

April 8, 1998

VPCD-98-03(LDV/LDT/SV/ICI)

Dear Manufacturer:

Subject: Certification of 99MY and later NLEV Vehicles

The purpose of this letter is to provide manufacturers with guidance regarding the certification of 1999 and later model year vehicles to the National Low Emission Vehicle (NLEV) emission standards.

As you know, twenty-three automobile manufacturers opted into the voluntary NLEV program. All required states and the District of Columbia opted in, except New York, Massachusetts, Vermont, and Maine. EPA declared the NLEV program to be in effect on March 2, 1998, ref. 63 FR 11374. NLEV regulations are contained in two Federal Register documents, 62 FR 31192, June 6, 1997 and 63 FR 926, January 7, 1998. For your convenience we have combined the applicable sections of the regulations contained in these two documents into one document which will soon be available on the Internet at [<http://www.epa.gov/OMSWWW/lev-nlev.htm>]. Enclosure I contains some answers to commonly asked questions about the NLEV program. Updates will be available on the Internet at [<http://www.epa.gov/OMSWWW/lev-nlev.htm>].

EPA will be issuing three new types of NLEV certificates, an NLEV "unrestricted" certificate, an NLEV "restricted" certificate, and an NLEV/Clean Fueled Fleet certificate. An NLEV "unrestricted" certificate will be issued for vehicles meeting applicable NLEV emission standards which are introduced into commerce in the All States Trading Region (currently 45 states, plus U.S. territories) as defined in 40 CFR Part 86 Subpart R. These certificates will be issued for vehicles which comply with TLEV, LEV, ULEV, or ZEV emission standards, only. To obtain an NLEV "unrestricted" certificate, the manufacturer should submit a cover letter requesting this type of certificate along with the application for certification, and a copy of the EPA summary sheet. If the manufacturer also obtains an Executive Order from the California Air Resources Board for the engine family and evaporative/refueling family, these vehicles can be introduced into commerce in all 50 states, plus the U.S. territories.

An NLEV "restricted" certificate will be issued for vehicles meeting applicable NLEV emission standards which are introduced into commerce in the Northeast Trading Region (currently nine states plus the District of Columbia) as defined in 40 CFR Part 86 Subpart R. To obtain an NLEV "restricted" certificate, the manufacturer should submit a cover letter requesting this type of certificate along with the application for certification, a copy of the EPA summary sheet, and a copy of the California Air Resources Board Executive Order.

An NLEV/Clean Fueled Fleet certificate is similar to an NLEV "unrestricted" certificate, except that the vehicles will also comply with the applicable Clean Fuel Fleet emission standards contained in 40 CFR Part 86 and Part 88. To obtain an NLEV/Clean Fueled Fleet certificate, the manufacturer should submit a cover letter requesting this type of certificate, along with the application for certification, and a copy of the summary sheet. The cover letter should identify the applicable fuel type(s) and emission standards. If the manufacturer also obtains an Executive Order from the California Air Resources Board for the engine family and evaporative/refueling family, these vehicles can be introduced into commerce in all 50 states, plus the U.S. territories.

Manufacturers who have already received a 1999 Federal or California-only certificate and wish to convert it to an NLEV certificate should send EPA a letter which identifies the applicable 1999 engine family and evaporative/refueling family, identifies the NLEV emission standards which apply, and contains a copy of EPA's updated summary sheet (from EPA's data base). Enclosure II contains EPA data base instructions for NLEV engine families.

For special cases only, manufacturers may update the EPA data base after the certificate is issued, e.g., where 1999 model year NLEV vehicles will be introduced into commerce in April or May, 1998, and the manufacturer does not have time to update the EPA data base prior to requesting the certificate. In those cases, the manufacturer should provide a marked up copy of the original summary sheet, in addition to the other required certification information. The marked up summary sheet should include the intended sales area of the vehicles covered by the certificate, plus any additional supporting test data required by NLEV regulations. Updating the data base after the certificate is issued should be avoided if at all possible, because more effort will be required on the part of both EPA and manufacturers. For these cases, manufacturers should update the EPA data base by June

1, 1998.

If you have any questions about this letter or about the NLEV program, please contact Rob French at (734) 668-4380, or your certification team member.

Sincerely,

Jane Armstrong, Director
Vehicle Programs and Compliance Division
Office of Mobile Sources

Enclosures

cc: D. Nguyen, CARB

Enclosure I

National Low Emission Vehicle Program Implementation Frequently Asked Questions

The questions and answers in this document are intended to clarify a number of provisions in the NLEV program (40 CFR part 86 subpart R). This guidance document is intended for use by manufacturers who have opted into the NLEV program.

Regulated parties may use this document to aid in achieving compliance with the National Low Emission Vehicle program regulations. However, it does not in any way alter the requirements of these regulations. While the answers provided in this document represent the Agency's interpretation and general plans for implementation at this time, some of the responses may change as additional information becomes available or as the Agency reconsiders certain issues.

This guidance document does not establish or change legal rights or obligations. It does not establish binding rules or requirements and is not fully determinative of the issues addressed. Agency decisions in any particular case will be made applying the law and regulations on the basis of specific facts and actual action.

1. What options does a manufacturer have for certifying vehicles in the 1999 and later model years?

There are a variety of certification options available to manufacturers in the 1999 and later model year. See the attached table for a tabular layout of state-by-state requirements and options for the 1999-2001 model years. The following two certification options, which are not new and will be processed as they always have been, will be available options in 1999 and later model years:

- Federal Tier 1 certificate. Vehicles covered by a federal Tier 1 certificate can be sold in any state, except California and states that have adopted the California emissions control program under section 177 of the Act.
- California-only certificate. Vehicles covered by a California-only certificate meeting Tier 1, TLEV, LEV, ULEV, or ZEV emission standards can be sold in California, states that have adopted the California emissions control program under section 177 of the Act (New York and Massachusetts in model year 1999, plus Vermont in the 2000 model year, plus Maine in the 2001 model year), and contiguous states (as defined by EPA's Cross Border Sales policy for the 1999 model year).

The NLEV program provides the three following additional options, with some limitations on vehicle type and model year availability:

- NLEV Restricted certificate. In the 1999 model year, California-certified TLEVs, LEVs, and ULEVs can receive a federal NLEV certificate without any additional data submission requirements, allowing these vehicles to be sold throughout the Northeast

Trading Region and contiguous states (as defined in EPA's Cross Border Sales policy for the 1999 model year). This type of certificate will also be granted in the 2000 model year only to California-certified TLEVs. These certificates will be granted pursuant to the provisions of 40 CFR 86.096-30(a)(23), and for the purposes of this guidance will be referred to as an NLEV Restricted certificate.

- NLEV Unrestricted certificate. For 1999 and later model years, vehicles can be certified to the full set of NLEV requirements, equivalent to the California requirements plus the additional federal requirements listed in Question #10. For the purposes of this guidance, these certificates will be referred to as NLEV Unrestricted certificates, although they are functionally no different than the federal certificates issued prior to the NLEV program (i.e., such a certificate allow sales in all states except California and states that have adopted the California standards). See 40 CFR Part 86 Subpart R.
- NLEV & Clean Fuel Fleet certificate. Vehicles can be certified to both the Clean Fuel Fleet program and the full set of NLEV requirements (the NLEV Unrestricted certificate). Additional guidance for this type of certification is provided in Question #19.

2. What types of certificates are required for vehicles delivered to Vermont and Maine in the 1999 model year? In the 2000 model year? In the 2001 and later model years?

Vermont and Maine did not opt into the National LEV Program, and neither state has a section 177 program in place in the 1999 model year.¹ Therefore, manufacturers are only obligated to deliver federal Tier 1 vehicles to these states in the 1999 model year. However, manufacturers are free to deliver vehicles with an NLEV Unrestricted certificate to these states, and under EPA's Cross Border Sales policy, manufacturers are also allowed to deliver California-certified vehicles (Tier 1, TLEV, LEV, ULEV, ZEV). Manufacturers may also introduce federally-certified NLEV Restricted certificate vehicles in these states. This is the case until these states have section 177 programs in effect (model year 2000 in Vermont and model year 2001 in Maine), at which point manufacturers must comply with the requirements of these states to supply California-certified vehicles.

3. What does a manufacturer have to do to convert a California-only certificate that they have already received to an NLEV Restricted certificate?

EPA will issue an NLEV Restricted certificate upon written request from the manufacturer. A letter, sent to the Director of the Vehicle Programs and Compliance Division, should confirm that the manufacturer has opted into the NLEV program and identify the certificate number, the engine family and evaporative/refueling family, and the emission standards (TLEV, LEV, ULEV,

¹ Vermont adopted the California emission standards under section 177 of the Clean Air Act late in 1996. Therefore, due to lead time requirements of the Clean Air Act and the definition of "model year" (see 40 CFR part 85 subpart X and 40 CFR part 86 subpart A), it appears unlikely that Vermont's section 177 program would cover many 1999 model year vehicles.

or ZEV) that will apply to vehicles introduced into commerce in the Northeast Trading Region. The letter should request that EPA issue a federal certificate for sale in the Northeast Trading Region pursuant to 40 CFR 86.096-30(a)(23) for these families for model year 1999 according to the provisions in the National LEV regulations. After receiving the letter and the applicable fee payment, EPA will issue a federal NLEV certificate allowing sale in the Northeast Trading Region and contiguous states. Multiple engine families could be covered by a single letter. See Question #5 for applicable fees.

4. What does a manufacturer have to do to receive an NLEV Restricted certificate if they have not yet obtained a California-only certificate of compliance?

This process is similar to the existing process for obtaining a California-only certificate. The manufacturer will need an Executive Order from the California Air Resources Board for the engine family, and will need to complete the current certificate application process (e.g., by providing appropriate information via EPA’s computer system). After receiving an application for certification, a copy of the Executive Order, a copy of the summary sheet, and the applicable fee payment, EPA will issue a federal NLEV certificate allowing sale in the Northeast Trading Region and contiguous states. See Question #5 for applicable fees.

5. What certification fees apply to the variety of certificates available under the NLEV program?

The NLEV regulations do not modify the application of the pre-existing fee program in 40 CFR Part 86 Subpart J, which assesses fees for each unique engine family/emission control system configuration. Under these requirements, the fee for a federal certificate remains at \$23,731. Federal Tier 1, NLEV Restricted, and NLEV Unrestricted certificates are all federal certificates. The fee for a California-only certificate issued by EPA remains at \$9,127. Payment of certification fees is required prior to receiving a certificate. Therefore, fees currently apply according to the following schedule:

Federal certificate (NLEV Unrestricted, NLEV Restricted, Tier 1, CFF/NLEV):	\$23,731
California-only certificate:	\$9,127

For manufacturers that have already paid \$9,127 for a California-only certificate and choose to revise the certificate for that engine system combination to a federal NLEV Restricted certificate, an additional fee of \$14,604 must be paid, for a total payment of \$23,731.

However, because the NLEV program was found to be in effect after manufacturers had already started the certification process for the 1999 model year, EPA expects to propose in an expedited rulemaking to provide some relief from fee obligations for vehicles receiving NLEV Restricted certificates in the 1999 model year only (these vehicles were intended to be California-only certified and were consequently budgeted as such). This proposal is likely to be part of the

technical amendments package that EPA expects to publish in May, 1998. EPA expects to propose that vehicles receiving NLEV Restricted certificates for the 1999 model year be assessed \$9127. After the rule becomes effective, manufacturers would be able to request a refund of \$14,604 where appropriate. EPA does not plan to propose changes to fees applicable to NLEV Unrestricted certificates in the 1999 model year or to fees applicable to federal certificates (Unrestricted, Restricted, Tier 1) in the 2000 model year. In these cases the fee will remain at \$23,731.

6. What is EPA's Cross Border Sales policy for the 1999 model year?

There are two elements to EPA's Cross Border Sales policy for the 1999 model year. The first allows the sale of California-certified vehicles in states contiguous to California and contiguous to states that have adopted the California standards under the authority of section 177 of the Clean Air Act. This element of EPA's policy has applied to prior model years and remains unchanged for the 1999 model year. The second element concerns the sale of NLEV program vehicles in states bordering states that have opted into the NLEV program (the Northeast Trading Region), an issue not addressed in the Cross Border Sales policy of previous model years. This element of the policy is only applicable to engine families with NLEV Restricted certificates (families with Unrestricted certificates face no cross border issues). Specifically, EPA's Cross Border Sales policy for the 1999 model year allows vehicles with an NLEV Restricted certificate to be sold by dealers in states that border the Northeast Trading Region states to purchasers in any state. Furthermore, dealers in any state may sell vehicles with Restricted certificates if the vehicles are to be registered in the Northeast Trading Region. EPA's Cross Border Sales policy is issued on an annual basis, therefore any similar issues in the 2000 model year will be addressed in the policy for that model year.

7. To what extent can a manufacturer participating in the NLEV program sell vehicles certified to the federal Tier 1 standards in the Northeast states?

Vehicles certified to the federal Tier 1 standards can be sold in any state, except California and states that have adopted the California emissions control program under section 177 of the Clean Air Act and have those standards in effect. Such vehicles can be sold in states that have opted into the NLEV program, and they do not need a special NLEV certificate. See 40 CFR Part 86 Subpart R. The NLEV regulations limit the distribution of federal Tier 1 vehicles through the fleet average NMOG requirements (40 CFR 86.1710-99) and the limitations on the sale of Tier 1 vehicles and TLEVs in the 2001 and later model years in the Northeast Trading Region (40 CFR 86.1711-99).

8. Where can a manufacturer who has opted into the NLEV program sell vehicles certified to the California Tier 1 emission standards?

EPA clearly emphasized in a final rulemaking that Tier 1 vehicles sold under the NLEV program must be certified to the federal Tier 1 standards (see 63 FR 929, Jan. 7, 1998). California-

certified Tier 1 vehicles are therefore allowed in the Northeast Trading Region only to the extent that they can be introduced via EPA's Cross Border Sales policy. Because Massachusetts and New York have section 177 programs in place, EPA's 1999 Cross Border Sales policy allows California Tier 1 vehicles to be delivered to dealers in all of the Northeast Trading Region states except Delaware, Maryland, Virginia, and the District of Columbia. Manufacturers have the option of recertifying California Tier 1 vehicles as 50-state vehicles by presenting the appropriate data to EPA, enabling these vehicles to be sold in all states. EPA will work with manufacturers as needed on a case-by-case basis to facilitate such recertifications. EPA prefers that the underhood label on these re-certified vehicles reflect the federal label language requirements, but will work with manufacturers on a case-by-case basis to enable use of the California Vehicle Emission Control Information label on these vehicles until they can be revised.

9. Is the NLEV NMOG fleet average calculation performed on a regional or on a state-by-state basis?

This question is addressed in the January 7, 1998 final rule (see 63 FR 954) and in the regulations (see 40 CFR 86.1710-99). In the 1999 and 2000 model years, the NLEV program requires manufacturers to calculate their fleet average NMOG on the basis of the region defined as the Northeast Trading Region. In the 2001 and later model years, manufacturers must perform fleet average NMOG calculations on the basis of sales in the All States Trading Region. These regions are defined in the regulations (see 40 CFR 86.1702-99). Manufacturers do not have to calculate a fleet average NMOG on a state-by-state basis for states in these regions. However, manufacturers must perform fleet average NMOG calculations on a state-by-state basis for California and states that have adopted the California standards, if required by regulation in those states.

10. What are the additional requirements beyond what is required for the California program that must be met to get a federal NLEV Unrestricted certificate?

- Total Hydrocarbon (THC)** – The existing THC standard continues to apply to all vehicles in the NLEV program, be they TLEVs, LEVs, or ULEVs, using the federal certification fuel. However, compliance with this standard should not result in testing beyond that required for LEV standards, for two reasons. First, the measurement techniques used to determine other hydrocarbon results (non-methane hydrocarbon, non-methane organic gases) determine THC as a step in the process, and the only additional burden is that of reporting the results. Second, the current federal program provides for the use of engineering justifications or other methods to demonstrate compliance with some standards, including the THC standard, in lieu of providing emission results (see 40 CFR 86.095-23(c)). These justifications may be based on testing using California certification fuel, provided that the justification includes a discussion and/or analysis of the impacts of using the California certification fuel.

- Particulate Matter (PM)** – The federal PM standards with no California counterparts are: (1) the Tier 1 50,000-mile PM standard, applicable to diesel and gasoline vehicles,

and (2) the 100,000-mile PM standard for gasoline vehicles. The NLEV program adopted the California 100,000-mile diesel PM standard, but, to meet the requirements of the NLEV program, diesel vehicles must also certify to the Tier 1 level 50,000-mile PM standard. Note also that the 50,000-mile PM standards for diesel vehicles are equal to (in the case of TLEVs and LEVs) or less stringent (in the case of ULEVs) than the 100,000-mile standards, making compliance with those standards an issue of data reporting only. The table below illustrates the applicability of PM standards to vehicles in the NLEV program. Gasoline vehicles in the NLEV program must meet the federal Tier 1 50,000-mile and 100,000-mile PM standards, but the same provision described above allowing use of an engineering justification is available for the Tier 1 gasoline PM standards.

Applicability of Particulate Standards under the NLEV program (grams/mile)			
Vehicle Type	Fuel	50,000 Mile	100,000 Mile
TLEV, LEV	Diesel	0.08	0.08
	Gasoline	0.08	0.10
ULEV	Diesel	0.08	0.04
	Gasoline	0.08	0.10

- ❑ **Certification Short Test (CST)** – The Agency has a statutory obligation under section 206(a) of the Clean Air Act to promulgate procedures for manufacturers to demonstrate at the time of new vehicle certification that their LDV and LDT designs, when properly used and maintained, will pass the emissions short test procedures approved by EPA for use in state and local I/M programs. There is no California counterpart to the federal CST. The federal CST requirements are contained in 40 CFR Part 86 Subpart O.
- ❑ **High Altitude Standards** – In the NLEV rulemaking, EPA noted its statutory obligation under section 206(f) of the Clean Air Act to require compliance with mandatory section 202 standards at all altitudes. Thus, vehicles under the NLEV program are required to demonstrate compliance with the federal Tier 1 high altitude requirements.
- ❑ **Idle CO Emissions for Light-Duty Trucks** – This standard applies only to light-duty trucks.
- ❑ **Altitude Performance Adjustments** – There is no California requirement corresponding to the federal regulations regarding altitude performance adjustments for new and in-use motor vehicles and engines (see 40 CFR part 86 Subpart Q).
- ❑ **Spitback Standards** – Applicable to non-ORVR light-duty vehicles and light-duty trucks (see 40 CFR 86.096-8 and 86.096-9).

11. What are the requirements for the underhood Vehicle Emission Control Information (VECI) label?

The NLEV program adopted the California Air Resources Board requirements for the VECI label. Section 86.1735-99 of the NLEV regulations specifies that the label requirements are in a document entitled “California Regulatory Requirements Applicable to the National Low Emission Vehicle Program” (See Question #15 for a description of this document). This document contains as a chapter a California document entitled “California Motor Vehicle Emission Control and Smog Index Label Specifications,” as amended June 24, 1996.

For manufacturers certifying and producing engine families under the NLEV program, EPA has developed specific guidance for the VECI label. EPA recommends that a manufacturer use this guidance in the 1999 model year if the manufacturer has the opportunity and capability to do so. EPA wants to ensure that confusion among users of these labels is minimized, and will work with manufacturers to identify methods of reducing confusion in cases where the label can not conform to this guidance. In the remainder of this section EPA describes the label recommendations for 1999 and later model years for the variety of emission certificates available under the NLEV program. Note that in some cases additional statements may be required by applicable California or federal law (e.g., the statement “OBDII certified”). The label of a vehicle certified to the provisions of the NLEV program should indicate the emission standards to which the vehicle is certified (TLEV, LEV, ULEV, ZEV) and that the vehicle complies with the provisions of the NLEV program. In the relevant model years, labels that indicate compliance with the NLEV program should also enable a distinction between engine families with Unrestricted and Restricted certificates. Text in brackets indicate different acceptable formulations. EPA believes that these examples are acceptable to the California Air Resources Board for the 1999 model year.

Federal Tier 1 Vehicles – No change to the labeling requirements under the NLEV program. Label content continues to be dictated by requirements in 40 CFR subpart A.

Example (not sold in California)

This vehicle conforms to U.S. EPA regulations applicable to 1999 model year new [passenger cars/light-duty trucks].

Example (sold nationwide under “50-state” certificate)

This vehicle conforms to U.S. EPA and California regulations applicable to 1999 model year new [passenger cars/light-duty trucks].

California-only Vehicles Without Federal NLEV Certificate – No change to the labeling requirements under the NLEV program. Label content continues to be dictated by the requirements of the California Air Resources Board, except that the manufacturer may, as allowed under the California regulations, include an additional statement (shown in Example #1 below) that complies with the provisions of EPA’s Cross Border Sales policy.

Example #1

This vehicle conforms to California regulations applicable to 1999 model year new [TLEV/LEV/ULEV/ZEV] [passenger cars/light-duty trucks] and to U.S. EPA regulations applicable in

California. This vehicle may only be introduced into commerce for sale in California, a state that has the California standards in effect to which this vehicle has been certified, or a state contiguous thereto.

Example #2

This vehicle conforms to California regulations applicable to 1999 model year new [TLEV/LEV/ULEV/ZEV] [passenger cars/light-duty trucks] and to U.S. EPA regulations applicable in California.

California-only Vehicles With a Federal NLEV Restricted Certificate – The label should show that the vehicle is certified under the provisions of the NLEV program and the level of the standards (TLEV, LEV, ULEV). This type of label should also enable vehicles to be distinguished from those with NLEV Unrestricted certificates, either by detailing the applicable sales region (see example) or by some other language.

Example

This vehicle conforms to California regulations applicable to 1999 model year new [TLEV/LEV/ULEV/ZEV] [passenger cars/light-duty trucks] and to U.S. EPA NLEV program regulations applicable to 1999 new [TLEV/LEV/ULEV/ZEV] [passenger cars/light-duty trucks]. This vehicle may only be introduced into commerce for sale in California, a state that has the California standards in effect to which this vehicle has been certified, a state that has opted into the NLEV program, or a state contiguous thereto.

Vehicles With a Federal NLEV Unrestricted Certificate – Except for California and states with section 177 programs in effect, these vehicles can be sold nationwide. If the manufacturer obtains an Executive Order from the California Air Resources Board, these vehicles can be sold nationwide. As in the above case, the label should show that the vehicle is certified to the provisions of the NLEV program and the level of the standards.

Example (not sold in California)

This vehicle conforms to U.S. EPA NLEV regulations applicable to 1999 model year new [TLEV/LEV/ULEV/ZEV] [passenger cars/light-duty trucks].

Example (sold nationwide under “50-state” certificate)

This vehicle conforms to U.S. EPA NLEV regulations applicable to 1999 model year new [TLEV/LEV/ULEV/ZEV] [passenger cars/light-duty trucks] and California regulations applicable to 1999 model year new [TLEV/LEV/ULEV/ZEV] [passenger cars/light-duty trucks].

12. What are the requirements for the selection of durability data vehicles?

The NLEV program (and California's requirements) select a durability data vehicle based on projected sales volume. Therefore, durability data vehicle selection does not have to be based on the total of projected sales in California and the Northeast Trading Region in the 1999 model year. In the 2000 and later model years, EPA believes that federal and California durability programs should be coordinated, much as they are currently, to allow one durability data vehicle to be selected that will meet the needs of both programs. Note that this is not an issue for engine families receiving NLEV Restricted certificates; in these cases the provisions of the NLEV regulations require that the engine family receive a California-only certificate according to the California regulations. Thus, for NLEV Restricted certificates the selection based on California projected sales should suffice.

13. How should manufacturers procure in-use "reality check" vehicles for alternative durability programs?

For the 1999 model year, the reality check program may be conducted in California. For the 2000 model year alternative durability programs, manufacturers should work with EPA and the California Air Resources Board to determine appropriate reality check requirements. For the 2001 model year, EPA expects that the in-use testing requirements will be determined by forthcoming regulations implementing changes to the vehicle certification process (commonly referred to as the CAP2000 rules).

14. Can EPA clarify the Supplemental Federal Test Procedure (SFTP) phase-in requirements that apply under the NLEV program?

Manufacturers that have opted into the NLEV program are bound by the SFTP requirements in those regulations for light-duty vehicles and light-duty trucks up to 6000 pounds gross vehicle weight. This means that such manufacturers do not have any SFTP obligations for these vehicle classes until the phase-in starts in the 2001 model year. The federal SFTP phase-in would start in the 2000 model year for any manufacturer that had not opted into, or that opts out of, the NLEV program. Vehicle categories not covered by the NLEV program (e.g., light-duty trucks greater than 6000 pounds gross vehicle weight) do not receive a similar "delay" in implementation of the SFTP. These vehicles must comply with the applicable existing federal regulations, and are not affected by the NLEV program's treatment of the SFTP for vehicles covered by the NLEV program.

The NLEV regulations specify in 40 CFR 86.1773-99(d) that the Administrator has approved two simulations for SFTP testing over the SC03 cycle as alternatives to a "full environmental test cell." These simulations, referred to as AC1 and AC2, may be used by manufacturers for the 2001 through 2003 model years without the necessity of a demonstration that emissions using these alternatives are representative of emissions achieved in the full environmental test cell. Use of these alternatives in subsequent years requires such a demonstration and approval by EPA.

15. There is a document referred to in the NLEV regulations entitled “California Regulatory Requirements Applicable to the National Low Emission Vehicle Program.” What is this document, and how can I get a copy?

EPA used a method known as Incorporation by Reference (IBR) to apply some provisions of the California regulations to the NLEV program. The IBR method allows federal agencies to publish regulations in the Federal Register by referring to materials already published elsewhere, rather than repeating that information. The legal effect of an IBR is that the material is treated as if it were published in the Federal Register. This material, like any other properly issued regulation, has the force and effect of law. The Agency has incorporated by reference in the NLEV regulations a number of California regulatory documents (listed below). These documents are maintained by the Federal Register and in the public docket as a single bound document titled "California Regulatory Requirements Applicable to the National Low Emission Vehicle Program." The NLEV regulations detail the specific California documents that have been incorporated, as well as the specific sections within those documents that do not apply to National LEV (see Appendix XIII to Part 86). EPA intends to make an electronic version of this document available on our NLEV web page (<http://www.epa.gov/OMSWWW/lev-nlev.htm>) at some time in the near future. Users of the NLEV regulations can find each of the documents that make up the NLEV program IBR “binder” on the California Air Resources Board LEV Program web page and can assemble their own version of the applicable California requirements. The document referred to in the NLEV regulations as "California Regulatory Requirements Applicable to the National Low Emission Vehicle Program” consists of the following:

Chapter 1

State of California; Air Resources Board: California Assembly-Line Test Procedures for 1983 Through 1997 Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles, adopted November 24, 1981, amended June 24, 1996.

Chapter 2

State of California; Air Resources Board: California Assembly-Line Test Procedures for 1998 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles, adopted June 24, 1996.

Chapter 3

California Code of Regulations, Title 13, Division 3, Sections 2108, 2109, 2110.

Chapter 4

State of California; Air Resources Board: California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, adopted May 20, 1987, amended June 24, 1996, Section 9.a.

Chapter 5

State of California; Air Resources Board: California Non- Methane Organic Gas Test Procedures, adopted July 12, 1991, amended June 24, 1996.

Chapter 6

State of California; Air Resources Board: Regulations Regarding Malfunction and Diagnostic System Requirements--1994 and Later Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines (OBD II), California Mail Out #95-34, September 26, 1995, excluding paragraphs (d), (m)(4), and (m)(5).

Chapter 7

State of California; Air Resources Board: California Motor Vehicle Emission Control Label Specifications, adopted March 1, 1978, amended June 24, 1996, excluding paragraphs 2(b), 3.5, and 10.

16. The OBD requirements that EPA has incorporated by reference are out-of-date and do not match the current California requirements. What is EPA doing to resolve this issue?

The on-board diagnostic (OBD) requirements contained in the NLEV regulations refer to an outdated California regulatory document. That document, California Air Resources Board Mail-Out #95-34, has recently been superseded by Mail-Out #97-24, which contains the OBD requirements to which all manufacturers will be designing their NLEV vehicles. However, because the NLEV regulation has incorporated by reference (see Question #15) the outdated document, vehicles certified to the NLEV program provisions must be certified to that set of OBD requirements. Where OBD systems on NLEV program vehicles do not comply with Mail-Out #95-34, the manufacturer should indicate that fact, in writing, to EPA with a corresponding deficiency request as allowed under paragraph (m) of Mail-Out #95-34. Note that EPA has not in the past charged fines associated with OBD system deficiencies due to lack of harmonization between California and federal requirements, and will continue with that policy under the NLEV program. EPA will promulgate technical corrections to the NLEV regulations in the near future; those technical corrections will update the OBD reference to Mail-Out #97-24. Once these corrections take effect, NLEV program vehicles can be certified to Mail-Out #97-24. Note that vehicles receiving an NLEV Restricted certificate are not affected by this issue; it is only those vehicles certifying to the complete NLEV program regulations (i.e., an Unrestricted certificate) that must identify deficiencies as noted above.

17. EPA found the NLEV program in effect on March 2, 1998. When do the NLEV requirements apply to manufacturers, particularly with respect to “early introductions?”

Some manufacturers have already introduced 1999 model year vehicles into the Northeast Trading Region, or have early 1999 model year introductions planned for the very near term. The NLEV program applies starting with the 1999 model year, notwithstanding the March 2 in-effect finding. Once in effect, the regulations state that the program starts with the 1999 model year. The most important implication of this is that the fleet average NMOG requirements for the Northeast Trading Region must be calculated based on all of a manufacturer’s 1999 model year vehicles delivered to the Northeast Trading Region, regardless of when during the model year the vehicles were introduced or produced.

18. What errors have been found in the NLEV regulations, and how is EPA planning to fix them?

EPA has found a few errors in the NLEV program regulations, and will be correcting those errors. EPA will make these corrections in the quickest possible fashion via a technical corrections rulemaking, which the Agency expects will become effective before June, 1998. Some other issues requiring rulemaking and discussed in this guidance may also be incorporated into such a rulemaking. EPA is aware of the following corrections that need to be made:

- 6. **Formaldehyde Standards** – Some of the in-use formaldehyde standards in tables R99-5 and R99-6 in 40 CFR 86.1708-99 are incorrect. The correct tables are shown below.

Table R99-5. -- Intermediate Useful Life (50,000 mile) In-Use Standards (g/mi) for Light-Duty Vehicles

Vehicle emission category	Model year	NMOG	CO	NOx	HCHO
LEV.....	1999	0.100	3.4	0.3	0.015
ULEV.....	1999-2002	0.055	2.1	0.3	0.008

Table R99-6. -- Full Useful Life (100,000 mile) In-Use Standards (g/mi) for Light-Duty Vehicles

Vehicle emission category	Model year	NMOG	CO	NOx	HCHO
LEV.....	1999	0.125	4.2	0.4	0.018
ULEV.....	1999-2002	0.075	3.4	0.4	0.011

- 7. **Model Year Applicability of In-use Standards for Light-Duty Trucks** – 40 CFR 86.1709-99(c)(1) incorrectly states that the in-use emission standards apply to ULEVs for the 1999 through 2001 model years. These standards actually apply, as the table in that paragraph indicates correctly, for the 1999 through 2002 model year ULEVs.
- 8. **OBD-II Requirements** – As noted in Question #16, EPA will update a California regulatory document incorporated by reference in the NLEV regulations to reflect the most recent OBD requirements.
- 9. **SFTP Standards for Light Light-duty Trucks** – Table 14.2 (40 CFR 86.1709-99(e)(2)) does not contain standards for light light-duty trucks from 0-3750 lbs gross vehicle weight rating. The appropriate standards are shown in the following table:

Loaded Vehicle Weight (lbs)	US06 Test		A/C Test	
	NMHC + NOx	CO	NMHC + NOx	CO
0-3750.....	0.14	8.0	0.20	2.7
3751-5750.....	0.25	10.5	0.27	3.5

10. **Fleet Average NMOG Standard for 1997 and 1998 Model Years** – The fleet average NMOG standards for the purpose of calculating credits in the Northeast Trading Region in the 1997 and 1998 model years should be 0.25 g/mi for light-duty vehicles and light-duty trucks 0-3750 lbs LVW, and 0.32 g/mi for light-duty trucks 3751-5750 lbs LVW, not 0.200 and 0.256 as reported in 40 CFR 86.1710-99(c)(8).
11. **Sec. 86.1711-99 Language Regarding “Same Engine Family”** – Section 86.1711-99 (Limitations on sale of Tier 1 vehicles and TLEVs) uses the phrase “same engine families” to describe a regulatory requirement that compares federal and California vehicles. Using this language implies that Tier 1 vehicles and TLEVs must be 50-state vehicles, which is not what EPA intended. EPA will propose to adopt language consistent with the NLEV provisions in 86.1709-99(e)(2)(ii), which, instead of using engine families to compare California and federal vehicles, uses the following specifications: vehicle manufacturer; vehicle make and model; cylinder block configuration; displacement; combustion cycle; transmission class; axle ratio.
12. **Miscellaneous Typographical Corrections** – Some minor typographical errors and incorrect regulatory references will also be corrected in the technical amendments rulemaking.

19. How does the NLEV program relate to the Clean Fuel Fleet Program?

Currently the following metropolitan areas have adopted or are expected to adopt federal Clean Fuel Fleet (CFF) programs:

<u>Metropolitan Area</u>	<u>State(s)</u>
Atlanta	GA
Baton Rouge	LA
Chicago-Gary-Lake County	IL, IN
Denver-Boulder	CO
Milwaukee-Racine	WI
Washington, DC	MD, VA, DC

The NLEV program does not change anything in the federal Clean Fuel Fleet regulations (40 CFR Parts 86 and 88). The exhaust, evaporative and refueling standards for both programs are identical. In most cases, CFF vehicles will also meet NLEV requirements, however not all NLEV vehicles will meet CFF requirements.² If requested by the manufacturer, EPA will issue certificates indicating compliance with the provisions of both programs where appropriate. In these cases, the combined CFF/NLEV certificate will indicate the type of test fuel(s) used to demonstrate compliance with the certification emission standards. Fleet operators purchasing

² The NLEV program contains certification requirements for TLEVs, LEVs, ULEVs, and ZEVs. The Clean Fuel Fleet Program contains certification requirements allowing credits for fleet purchases of LEVs, ULEVs and ZEVs.

such vehicles for compliance with Clean Fuel Fleet Program requirements must operate these vehicles on a fuel on which the vehicle will meet the applicable CFF vehicle emission standards when in the covered non-attainment area. Certification to the NLEV program requirements will allow Clean Fuel Fleet vehicles to be counted in the calculation of the NLEV program NMOG fleet averages.

For gasoline-fueled vehicles, EPA encourages manufacturers to certify CFF/NLEV vehicles using EPA unleaded gasoline certification test fuel; ref. manufacturer guidance letter VPCD-98-02, Feb. 3, 1998. This would allow fleet operators to operate CFF vehicles on most types of gasoline, including commercially available unleaded gasoline, reformulated gasoline and California Phase II gasoline. EPA will also issue certificates for CFF/NLEV vehicles where the certification test vehicles demonstrated compliance with applicable exhaust emission standards using only California Phase II gasoline test fuel. In this case, fleet operators would need to operate the vehicles on California Phase II gasoline when in the covered non-attainment area to meet the fuel use requirement of the Clean Fuel Fleet Program.

For vehicles certified to both programs, the Vehicle Emission Control Information (VECI) label should indicate the applicable emission standards to which the engine family is certified for each type of fuel that the vehicle can be operated on (see 40 CFR 86.095-35(a)(1)(iii)(F) and (a)(2)(iii)(J)). In addition to the recommended formulations of VECI label language for NLEV program vehicles detailed under Question #11, the label should also include a statement of compliance with the Clean Fuel Fleet Program requirements and indicate the certification fuel(s).

20. What are the requirements for the selection of fuel economy data vehicles for the 1999 model year?

The NLEV program did not change the manner in which fuel economy vehicles are selected and tested. The selection of fuel economy vehicles is based on projected sales. One issue is whether EPA will require the fuel economy data vehicle selections to be changed in the 1999 model year because of changes in projected sales of federal versus California configurations (e.g., because of the NLEV program, the California configuration may be projected to outsell the federal configuration). EPA does not intend to require manufacturers that are in the process of testing 1999 fuel economy vehicles to reevaluate the vehicle selection criteria. In cases where fuel economy testing is already in process, EPA believes that fuel economy label minimum requirements can be satisfied using analytically derived fuel economy data (data which are derived from the originally selected test vehicle), and thus will not require additional testing. Guidelines for using analytically derived fuel economy data are provided in manufacturer guidance letter CD-95-08, May 12, 1995.

Similarly, EPA will not require manufacturers to recalculate fuel economy labels that have already been approved by the manufacturer and submitted to EPA if changes occur in sales projections (see EPA Advisory Circular 83A, paragraph VII). However, the provisions of 40 CFR 600.207-86(a)(3)(ii) and Advisory Circular 83 paragraph IV.D require manufacturers to update their sales projections at the time of label calculation, using the latest available sales

projection that is not over six weeks old. Manufacturers should continue to follow this guidance whenever possible, although exceptions may be allowed with prior EPA approval.

21. What are the emission performance warranty requirements for vehicles certified under the NLEV program?

The emission performance warranty requirements in 40 CFR Part 85 Subpart V apply to all federally-certified vehicles, including those certified under the provisions of the NLEV program. These provisions were not altered by the NLEV program regulations.

22. The California Air Resources Board requires the 7th character of the Vehicle Emission Configuration Bar Code to identify the vehicle as either a California engine family or a federal engine family. What character should be used in this position for NLEV program vehicles?

This issue should be considered in the same manner as the Vehicle Emission Control Information label, in that it may be impractical to change the bar code in some cases in the early part of the 1999 model year. However, an NLEV certificate is a federal certificate indicating compliance with federal emission standards. Consequently, once such a certificate is obtained by a manufacturer, the 7th character of the bar code should use the appropriate character indicated by the California Air Resources Board to indicate certification to federal emission standards. However, the Vehicle Emission Configuration Bar Code is required by the California Air Resources Board, therefore the ultimate resolution of this question should be consistent with California Air Resources Board regulations.

23. The NLEV program adopted the California Air Resources Board method for rounding emission results before comparing to the applicable standard. What are the impacts of this change?

Prior to the NLEV program taking effect, the existing regulations for light-duty vehicles and light-duty trucks required that emission test results “be rounded, [in accordance with ASTM E 29-67], to two significant figures” (see 40 CFR 86.094-28(a)(4)). The NLEV program adopted the California Air Resources Board methodology for rounding emission results, which requires test results to “be rounded to one significant figure beyond the number of significant figures contained in the standard...” (see 40 CFR 86.1728-99(g)(1)). However, the method adopted by the NLEV program was intended to apply only to the new emission standards adopted by the NLEV program, and not to those pre-existing standards in 40 CFR Part 86 Subpart A that are carried over and also apply to NLEV program vehicles. For example, the total hydrocarbon, organic material hydrocarbon equivalent, and evaporative spitback emissions results that apply to NLEV program vehicles should be rounded according to the provisions of 40 CFR 86.094-28(a)(4). The method of rounding adopted by the NLEV program should apply only to those standards in 40 CFR 86.1708-99(b)-(e) and 40 CFR 86.1709-99(b)-(e). See Enclosure II for additional details on implementation of these rounding methods.

State-by-State Emissions Control Requirements and Options

State	Model Year			Footnotes
	1999 ⁴	2000 ⁵	2001 ⁶	
New York, Massachusetts	<u>CA LEV</u>	<u>CA LEV</u>	<u>CA LEV</u>	<p>Footnotes</p> <ol style="list-style-type: none"> 1. Sales that can be made via EPA's Cross Border Sales policy. 2. Tier 1 vehicles & TLEVs may be introduced only if also introduced in California. 3. TLEVs, LEVs, & ULEVs must have Unrestricted certificates. 4. Restricted certificates allowed for TLEVs, LEVs, ULEVs. 5. Restricted certificates allowed for TLEVs only. 6. NLEV Restricted certificates no longer allowed. 7. Restricted certificates allowed via EPA's Cross Border Sales policy. Unrestricted certificates also allowed. 8. CA LEV requirements in Vermont become effective for model year 1999 engine families that start production late in 1998 (see Question #2). <p>Notes and Definitions</p> <ol style="list-style-type: none"> A. <u>Underline text</u> indicates the minimum requirement, plain text indicates available alternatives. B. CA LEV means all vehicle emission categories (Tier 1, TLEV, LEV, ULEV, ZEV) which are certified by California. C. NLEV means a vehicle certified to TLEV, LEV, or ULEV standards under the NLEV program provisions. Includes Restricted and Unrestricted certificates, except where noted.
Vermont ⁸	<u>Federal Tier 1</u> NLEV CA LEV ¹	<u>CA LEV</u>	<u>CA LEV</u>	
Maine	<u>Federal Tier 1</u> NLEV CA LEV ¹	<u>Federal Tier 1</u> NLEV CA LEV ¹	<u>CA LEV</u>	
Connecticut, New Hampshire, New Jersey, Pennsylvania, Rhode Island	<u>Federal Tier 1</u> NLEV CA LEV ¹	<u>Federal Tier 1</u> NLEV CA LEV ¹	<u>Federal Tier 1</u> ² NLEV ² CA LEV ¹	
DC, Delaware, Maryland, Virginia	<u>Federal Tier 1</u> NLEV	<u>Federal Tier 1</u> NLEV	<u>Federal Tier 1</u> ² NLEV ²	
Kentucky, North Carolina, Ohio, Tennessee, West Virginia	<u>Federal Tier 1</u> NLEV ⁷	<u>Federal Tier 1</u> NLEV ⁷	<u>Federal Tier 1</u> ² NLEV	
California	<u>CA LEV</u>	<u>CA LEV</u>	<u>CA LEV</u>	
Arizona, Nevada, Oregon	<u>Federal Tier 1</u> CA LEV ¹ NLEV ³	<u>Federal Tier 1</u> CA LEV ¹ NLEV ³	<u>Federal Tier 1</u> ² NLEV CA LEV ¹	
All other states	<u>Federal Tier 1</u> NLEV ³	<u>Federal Tier 1</u> NLEV ³	<u>Federal Tier 1</u> ² NLEV	

Enclosure II

INSTRUCTIONS FOR SUBMITTING NLEV INFORMATION TO EPA'S DATA BASE

This document provides instructions for submitting National Low Emission Vehicle (NLEV) test data and certification information to EPA's Certification and Fuel Economy Information System (CFEIS) data base. These instructions are intended to supplement the April 1, 1997 version of the CFEIS Manufacturers' User Guide, (CMUG).

1. General Overview

As manufacturers know, to expedite EPA's process of issuing certificates, manufacturers should include an error-free copy of EPA's summary sheet report from the EPA CFEIS data base with each certificate request. Currently, EPA's CFEIS data base supports the following types of certificates:

- Federal (Tier 1);
- California Only (Tier 1, TLEV, LEV, ULEV);
- NLEV-Northeast Trading Region (TLEV, LEV, ULEV);
- NLEV-All States Trading Region (TLEV, LEV, ULEV); and
- Combined NLEV-All States Trading Region/Clean Fuel Fleet (CFF) Certificate (LEV, ULEV).

CFEIS routinely supports the following fuels:

- EPA Gasoline (Federal Certification Test Fuel);
- California Phase II Gasoline;
- Methanol (M85);
- Ethanol (E85); and
- CNG-fueled vehicles (dedicated CNG vehicles only).

Manufacturers should contact a member of EPA's computer support staff prior to submitting CFEIS information in support of other (non-routine) types of certificates, including the following:

- Electric vehicles (ZEVs);
- CNG-conversions and bi-fueled vehicles;
- Inherently Low-Emission Vehicles (ILEVs); and
- LPG (Propane) fueled vehicles.

Additional CFEIS instructions for these non-routine types of certification programs will be provided in a future manufacturer guidance letter.

2. Overview - Changes to Accommodate NLEV Certification

Since the NLEV program is based on California's existing LEV program, very few changes were necessary to the CFEIS data base to accommodate NLEV certification. Several new sales location codes were added to indicate NLEV sales in 1) the Northeast Trading Region (NTR); 2) the All States Trading Region; 3) in All States Trading Region plus areas which have Clean Fueled Fleet Programs in effect; or 4) combinations of the above. Adding new sales area codes to CFEIS will allow manufacturers to create subsystems in their ESI and EvSI programs so that they may enter the appropriate deterioration factors (DFs), emission standards, etc., for each subsystem. Normally only one subsystem would be required, however CFEIS will allow manufacturers to create two or more subsystems if needed.

For example, an NLEV engine family would require two subsystems, if California vehicles were certified to LEV emission standards and NLEV vehicles (introduced into commerce in the All States Trading Region) were certified to TLEV emission standards. The CFEIS requirements for this example are very similar to current requirements for a 50-state engine family which is certified to both Federal and California emission standards. Note that the appropriate sales codes should also be used for the Vehicle Information (VI), Manufacturers Test Data System (MTDS) and Summary Sheet (SS) programs.

Other changes are as follows:

- Highway NOx emission values should appear on the summary sheet, which will require appropriate data entries in the ESI and MTDS programs. Manufacturers should begin entering the unrounded highway NOx emission results into the MTDS data base as "NOX-HWY" instead of "NOX" for all NLEV, CFF, and California certification and fuel economy vehicles.
- Pass/fail results for all NLEV emission values except total HC, OMHCE, Spitback, and high altitude data (if supplied) must be reported differently, ref. 40 CFR 86.1728-99 (g). To implement this change, we request that manufacturers report the 1999 and later model year NLEV emission standards listed on the ESI and EvSI to one decimal place beyond the value of the actual emission standard. [The emission standards for total HC, OMHCE and Spitback should be reported to the same number of significant figures as the

actual emission standard.] This method will have a minor effect on fuel economy mpg calculations, since the CO emissions value used in the equation to calculate the rounded mpg value will be carried out to one more significant figure than actually required. However, reporting a more accurate CO emission value will have no effect on the mpg value, except in extremely rare cases. Manufacturers may contact EPA to correct any incorrectly rounded mpg values on a case-by-case basis.

- The 50°F test emission values should appear on the summary sheet, which will require appropriate data entries in the ESI and MTDS programs. In the interim until CFEIS can be updated, manufacturers may supply this data with the request for certificate, e.g. written on a "marked up" copy of the summary sheet.

- NMOG mass emission values reported to EPA should be "adjusted" NMOG values, which include the reactivity factor (RAF) and the methane RAF (natural gas vehicles only). For additive NMOG deterioration factors (DFs), the DF should also include the effect of the RAF. [Note: Manufacturers who have previously included the RAF in multiplicative NMOG DFs may continue to use this approach for the 1999 model year, if approved by EPA and noted in the ESI comment field.]

- The fuel type will continue to be reported on the certificate and in the Summary Sheet as in the past, however we have revised the CFEIS to distinguish between EPA unleaded gasoline and California Phase II gasoline. A test fuel type code of "G" for gasoline, should no longer be entered in the ESI, EvSI, and MDTS programs. Instead, codes "GA" for EPA unleaded gasoline, and "GB" for California Phase II gasoline should be used.

3. Changes to the Engine System Information (ESI) Program

The following changes should be made to the ESI input codes:

<u>Field Name</u>	<u>Record</u>	<u>Position</u>	<u>Valid Range/Entry Criteria</u>
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Sales Area Code	E2	28-29	CA - California + 177 States (includes Calif. Tier 1, TLEV, LEV, ULEV, ZEV vehicles)
			FA - Federal All Altitude (Tier 1)
			NE - NLEV Northeast Trading Region (TLEV, LEV, ULEV, ZEV)
			NL - NLEV All States Trading Region (TLEV, LEV, ULEV, ZEV)
			CF - Federal Clean Fueled Fleet Areas (LEV, ULEV, ILEV, ZEV)
			CT - Clean Fuel Vehicle Tier 1 (obsolete)
			CE - CA + NE (if certified to same stds)
			CL - CA + NL (if certified to same stds)
			NF - CA + NL + CF (if certified to same stds)

<u>Field Name</u>	<u>Record</u>	<u>Position</u>	<u>Valid Range/Entry Criteria</u>
Test Fuel Type	ES	5-7	G - Gasoline GA - EPA Unleaded Gasoline GB - California Phase II Gasoline EL - Electricity D - Diesel M - Methanol (M85) E - Ethanol (E85) C - Compressed Natural Gas (1994-1997) L - Liquefied Natural Gas (1994-1997) CNG - Compressed Natural Gas (1998 & later) LNG - Liquefied Natural Gas LPG - Liquid Petroleum Gas (Propane) (1998 & Later) N - Not Applicable
Emission Standard	EG	33-40	000.0000 - 999.9999 Notes: 1. The system shall support the entry of emission standards by the user and may additionally provide default values if EPA has applicable standards. 2. To promote proper rounding of certification values in accordance with 40 CFR 1728-99(g), the emission standards for Federal TLEV, LEV, and ULEV vehicles and all California vehicles should be reported to one significant figure beyond the number of significant figures contained in the standard (not applicable to total HC, OMHCE, or Spitback emissions). For example, a 0.2 g/mi NOx standard should be reported as 0.20. 3. Business rule error if the value after update is blank or null.
Multiplicative DF	EG	46-50	0.000 - 9.999 Notes: 1. This field shall be stored in the database as entered by the user, however IOV CFEIS processes that use this field shall use the value 1 when the value entered is less than 1. 2. Multiplicative DFs for 1999 and later NMOG values should not include the RAF (unless approved by EPA and noted in the comments).
Additive DF	EG	52-60	-9.999999 - 9.999999 Notes: 1. This field shall be stored in the database as entered by the user, however IOV CFEIS processes that use this field shall use the value 0 when the value entered is less than 0.

2. Additive DFs for 1999 and later NMOG values should include the effect of the RAF.

4. Changes to the Evaporative/Refueling System Information (EvSI) Program

The following changes should be made to the EvSI input codes:

<u>Field Name</u>	<u>Record</u>	<u>Position</u>	<u>Valid Range/Entry Criteria</u>
Fuel Type Stored in the Fuel Tank(s)	PM	5-7	G - Gasoline D - Diesel M - Methanol (M85) E - Ethanol (E85) C - Compressed Natural Gas (1994-1997) L - Liquefied Natural Gas (1994-1997) CNG - Compressed Natural Gas (1998 & later) LNG - Liquefied Natural Gas LPG - Liquid Petroleum Gas (Propane) (1998 & Later) N - Not Applicable
Sales Area Code	P2	28-29	Same as outlined above for ESI Program
Test Fuel Type	PS	5-7	Same as outlined above for ESI Program
Emission Standard	PG	26-33	Same as outlined above for ESI Program (Note #2 added.)

5. Changes to the Vehicle Information (VI) Program

The following changes should be made to the VI input codes:

<u>Field Name</u>	<u>Record</u>	<u>Position</u>	<u>Valid Range/Entry Criteria</u>
Sales Area Code	V4	42-43	Same as outlined above for ESI Program
Sales Area Code	V4	45-46	Same as outlined above for ESI Program
Sales Area Code	V4	48-49	Same as outlined above for ESI Program
Sales Area Code	V4	51-52	Same as outlined above for ESI Program
Emission Standards Test Fuel Type Code	VF	5-7	Same as outlined above for ESI Program (for the Test Fuel Type field).

Note: A minimum of one code is required for entry.

6. Changes to Manufacturers Test Data System (MTDS) Program

Test Procedures 51, 52, unrounded emission results names 50-HC, 50-CO, 50-CO2, 50-NOX, 50-NMOG, 50-HCHO and 50-FE will be added approximately three weeks from the date of this letter. No actual changes were made to any other MTDS input codes, however the instructions were revised for clarity, as follows:

<u>Field Name</u>	<u>Record</u>	<u>Position</u>	<u>Valid Range/Entry Criteria</u>
Test Procedure	T1	49-50	02 - CVS 75 & Later (EPA city test w/o canister loading)
(All codes are shown)			03 - HWFE (Highway test)
			06 - Evap Only (obsolete)
			10 - Idle CO
			11 - Cold CO
			12 - Short Test (obsolete)
			13 - Constant Temperature Evap (2-hr evap)
			14 - Variable Temperature Evap (obsolete)
			15 - Spitback Test
			16 - 1995 California Variable Temperature Evaporative (obsolete)
			17 - 1995 California Running Loss Evaporative (obsolete)
			21 - Federal Fuel 2-day Exhaust (C₄H₁₀ can load)
			22 - Federal Fuel 2-day Butane Preconditioned Exhaust plus Hot Soak (obsolete)
			23 - Federal Fuel 2-day Evap Test (C₄H₁₀ can load)
			24 - Federal Fuel Refueling Test (ORVR) (C₄H₁₀ canister loading)
			25 - Calif Fuel 2-day Exhaust (C₄H₁₀ can load)
			26 - California Fuel 2-day Butane Preconditioned Exhaust plus Hot Soak (obsolete)
			27 - Calif Fuel 2-day Evap Test (C₄H₁₀ can load)
			28 - Calif Fuel Refueling Test (ORVR) (C₄H₁₀ canister loading)
			31 - Federal Fuel 3-day Exhaust (C₄H₁₀ can load)
			32 - Federal Fuel 3-day Exhaust plus Running Loss (obsolete)
			33 - Federal 3-day Exhaust plus Running Loss plus Hot Soak (obsolete)
			34 - Federal Fuel 3-day Evap Test (C₄H₁₀ can load)
			35 - Calif Fuel 3-day Exhaust (C₄H₁₀ can load)
			36 - California 3-day Exhaust plus Running Loss (obsolete)
			37 - California 3-day Exhaust plus Running Loss plus Hot Soak (obsolete)
			38 - Calif Fuel 3-day Evap Test (C₄H₁₀ can load)
			41 - Federal Fuel 2-day Exhaust (heat fuel tank to load canister)
			42 - Federal Fuel 2-day Heat-build Preconditioned Exhaust plus Hot Soak (obsolete)
			43 - Federal Fuel 2-day Evaporative Test (heat fuel tank to load canister)
			44 - Federal Fuel Refueling Test (ORVR) (heat fuel tank to load canister)
			45 - Calif Fuel 2-day Exhaust (heat fuel tank to load canister)
			46 - California 2-day Heat-build Preconditioned Exhaust plus Hot Soak (obsolete)
			47 - Calif Fuel 2-day Evaporative Test (heat fuel tank to load canister)
			51 - Calif Fuel 50°F Exhaust Test
			52 - Federal Fuel 50°F Exhaust Test
			71 - CST -Idle Test (EPA Only)
			72 - CST -Two Speed Idle Test

- 73 - CST -Loaded Test (**EPA Only**)
- 74 - CST -Preconditioned Idle Test (**EPA Only**)
- 76 - CST -Preconditioned Two Speed Idle Test (**EPA Only**)

<u>Field Name</u>	<u>Record</u>	<u>Position</u>	<u>Valid Range/Entry Criteria</u>
Unrounded Emission Result Name	TR	4-19	HC-TEV - Total 2-hour evaporative hydrocarbon emission loss
			HC-TEV-2D - Enhanced evap 2-day total evaporative hydrocarbon emission loss
			HC-TEV-3D - Enhanced evap 3-day total evaporative hydrocarbon emission loss
			OMHCE-TEV-2D - Enhanced evap 2-day total evaporative organic material hydrocarbon equivalent emission loss
			OMHCE-TEV-3D - Enhanced evap 3-day total evaporative organic material hydrocarbon equivalent emission loss
			HC-RL - Running loss HC
			HC-TOTAL - Total exhaust hydrocarbon
			CO - Carbon monoxide
			CO2 - Carbon dioxide
			NOX - Oxides of nitrogen
			PM - Particulate emissions
			HC-NM - Non-methane hydrocarbon emissions HC-TOTAL - Total exhaust hydrocarbons
			HC-IDLE - Idle HC (obsolete)
			CO-IDLE - Idle CO
			CO-COLD - Cold CO
			HC-ST2500 - Short test 2500 RPM HC
			CO-ST2500 - Short test 2500 RPM CO
			HC-STLM -Short test loaded mode HC (EPA only)
			CO-STLM -Short test loaded mode CO (EPA only)
			HC-STI - Short test idle HC
			CO-STI - Short test idle CO
			HC-BAG - Bag measured HC (obsolete)
			HC-HFID - Heated FID HC (obsolete)
			OMHCE - Exhaust Organic material hydrocarbon equivalent
			OMNMHCE - Exhaust Organic material non-methane hydrocarbon equivalent
			HC-ORVR - Total ORVR hydrocarbon emissions
			OMHCE-ORVR - Total ORVR organic material hydrocarbon equivalent emissions
			NMOG - Non-methane organic gas (NLEV, CFF, California) NMOG emission values for 1999 and later should be adjusted by the RAF & methane RAF if appropriate, but should not include the DF.
			HC-FE - Fuel Economy Hydrocarbon (obsolete)
			HC-TOTAL-EV - Total 2-hr evaporative hydrocarbon emissions loss (obsolete; replaced by HC-TEV)
			HC-NM-TOTAL-EV - Total evaporative nonmethane hydrocarbon emissions loss (obsolete)
			OMHCE-TOTAL-EV Total evaporative organic material hydrocarbon equivalent emissions loss (2-hour evap test)

(All emission names are shown)

~~OMNMHCE-TOTAL-EV~~ Total evaporative nonmethane
organic material hydrocarbon
equivalent emissions loss (obsolete)
~~HC-DIURN-EV~~ Diurnal evaporative hydrocarbon
emissions loss (obsolete)

<u>Field Name</u>	<u>Record</u>	<u>Position</u>	<u>Valid Range/Entry Criteria</u>
Unrounded Emission Result Name (continued)	TR	4-19	HC-NM-DIURN-EV Diurnal evaporative nonmethane hydrocarbon emissions (obsolete) OMHCE-DIURN-EV Diurnal evaporative material hydrocarbon equivalent emissions loss (obsolete) OMNMHCE-DIURN-EV Diurnal evaporative nonmethane organic material hydrocarbon equivalent emissions (obsolete) HC-HS-EV Hot soak evaporative hydrocarbon emissions loss obsolete HC-NM-HS-EV Hot soak evaporative non-methane hydrocarbon emissions loss (obsolete) NMHC-HSEV (obsolete) OMHCE-HS-EV Hot soak evaporative organic material hydrocarbon equivalent emissions loss (obsolete) OMHCE-HSEV (obsolete) OMNMHCE-HS-EV (obsolete) OMHCE-RL - Organic material hydrocarbon equivalent running loss SPITBACK - Spitback NOX-HWY - Highway NOX (NLEV, CFF, California) HCHO - Formaldehyde (units are in g/mi) H3C2HO Acetaldehyde (obsolete) HCHO-COLD - Cold test formaldehyde HC-TOTAL-COLD - Cold test total hydrocarbon NOX-COLD - Cold test oxides of nitrogen CO2-COLD - Cold test carbon dioxide METHANE Methane (obsolete) ETHANE Ethane (obsolete) PROPANE Propane (obsolete) BUTANE Butane (obsolete) METHANOL Methanol (obsolete) ETHANOL Ethanol (obsolete) METHANOL-COLD Cold test methanol (obsolete) BENZENE Benzene (obsolete) H2 Hydrogen (obsolete) O2 Oxygen (obsolete) O3 Ozone O3 (obsolete) MFR-FE - Manufacturer-derived fuel economy EPA-FE EPA-calculated fuel economy (obsolete) FE Official fuel economy (obsolete) FE-URND-UADJ Unrounded unadjusted fuel economy FE-URND-ADJ Unrounded adjusted fuel economy FE-RND-UADJ Rounded unadjusted fuel economy (obsolete) FE-RND-ADJ Rounded adjusted fuel economy 50-HC - 50° test total hydrocarbons 50-CO - 50° test carbon monoxide 50-CO2 - 50° test carbon dioxide 50-NOX - 50° test oxides of nitrogen 50-NMOG - 50° test Non-methane organic gas (NLEV, CFF, California) NMOG emission values should be adjusted by the RAF, but should not include the DF. 50-HCHO - 50° test formaldehyde 50-FE - 50° test fuel economy (mpg)

(All emission names are shown)

7. Changes to Summary Sheet (SS) Program

The following changes should be made to the VI input codes:

<u>Field Name</u>	<u>Record</u>	<u>Position</u>	<u>Valid Range/Entry Criteria</u>
Sales Area Code	X2	16-17	Same as outlined above for ESI Program

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