testing requirements.

<u>Procedures for early opt in:</u>

Tell your certification team representative that you intend to use the CAP 2000 procedures for the 2000 model year for certain

test groups which you specify.

Pay the CAP 2000 certification fee for each test group.

Enter the correct information into CFEIS. There are several new fields for CAP 2000 data entry in the 2000 model year. Refer to the CMUG on EPA's Internet page for the changed fields and instruction for their entry.

You should use the current engine family name as the CAP 2000 test group name. Use the code "X" in the fifth character if you are including both cars and LDT1's in the same test group.

Use the application format contained in this letter.

Using Aged Components on EDV's

The regulations allow the use of aged components on EDV's in lieu of adjusting emission data by DF's for exhaust emissions (ref 86.1823-01(a)(3)(ii)).

When using this procedure, manufacturers should age the correct hardware for the emission data vehicle using the procedures developed for the durability group (e.g., 300 hours of RDP1). Separate components should be aged for the intermediate and full useful life mileages. Optionally, you may use components aged to full useful life to demonstrate compliance with both intermediate and full useful standards.

Fuel economy and aged components: Manufacturers should run fuel economy tests with aged components to demonstrate emission compliance, unless we approve another procedure which would demonstrate that fuel economy vehicles pass emission standards when tested.

-CAP 2000 GUIDANCE-

Manufacturer-Conducted Confirmatory Certification Testing

Section 86.1835-01(b) of the CAP 2000 regulations requires manufacturers to perform confirmatory certification testing using criteria specified by EPA. This guidance document presents the procedures you should follow to implement this testing program, the criteria which you will use to determine the need to perform confirmatory testing, and the procedures for determining when you will need to perform retests for fuel economy purposes. You should begin using these new procedures beginning June 1, 1999 for CAP 2000 programs (including early opt-in). The goal with these procedures is to reduce the amount of EPA confirmatory testing and to expedite EPA's processing of test requests, while maintaining an acceptable level of EPA testing to ensure correlation.

Procedures:

1. First, prepare a Test Request Sheet for each EDV and FEDV tested for emission and fuel economy compliance. (A new Test Request Sheet is attached to this document.)

2. As you fill out the Test Request Sheet, determine which vehicles will be subject to manufacturer confirmatory testing, using the criteria listed below.

3. Submit the completed Test Request Sheets to EPA. **Do not perform confirmatory testing until EPA responds to the Test Request submission.**

4. EPA will then either select the vehicle for EPA confirmatory testing or will waive the vehicle, and notify you promptly of the outcome.

5. If EPA selects the vehicle for confirmatory testing, you do not need to confirmatory test the procedure(s) which EPA performs (but you may need to confirmatory test procedures which EPA did not choose to perform. [Example:. A high refueling loss emitter is randomly selected for testing by EPA. EPA performs the city and highway tests, but may require the manufacturer to perform the refueling test.]

6. If EPA waives testing the vehicle, and you have selected the vehicle for confirmatory testing, you may immediately proceed with that testing.

7. If EPA waives testing the vehicle, and you did not select it for confirmatory testing, no further testing is required.

Criteria for Confirmatory Test Selection

1. **Failure or Replacement for Failed Vehicle.** The vehicle configuration has previously failed an emission standard or the vehicle is a replacement for a failed vehicle. Both city and highway tests should be run for vehicles selected under this criterion, regardless of the test procedure on which the emission standard failed. An evaporative, refueling, SFTP, cold CO and/or CST procedure should be run in addition to the city and highway tests if that emission standard was failed.

2. **High Emission Levels.** Any certification level (test level adjusted by the deterioration factor, or test level with aged components installed) is 90% or more above the applicable standard. If more than one test was performed for any procedure, only the last test is considered for this criterion. Both city and highway tests should be run for vehicles selected under this criterion, regardless of the test procedure on which the emission standard was high. An evaporative, refueling, SFTP, cold CO and/or SFTP procedure should be run in addition to the city and highway tests if the certification level for that procedure was high.

3. **High Fuel Economy.** The fuel economy value of the city and/or highway test as measured in accordance with the procedures in 40 CFR Part 600 equals or exceeds the value contained in the cut point table attached below. If more than one test was conducted, harmonically average them prior to consulting the cut point table. Test only the procedure(s) identified using this criterion.

4. **Potential Gas Guzzler.** The combined (unadjusted) fuel economy value as measured in accordance with the procedures in 40 CFR Part 600 is between 22.3 and 22.8 mpg. If more than one test was conducted, harmonically average the fuel economy values prior to calculating the combined fuel economy. Both city and highway tests must be run for vehicles selected under this criterion.

5. **Potential Fuel Economy Leader.** The fuel economy value as measured in accordance with the procedures in 40 CFR Part 600 equals or exceeds the value contained in attached cut point table. If more than one test was conducted, harmonically averaged them prior to applying the criteria in the table. Test

only the procedures identified using this criterion.

Retesting for Fuel Economy Differences

You are required to conduct a retest of the FTP or highway test if the difference between the fuel economy of the confirmatory test and the original manufacturer's test (or average of the original tests) equals or exceeds three percent. Percent difference is calculated as follows:

Percent difference = (Confirmatory - Mfr. avg)/Confirmatory

You may at your option use 2% rather than 3% for the retest criterion, provided you apply it consistently for all vehicles for the entire model year.

You have the option of accepting the lower fuel economy of your original test (or average, if more than one test) and confirmatory test fuel economy result in lieu of retesting the vehicle.

Second Retests

You are required to conduct a second retest of the FTP or highway test if both of the following conditions occur:

1. the fuel economy difference between the retest and the original manufacturer test equals or exceeds three percent; and

2. the fuel economy difference between the retest and the first confirmatory test equals or exceeds three percent.

You may at your option use 2% rather than 3% for the retest criterion, provided you apply it consistently for all vehicles for the entire model year.

You have the option of accepting the lowest fuel economy value among your original test (or average if more than one test), the first confirmatory test and the first retest in lieu of conducting a second retest.

No more than two valid retests need be conducted under any circumstances.

Selection of "Official" test data.

The current procedures established for selecting "official" data for emissions compliance and fuel economy determination continue

to apply to this guidance. See chart of Retests and Fuel Economy Disposition Assignment.

Cutpoints for “Potential Fuel Economy Class Leader” Gasoline Fueled Vehicles

Vehicle Class	City	Highway
Two Seater	25	29
Minicompact	33	41
Subcompact	41	47
Compact	31	40
Midsize	26	37
Large	21	30
Small Wagon	30	38
Midsize Wagon	23	32
Small Pickup	23	29
Standard Pickup	22	27
Vans	16	21
Minivans	20	26
Sport Utility Vehicles	25	29

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Cutpoints for "High Fuel Economy"
Gasoline Fueled Vehicles

ETW	City Cars	Hwy Cars	City Trucks	Hwy Trucks
2000	42.9	58.9	31.9	44.8
2125	41.2	57.0	31.1	43.8
2250	39.5	55.2	30.3	42.8
2500	36.3	51.7	28.8	40.9
2650	34.8	50.1	28.1	40.0
2750	33.4	48.4	27.4	39.1
2875	32.0	47.0	26.7	38.2
3000	30.7	45.5	26.0	37.4
3125	29.4	44.0	25.4	36.5
3250	28.2	42.6	24.7	35.7
3375	27.1	41.3	24.1	34.9
3500	26.0	40.0	23.5	34.1
3625	24.9	38.7	22.9	33.4
3750	23.9	37.5	22.3	32.6
3875	22.9	36.3	21.8	31.9
4000	22.0	35.2	21.2	31.2
4250	20.2	33.0	20.2	29.8
4500	18.6	30.9	19.2	28.5
4750	17.1	29.0	18.2	27.2
5000	15.7	27.2	17.3	26.0
5250	14.4	25.5	16.5	24.9
5500	13.3	23.9	15.7	23.8
6000			14.1	21.7
6500			12.8	19.8
7000			11.5	18.1

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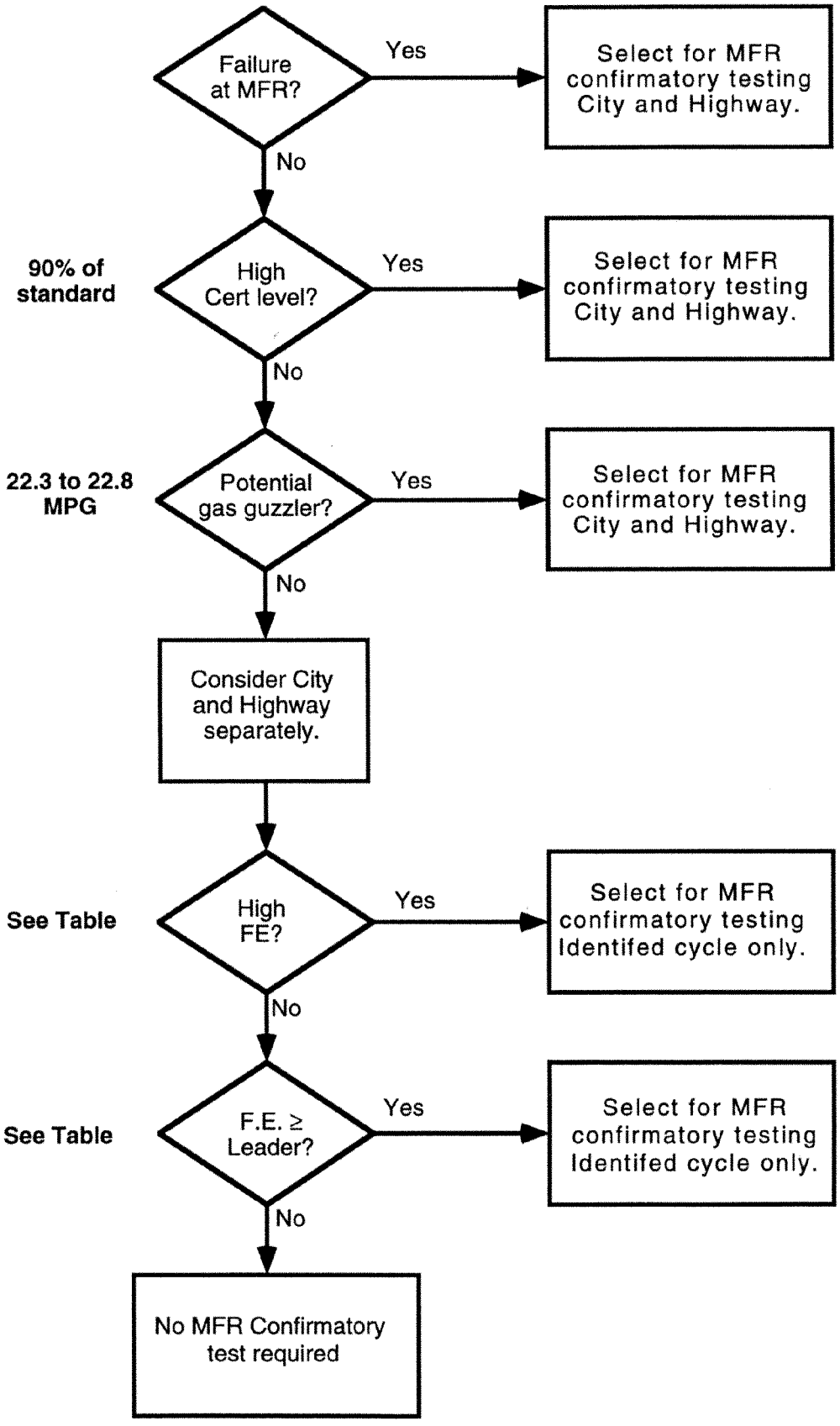
Confirmatory Test Selection



CAP 2000 Test Request

Manufacturer_____ Model Year_____ N/V_____
Vehicle ID_____ Configuration_____ ETW_____
Test Group_____ Engine Code_____ Tires_____
Engine Family_____ R/C#_____ A/C_____
Evap Refueling Trans. Type_____ **(Twin roll) DPA: hp**_____
Family_____ Mode_____, SIL_____ **(Single roll) DPA:** Set Coefficients:
Carline Name_____ Fuel: Indolene ❑, Phase II ❑ (Test vehicle)
Standards_____ Fan Placement: a:_____ b:_____ c:_____
Test Type_____ City:_____ Target Coefficients:
Vehicle Class_____ Hwy.:_____ (Coast down vehicle)
Other_____ a:_____ b:_____ c:_____

Manufacturer Test Results

	Federal				California			
	Cert 50K	Std 50K	Cert U/L	Std U/L	Cert 50K	Std 50K	Cert U/L	Std U/L
NMHC								
CO								
NOx								
2D Evap								
Cold CO								

New Engine Yes ❑ No ❑

Selected for Mfr. Testing City ❑ Hwy ❑

Coast Down Data

Actual CD Time = (_____) x 100 = _____ . %
Target CD Time (_____)

City Test #	FE*	Hwy Test #	FE*	Evap. Test#
1._____				
2._____				

Combined MPG* _____(Pass. Cars Only)

*Do not list FE, or combined mpg, if data will not be used for FE label or CAFE

Manufacturer Confirmatory Testing

	Yes	No
Failure or replacement for failed vehicle	❑	❑
High Emission levels	❑	❑
Higher than expected fuel economy	❑	❑
Potential Gas Guzzler	❑	❑
Fuel Economy > Fuel Economy of Leader	❑	❑

Comments:_____

Manufacturer Test Procedures

FTP ❑	Single Roll Dyno ❑	Precon. Can. 2D/3D ❑
HWY ❑	Twin Roll Dyno. ❑	Cold CO ❑
CST ❑	2-D Evap. ❑	SC03 ❑
	3-D Evap. ❑	SC03 (AC1) ❑
	US06 ❑	SC03 (AC2) ❑

Other_____

Arrival Date at EPA_____
(8am, 3 working days prior to the scheduled test)
Mfr. Signature _____

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EPA Review Criteria

	City	Hwy		City	Hwy		City	Hwy
Random	❑	❑	New Veh. No Data	❑	❑	Other	❑	❑
High CD Time	❑	❑	Defeat Device	❑	❑			

EPA Testing Decision

FTP	❑	EVAP (2D/3D)	❑	US06	❑
HWY	❑	Precond. Can. (2D/3D)	❑	SC03	❑
CST	❑	Cold CO	❑	SC03 (AC1)	❑
OBD	❑	Single roll Dynamometer	❑	SC03 (AC2)	❑
ORVR	❑	Other_____			

EPA Waived ❑, **Test @ EPA** ❑, **Test Date**_____
Test @ MFR ❑
EPA Signature _____ **Date** _____

Test Request Instructions

Arrival Date at EPA
Enter the date that the vehicle will arrive at EPA ready for testing. (ref. VPCD-98-07- 3 working days prior to scheduled test date)

Carline name
Enter the actual carline name, not the numerical code.

Cert. 50K
Enter the 50,000 mile certification test levels (with DF applied).

Cert. U/L
Enter the full useful life certification level (with DF applied).

Coast Down Data
Enter the actual coast down time and target coast down time in the spaces provided and the calculated percentage to one decimal place.

Configuration
Enter the configuration number from EPA's data base.

Combined FE
Enter the harmonically averaged fuel economy for this city and highway test combination.

Comments
Enter descriptions of new vehicles, running changes and any additional pertinent information. Indicate the current vehicle configuration when submitting multiple versions of the same vehicle that require hardware changes between tests. (e.g. tires, axle, computer chips, etc.)
Fill out 2 separate Test Request forms if an enhanced evap test was performed.
Place the 2-day evap results on the first TR with corresponding FTP and the 3-day evap and FTP on the second TR.
Anytime this vehicle gets a preconditioned canister test (even when no enhanced evap test is performed) provide extra canisters if needed, canister specifications (i.e. Canister volume, working capacity, loading rate, etc.) and evap purging and loading schematics.

DPA: hp
Enter the twin roll dynamometer horsepower

DPA: Set Coefficients (Test vehicle)
If a single roll dynamometer was used in testing, write in the values for each coefficient a, b and c. (a) is pound force by taking gravity into account. (b) is pound force divided by mile per hour. (c) is pound force divided by mile per hour squared.

Target Coefficients: (Coast Down vehicle)
Write in the target coefficients of the coast down vehicle.

Engine Code
Enter the engine code.

Engine Family
Enter the engine family name.

Emission values
Write in the certification levels and standards for all applicable emissions, using **other emissions** listed on this page.

ETW
Enter the equivalent test weight.

Evap. Refueling Family
Enter the evaporative refueling family name.

Fan Placement
Please provide the number and location of fans necessary for the city and highway test only. For example: One centered front fan, in up position on the city and highway tests.

FE
Enter the city, highway and combined fuel economy mpg associated with the preceding city and highway test number; if it will be used for fuel economy labels or CAFE. List combined mpg for light-duty vehicles only (not light-duty trucks).

Fuel Economy; City Test # / Hwy. Test #
Enter the city and highway test numbers assigned by CFEIS for all testing.

Fuel
Indolene (EPA unleaded test fuel)
Phase II
Enter the following in other:

Diesel	CNG
M85	E85
M10	E10

ETC.

Manufacturer
Enter the manufacturer name, not code.

Manufacturer's test results Federal or California
Enter data under applicable sales area, Federal and / or California.

MFR Signature
Signature of manufacturer representative who can be contacted if necessary.

MFR Test Procedures
Mark all test procedures performed on this vehicle/version combination. If preconditioned canister is marked, see instructions under comments. If other is marked, write in the test procedure.

Mode
Power
Economy
Other

Model Year
Enter the represented model year of the test vehicle.

New Engine/ Emission control system
Does the vehicle have a new engine or engine control system? Describe in comments.

N/V
Enter the N/V (engine rpm divided by vehicle speed in the highest transmission gear)

Other Emissions
NMOG
THC
Evap. 2-day (HS+ Diurnal)
Evap. 3-day (HS+ Diurnal)
running loss
Spitback
PM
OMHCE
OMNMHCE
Cert Short Test
Idle CO
Hwy Nox
Other

R/C #
Enter the running change number if applicable.

SIL
Did the test use a shift indicator light? Yes or No.

Standards
Tier I
TLEV
LEV
ULEV
SULEV
ILEV
ZEV

Std 50K
Enter the appropriate 50,000 mile certification standard.

Std U/L
Enter the appropriate full Useful life certification standard.

Test Group
Enter the test group (CAP 2000 only).

Test Date
When the vehicle will be tested. The vehicle must be at EPA at least three working days prior to the test date; ref VPCD -98-07, May 5, 1998.

Test @ MFR
Mark this if the confirmatory test will be performed by the manufacturer.

Test Type
EDV
FEDV

Tires
Enter the tire make and size.

Trans. Type
Transmission type

A3	M3
A4	M4c
A5	M4
L3	M5c
L4	M5
L5	M6c
Other	M6

Vehicle Class
Two Seater
Mini
Sub Compact
Compact
Mid Size
Large
Small Wagon
Mid Wagon
Large Wagon
Small Pickup
Standard Pickup
Van
Special Purpose:
Minivan
Sport Utility Vehicle (SUV)

Vehicle ID
Enter the vehicle identification number.

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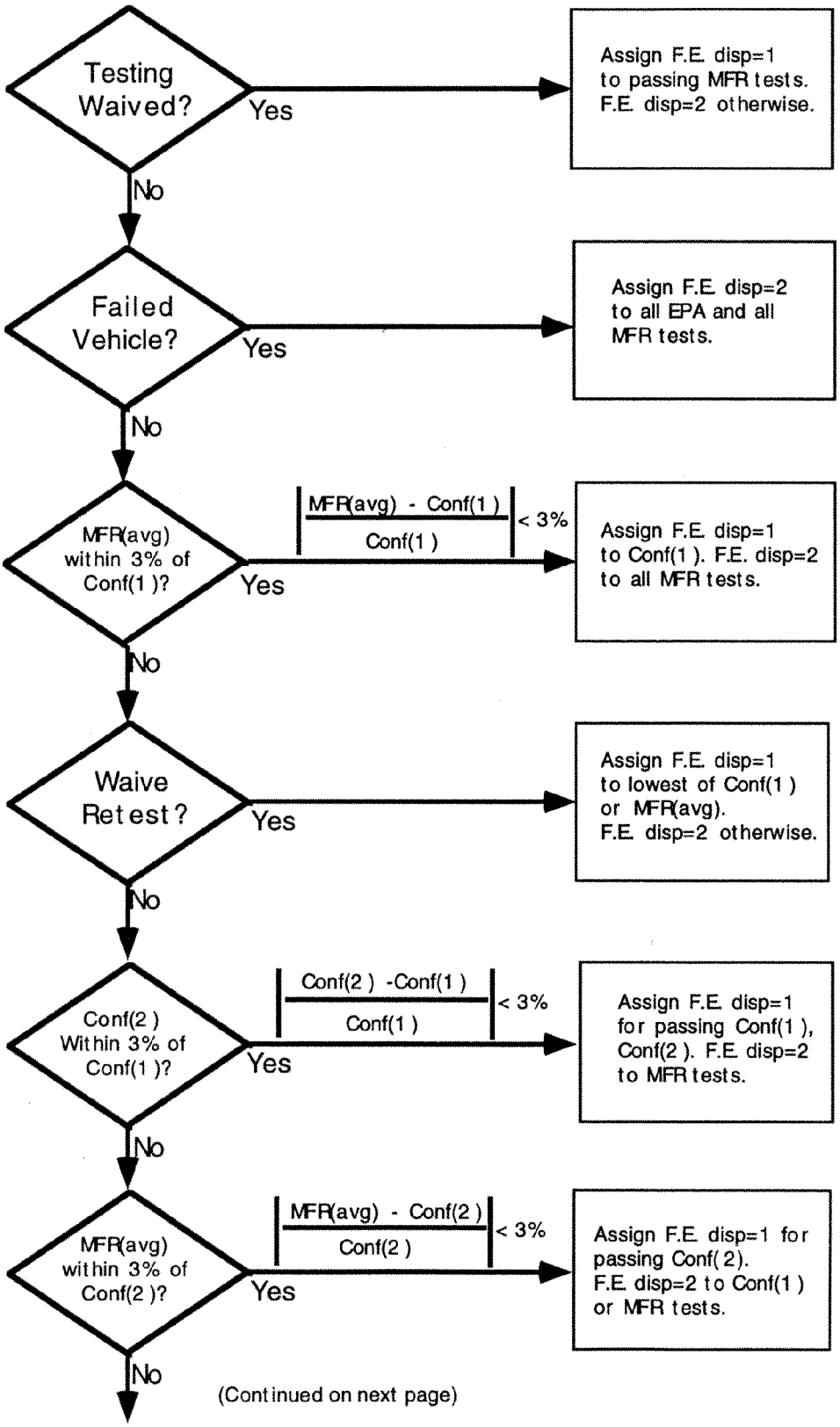
Retests and Fuel Economy Disposition Assignment

City and Highway Tests are considered Separately

F.E. disposition 2 is always assigned to tests that failed or are void.



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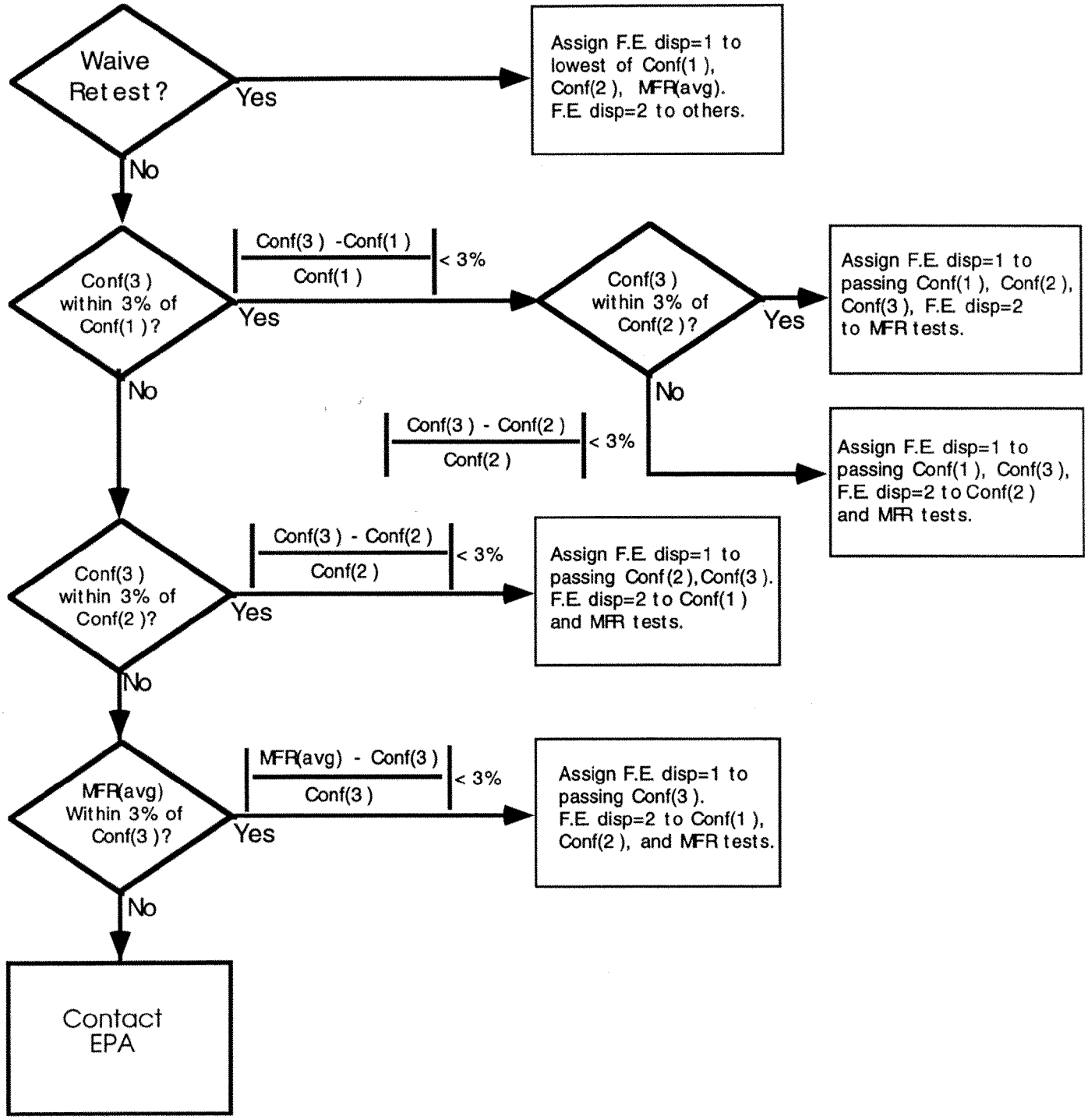

FE Disp of 1 indicates that the test is used as official data in the fuel economy program

FE Disp of 2 indicates that the test is not used as official data in the fuel economy program

The first passing confirmatory test is used as official data for emission purposes

Use unrounded values of percent difference when comparing to the 3% limit (e.g. 2.99 is not 3%)

-CAP 2000 GUIDANCE-

RECOMMENDED PART 1 APPLICATION FORMAT

To expedite EPA's review, EPA strongly recommends that you adopt the following standardized format for your applications for certification. While other formats may be acceptable, they may result in slower EPA review time.

This format is based on the Part 1 application requirements found in 40 CFR86.1844-01(d)

Common Sections

You may submit certain information which is common to more than one test group in a "common section", rather than in the individual test group's application. Then you may reference the information rather than submit it with each application. We have made suggestions, below, of information that can usually be submitted in the common sections. Submit the common sections with your first application.

Confidential Information

Place all confidential information in a separate section at the end of the application. When only limited information on a page is confidential, either create a code for it (and place the decoded information in the confidential section), or use the statement "See confidential section".

Cover Page

Create a cover page which contains a basic description of the test group and vehicles tested contained in the application.

Advice for Submittal

See sample cover page which contains the following items:

- Model year
- Durability Group Name
- Test Group Name
- Summary Sheet Number
- Brief description of the Durability Group
- Brief Description of the Test Group
- Applicable standards
- Vehicles Tested
- Requested Response Date

For Questions, Contact Name
Special Instructions

1. Correspondence and Communications

Information to be Included:

- Names, phone numbers, fax numbers, e-mail addresses of all persons authorized to be in contact with EPA compliance staff. At least one U.S. contact must be provided.
- Areas of responsibility for each person.
- Address where official documents are to be mailed.

Advice for Submittal:

- Supply complete list of contacts in the common application section.
- Identify the primary certification contact in the application: "For questions call..."

2. Durability Group Description

A description of the durability group in accordance with the criteria listed in 86.1820-01, or as otherwise used to group a product line.

Information to be Included:

- Durability Group Name
- Combustion Cycle
- Engine Type
- Fuel Used
- Basic Fuel Metering System
- Catalyst Construction
- Precious Metals in Catalyst
- Range of Catalyst Grouping Statistics

Advice for Submittal:

- You may reference a complete breakdown of your durability groups in a common section.
- If you consider the any of the catalyst information to be confidential, list a code in the main body of the application and explain the meaning of the code in the confidential materials.

3. Evaporative/Refueling Family Description

A description of evaporative/refueling families in

accordance with the criteria listed in 86.1821-01, or as otherwise used to group a product line.

Information to be Included:

- Evaporative/Refueling Family Name
- Evaporative/Refueling Family Parameters specified in §86.1821-01

Advice for Submittal:

- Place any general descriptions or schematics in the common section.
- Because evap/refueling families cross test groups, you may want to put all the evap information in the common section rather than re-listing it with each test group. The minimum information required in each test group application is the evap/refueling name and a specific page reference to the common section information.
- You may reference a complete breakdown of your evaporative/refueling families in the general section.

4. Durability Procedure Description

A description of the durability procedure approved and/or modified under §86.1823-01 which applies to this test group. A list of any applicable deterioration factors.

Information to be Included:

- Separate information for exhaust and evap/refueling deterioration.
- A description of the durability procedure used. Describe any modifications from the procedure originally approved by EPA.
- The amount of aging required and actually performed. (e.g., "For 100K Mileage: 300 hours on RPD1 aging cycle required, 350 hours performed, For 50K mileage: 200 hours on RDP1 Aging cycle required, 350 hours performed").
- Indicate whether additive or multiplicative DF's are used or if aged components were used to determine certification levels.
- List all DF's calculated at both full and intermediate useful life mileages.

Advice for Submittal:

- Place the durability descriptions in the common section and reference them.
- Reference the summary sheet for deterioration factors.

5. Test Group Description

A description of the test group in accordance with the criteria listed in 86.1827-01, or as otherwise used to group a product line.

Information to be included:

- Test group name.
- Summary sheet number.
- Engine displacements covered.
- Arrangement and number of cylinders (e.g., V6).
- Vehicle class(es) covered. (e.g., LDV, LDT2, LDV & LDT1).
- Participation in NLEV (e.g., restricted NLEV, Unrestricted NLEV).
- Emission standards class (e.g, LEV, Tier 1, TLEV).
- Applicable emission standards.

Advice for Submittal:

- Reference the summary sheet for emission standards.

6. Test vehicle description

Identification and description of all vehicles for which testing was completed to satisfy the requirements of 86.1822-01 and 86.1828-01 to obtain a certificate of conformity.

Information to be Included:

- Provide information on all test vehicles which are included in this application. Include, for example, evap/refueling vehicles, cold CO, SFTP, and FTP vehicles.
- Test vehicle number and configuration number from CFEIS.
- Basic vehicle description:
  - Engine displacement
  - Emission control system
  - Engine code
  - Transmission
  - ETW
  - Axle Ratio
- Complete vehicle description

Advice for Submittal:

- Reference the vehicle information (VI) submitted to CFEIS for the complete vehicle description.

7. Test results

A comprehensive list of all test results, including official certification levels, and the applicable intermediate and full useful life emission standards to which the test group is to be certified as required in 86.1829-01.

Information to be Included:

- Provide test numbers from CFEIS for all tests run
- Provide official test results (listing all applicable constituents) on all test vehicles which are applicable to this application. Include, for example, evap/refueling vehicles, cold CO, SFTP, and FTP tests.
- Calculate and list the certification levels for each constituent

Advice for Submittal:

- You may combine the test result information of this section with the test vehicle descriptions of section 6.
- Place a copy of the summary sheet from CFEIS in this section to satisfy the test result and certification level requirements.

8. Emission testing waiver statement.

A statement that all applicable vehicles will conform with the emission standards for which emission data is not being provided, as allowed under 40 CFR 86.1829-01 or 86.1810-01. The statement must clearly identify the standards for which the emission testing was not performed.

Typical statements of compliance required when testing was not performed:

- Otto-cycle, gasoline or methanol fueled particulate matter
- Total HC
- Certification Short Test (CST)
- Idle CO for LDT’s
- OBD Compliance with California requirements
- 91 RON fuel testing - no effect on emissions or fuel economy

- Spitback fuel (required when no testing performed)
- Refueling standards for inherently low emitting vehicles
- Fixed liquid level gauge waiver for testing refueling emissions

9. OBD System Description

Supply all the information required in 86.1806-01.

Information to be Included:

- A description of the functional operation characteristics of the onboard diagnostic system.
- The general method of detecting malfunctions for each emission-related component.
- Any deficiencies, including resolution plans and schedules.

Advice for Submittal:

- Use California ARB's OBD table format to satisfy the description requirements.
- If your OBD systems are shared between test groups, place the OBD table in the common section and reference it.

10. Description of Alternate-fueled Vehicles

A description of all flexible or dedicated alternate fuel vehicles including, but not limited to, the fuel and/or percentage of alternate fuel for all such vehicles.

11. AECD descriptions

A list of all auxiliary emission control devices (AECD) installed on any applicable vehicles including the sensed and controlled parameters. (See EPA's guidance letter VPCD-98-08, May 28, 1998). A detailed justification of each AECD which results in a reduction in effectiveness of the emission control system, and rationale why the AECD is not a defeat device as defined under 86.1809-01.

Advice for Submittal:

- Make a table listing AECD's (down) and sensed and controlled parameters (across).
- Place AECD descriptions and explanations of why they are not a defeat device in the common section.

12. Description of vehicles covered by certificate and test parameters.

Description of all vehicles covered by each certificate of conformity to be produced and sold within the U.S., sufficient to identify whether any given in-use vehicle is or is not covered by a given certificate of conformity. Description of test parameters and special test procedures which are applicable to the vehicles covered by the certificate of conformity.

Information to be Included:

! Vehicle Parameters

- Carline
- Model Name
- Vehicle classification
- Emission control system description:
  - Type, number and configuration of catalyst(s)
  - EGR type
  - Air pump type
  - Fuel system type
  - Intake air aspiration method
  - Other
- Engine Code
- Number of valves per cylinder
- Engine displacement
- Sales area
- Transmission and overdrive
- SIL
- Tire size
- N/V Ratios (range of values are acceptable)
- ETW (range of values are acceptable)
- Fuel tank volume (range of values are acceptable)

! Test Parameters

Engine Starting Procedures

Shift schedules (list EPA shift schedule number and shift speeds)

Dyno loading Information (either: (1) Twin roll Dyno DPA and coastdown times, or (2) single roll dyno roadload coefficients, as appropriate; indexed by the vehicle

characteristics (models, ETW, tires) covered

Evaporative testing parameters (such as canister loading, running loss fuel tank temperature)

Advice for Submittal:

- Present vehicles covered by the certificate in a table form (possibly on a spreadsheet).
- Place test parameter information in the common section.

13. Projected sales

Projected US sales for each test group and evaporative/refueling family combination organized in such a way to determine projected compliance with any applicable implementation schedules or minimum sales requirements.

Advice for Submittal:

- Place a phase-in compliance plan in the common section. The plan should indicate which test groups are part of the phase-in requirements and which are not. The plan should also include the rate of compliance and a determination that the phase-in implementation schedule will be met.
- Projected sales may be considered confidential. Reference the sales numbers in the confidential portion of the application and/or common section if you wish confidential treatment of these projected sales.

14. Request for certification

Written request for a certificate of conformity, signed by an authorized representative. The request must include a statement that the test group complies with all applicable regulations contained within 40 CFR Part 86.

Advice for Submittal:

- You may use the formats of your current statements of compliance with updated references.

15. Other information

- Fee filing form

- Any additional information

16. Confidential Information

Place all confidential information in this section.

17. California ARB Information

Place additional ARB information in this section.

RECOMMENDED PART 2 APPLICATION FORMAT

Common Sections

You may submit certain information which is common to more than one test group in a "common section", rather than in the individual test group's application. Then you may reference the information rather than submit it with each application. We have made suggestions, below, of information that can usually be submitted in the common sections. Submit the common sections with your first application.

Confidential Information

Place all confidential information in a separate section at the end of the application. When only limited information on a page is confidential, either create a code for it (and place the decoded information in the confidential section), or use the statement "See confidential section".

1. Part numbers

A list of part numbers of all emission- related components and AECDs for each emission control system, including those found on actual components, organized by engine code or other similar classification scheme.

2. Calibration information

Basic calibration information, organized by engine code, or other similar classification scheme, for the major components of the fuel system, EGR system, ignition system, oxygen sensor(s) and thermostat. For example: fuel pump and fuel pump flow rate, fuel pressure regulator and regulated fuel pressure, EGR valve and EGR exhaust gas flow rate at specified vacuum levels, EGR vacuum regulator and regulated vacuum, EGR orifice and orifice diameter, basic engine timing, timing RPM, idle RPM, spark plug gap, oxygen sensor output (mV) and thermostat opening temperature.

3. Detailed description of vehicles covered by certificate and test parameters.

Information to be included

- Updated vehicle parameters (from part 1) listing specific values, not ranges.

- Updated test parameters covering all vehicles.

- Basic information about the engine code (such as engine horsepower at speed, engine torque at speed, idle speed, basic timing, catalyst codes).

Advice for Submittal:

- You may satisfy this requirement by updating the Part 1 if specific values (rather than ranges) are used.

4. Final US sales

Final sales are required with the final submission of the Part 2 application. Final sales are never treated as confidential by the Agency.

Advice for Submittal:

- Place a final phase-in compliance demonstration in the common section for each emission standard with phase-in requirements. The demonstration should indicate which test groups are part of the phase-in requirements and which are not. The plan should also include the rate of compliance and a determination that the phase-in implementation schedule was met.

5. Service manuals, service bulletins

Copies of all service manuals, service bulletins and instructions regarding the use, repair, adjustment, maintenance, or testing of such vehicles relevant to the control of crankcase, exhaust or evaporative emissions, as applicable, issued by the manufacturer for use by other manufacturers, assembly plants, distributors, dealers, and ultimate purchasers. These must be submitted to EPA when they are made available to the public and must be updated as appropriate throughout the useful life of the corresponding vehicles.

Advice for Submittal:

- Submit service manuals as they become available. Do not provide a second copy with the updated Part 2 unless they change.

- Submit service bulletins as they become available. Limit service bulletins to emission related devices or fixes. Do not provide a second copy with the updated Part 2 unless they have changed.

[Sample Cover Page]

Application For Certification - Part 1

2001 Model Year

Durability Group: XXXXXXXXXXX

Evap. Families: 1TWXR0140ABC, 1TWXE0100AAC

Test Group:1TWXX03.3228

Summary Sheet No.: 999LDV01, 999LDT01

Durability Group Description: Four Stroke, Otto Cycle, Gasoline Fueled, Ported FI, Catalyst Code ABC [if not confidential: Ceramic Monolith Pt/Pd/Rh Catalyst]

Test Group Description: 3.0 & 3.3 Liter V6 LDV & LDT1

Applicable Standards:49 State: NLEV - LEV
Calif: ULEV

Carlines Covered:
Carline 1 (49 St), Carline 2 (50 St), Carline 3 (CA), Carline 4 (50 St)

Vehicles Tested:
VID1 config. 01 (FTP TN: XXXXXXX, SFTP TN: XXXXXXX)
VID2 config. 02 (Evap TN XXXXXXX)

EPA Response Requested By: Dec. 1, 2000

For Questions, Contact:
Jane Doe, 313 555-5555

EPA Test Pending - Conditional Cert Requested