Albuquerque/Bernalillo County

Vehicle Pollution Management Program

Air Care Inspector

Reference Manual

Last Updated 06.13.19

Albuquerque Environmental Health Department
Vehicle Pollution Management Division
1500 Broadway Blvd. NE
Albuquerque, NM 87102
www.cabq.gov/aircare
vpm@cabq.gov
(505)-764-1110
Version: 1.4

Overview

Motor vehicles are the primary source of air pollution in the Albuquerque metropolitan area. Like many western cities, Albuquerque is characterized by relatively little industrial pollution but high vehicle miles of travel from sprawling residential areas commuting into employment centers in the city's core. The air pollution problem in the middle Rio Grande Valley is compounded by our topography as thermal inversions in the winter and stable air masses in the summer trap pollutants between the 10,000 foot high Sandia and Manzano mountains to the east and 7000 foot high volcanic escarpment to the west.

The Albuquerque/Bernalillo County Vehicle Pollution Management Program (the Program) was first implemented in 1982 as required by the Federal Clean Air Act of 1977 to address violations of the national ambient air quality standard for carbon monoxide (CO). Testing was initially conducted using dynamometers at two large test stations with four test bays each. This original centralized program suffered from long lines and was shut down less than two years later due to a New Mexico Supreme Court ruling which prevented the City from collecting test fees to help fund the program.

New Mexico subsequently became one of only eight states to suffer EPA sanctions and lose federal highway funding for failure to operate a required vehicle inspection and maintenance program. State law was changed to allow for the collection of station, inspector and inspection fees. The program was restarted in 1989 as a decentralized program. Therefore, the Vehicle Pollution Management Division (VPMD) of the Albuquerque Environmental Health Department began administering the decentralized program for Albuquerque/Bernalillo County. At this time, the analyzer used was a Bureau of Automotive Repair (BAR 84) two-speed exhaust analyzer. The program inspected for 2-speed exhaust at idle and 2500 rpm with four gas readings (CO, carbon dioxide (CO2), hydrocarbon (HC) and oxygen (O2)) taken at each speed to aid in the diagnosis and repair of excessive CO or HC failures as well as equipment tamper checks. Official inspections began being conducted by private Air Care stations certified by the City.

The Clean Air Act Amendments of 1997 required that test programs use On-Board Diagnostic (OBDII) technology to test 1996 and newer vehicles. Beginning in 2004, the program was upgraded to the current BAR97/OBDII/gas cap test platform with additional upgrades to reduce ozone precursors, (HC/NOx). These included tighter HC tailpipe standards, pressurized gas cap testing, and OBDII failures for HC/NOx related diagnostic trouble codes.

Additional upgrades were made in 2011 to allow for gas/electric hybrid testing beginning in 2012. The testing of 1998 and newer diesels vehicles beginning in 2013 was added but subsequently removed from the testing requirements on September 12, 2016. However, diesel vehicles equipped with OBD II can still be tested on the analyzer upon request. The analyzer currently in use is able to conduct two-speed exhaust tests on 1995 and older model year vehicles and the more comprehensive OBDII test on newer vehicles.

Currently, the VPMD headquarters and retest/referee facility is located at 1500 Broadway NE and houses a training room and two large test bays that include 6 analyzers. The facility is used for training and certifying Air Care Inspectors and for conducting a free retest of vehicles that have failed an emission test at any of the more than 130 certified Air Care Stations located throughout the Albuquerque metropolitan area. In 2018 the program tested 251,494 vehicles with failure rate of approximately 9.59% of all vehicles tested.

Table of Contents

1. PURPOSE OF THIS REFERENCE MANUAL 4
2. INSPECTOR TRAINING AND CERTIFICATION 4
3. BASIC EXPECTATIONS OF CERTIFIED INSPECTOR 4
4. VEHICLE TESTING 5
4.1 VEHICLES REQUIRING INSPECTION 5
4.2 VEHICLES NOT REQUIRING INSPECTION 5
4.3 FREQUENCY OF INSPECTION 5
4.4 CUSTOMER CONSENT TO VEHICLE TEST 5
5. OPERATION OF THE EMISSIONS INSPECTION SYSTEM 6
5.1 EMISSION INSPECTION SYSTEM OVERVIEW 7
6.0 TESTING PROCEDURE 9
6.1 VEHICLE PREPARATION 10
6.2 VISUAL INSPECTION OF THE VEHICLE 10
6.3 VISUAL INSPECTION PASS/FAIL DETERMINATION AND CATALYSTS 11
6.4 EMISSIONS INSPECTION MENU 11
6.5 EIS COMMUNICATION WITH VEHICLE INFORMATION DATABASE (VID) 12
6.6 ON-BOARD DIAGNOSTIC TEST 12
6.7 TWO-SPEED TEST 13
6.8 VISIBLE EMISSIONS 15
6.9 GAS CAP EVALUATION 15
6.10 VEHICLE INSPECTION REPORT (VIR) INTERPRETATION AND DISTRIBUTION 15
7. EIS MAINTENANCE 20
7.1 ANALYZER MAINTENANCE MENU 22
7.2 CORRECTING VIR NUMBER SEQUENCE: 23
8. COMPLIANCE ASSISTANCE/PERFORMANCE AUDITS (CAP) 24
9 ENFORCEMENT/COMPLIANCE - AIR CARE INSPECTORS 25
10 DEFINITIONS 27

1. Purpose of this Reference Manual

This manual (previously named, Training Manual) is designed to serve as both a study guide for individuals seeking to become certified as Air Care Inspectors (Inspectors) and as a technical reference guide for certified Inspectors.

2. Inspector Training and Certification

VPMD trains and certifies over 180 new Air Care Inspectors each year. Currently there are over 500 active inspectors working in the Air Care program at 140 certified Air Care Stations. Inspectors must recertify annually. Inspector certification and activation is provided for a cost of $35 per station and is billed to the station after an inspector is activated in the analyzer.

Individuals may reserve a spot in the next available certification course by completing an application form and providing photo identification to the VPMD headquarters at 1500 Broadway NE. The initial certification course is offered at least once a month. Course work involves one day of classroom instruction and one day of practical training and evaluation using the emission analyzer to test a variety of vehicles. A passing grade of 75% or better on the written exam and demonstrated competency in conducting both two-speed exhaust and on-board diagnostic tests is required for all new inspectors.

Successful candidates will be issued an Air Care Inspector certification and will be assigned a personal identification number and access code. Certificates are valid for 12 months. The Emissions Inspection System (EIS) Analyzer will automatically remind inspectors of the need to recertify at least 30 days prior to certificate expiration. If the inspector does not recertify, the EIS will automatically deny access or "lock out" the inspector upon certificate expiration.

3. Basic Expectations of Certified Inspector

As an Air Care Inspector you play a critical role in maintaining and improving the air we breathe and thus the quality of life here in the greater Albuquerque area. Inspectors are reminded that while they may work for themselves or private companies they also represent the Air Care Program and must conduct themselves to the highest standard. Certification is not a property right and VPMD reserves the right to suspend or revoke certifications for unprofessional behavior, incompetence, or fraud.

Air Care inspectors shall follow this reference manual and uphold the regulations established by the Air Quality Control Board at all times. An Air Care inspector shall:

(a) Never allow another person to use the inspector's personal identification number or access code.
(b) Never delegate authority to another person to perform any part of an official test.
(c) Never pre-test or advise a motorist that a vehicle will fail a test before the official test is complete and a Vehicle Inspection Report (VIR) is printed.
(d) Never attempt or allow adjustments to be made on a vehicle before or during the inspection that would alter the outcome of the test.
(e) Always sign all VIRs at the time of the inspection.
(f) Always advise motorists with failed tests that they may obtain a free retest within 90-days at the VPMD headquarters station at 1500 Broadway NE.
(g) Always give notice to VPMD of any change in legal name, employment status, or mailing address as soon as possible but not later than 10 calendar days.

4. Vehicle Testing

When in doubt, call VPMD Headquarters at 764-1110. Ext. 5

4.1 Vehicles Requiring Inspection

A motor vehicle that **IS SUBJECT** to testing refers to any vehicle which:

- Is propelled by a spark ignited, internal combustion engine;
- Is less than 35 years old;
- Has four or more wheels;
- Has a gross vehicle weight rating (GVWR) of 10,000 lbs. or less;
- Is registered to a resident of Bernalillo County,
- Is registered in another county but driven 60 or more days per year into Bernalillo County;
- Is a government or other fleet vehicle which is located or primarily operated in Bernalillo County;
- **Alternative fueled vehicles (such as CNG, propane) require testing** and shall be tested on the fuel they are operating on.

Starting in 2012, Hybrid Electric Vehicles (HEV) require testing and can be tested at any Air Care station.

Gray Market vehicles, Kit Cars, and vehicles with engine swaps should be referred to the headquarters station at 1500 Broadway NE if there is a question on test requirements.

Hybrid Vs. Plug-In Hybrid
Hybrid vehicles main power source is an internal combustion engine and is assisted by an electric motor where as a "Plug-In Hybrid" is mainly powered by an electric motor and assisted by the gas engine.

4.2 Vehicles Not Requiring Inspection

Vehicles that **ARE NOT SUBJECT** to testing includes the following:

- Vehicles that are purchased new until they are 4 years old or until change ownership;
- Vehicles that are owned or operated by the armed forces of the United States or New Mexico National Guard that are uniquely military in nature;
- Compression ignited (diesel fueled) vehicles;
- Motorcycles, mopeds, golf carts, go-carts, recreational cycles, trike vehicles;
- Vehicles that have a GVW of 1000 lbs. or less;
- Vehicles that have a gross vehicle weight rating (GVWR) of 10,001 lbs. or greater;
- Vehicles that are defined as off-road construction or farm equipment;
- Dedicated electric vehicles or "Plug-In Hybrids" (PHEV).

As of September 12, 2016, diesel vehicles no longer require testing, but 1998 and newer diesels can still be voluntarily tested at any Air Care station if a customer wants that service. The inspector is required to inform customer that test is not required for registration in New Mexico.
Vehicles with a GVWR of 10,001 pounds or greater should be referred to MVD for registration.

4.3 Frequency of Inspection

All subject vehicles shall be tested every two years per NMAC 20.11.100 and as part of the MVD registration requirements in Bernalillo County. Unless there is a change of ownership, in which case, a new test is required and the test clock is reset.

Vehicles that pass the inspection may be allowed to register for 2 years. Vehicles with measured emissions exceeding 75% of their allowable tailpipe emissions will be limited to a one-year registration.

4.4 Customer Consent to Vehicle Test

The Air Care Station has the option to require the customer sign a consent form which will document that the customer authorizes the station to conduct the test and agrees to pay the posted inspection fee. Recommended alternatives for a consent form include a repair or work order. This process may help in dispute resolution.

5. Operation of the Emissions Inspection System

Figure 1 - EIS

Each Emissions Inspection System – (EIS see Figure 1) is capable of measuring the proportions of carbon monoxide (CO) and hydrocarbons (HC) emitted by a motor vehicle at high RPM and idle conditions, and each EIS provides for retests of the high RPM and/or idle condition if the initial readings indicated a FAIL. Each EIS has emissions diagnostic capabilities, and each maintains a tamperproof record of all emissions tests performed. Each machine is equipped with tamper switches that are quality control functions to prevent damage or program alterations. Measurement of CO and HC exhaust emissions is accomplished by an infrared system that is contained within the EIS itself.

Operation of approved EIS is simplified by the use of computer controlled messages on a video display screen that tell the inspector what step to take next. These messages may require actions to be performed on the vehicle itself or they may call for the inspector to enter information on the EIS keyboard.

Note: Certain screen functions are password protected and others are not. Only a Certified Emissions Inspector assigned to that analyzer can perform an Official Emissions Test.

For example, if the Air Care Inspector selects the "Official I.M. Test" by pressing the indicated key(s) on the EIS keyboard, the EIS will begin by requesting the inspector to enter information about the vehicle, such as the vehicle identification number, the vehicle make and model, the year of vehicle manufacture, and so forth. Generally, EIS have built-in "help" functions to provide additional guidance during the inspection process. EIS inspection sequences also require the inspector to input the results of the visual inspection portion of the emissions test.

Each test type requires that a specific connector be attached to the vehicle being tested:

- The OBDII cable (see Figure 2) connects to the vehicle's Diagnostic Link Connector (DLC) via a large SAE J1962 connector end of the vehicle cable. This connection can only receive signals from the vehicle's computer which allows the transfer of vehicle's on-board computer generated emission data to the EIS during low and high RPM cycles. Battery voltage on the vehicle for the purposes of the test must remain above 9 volts DC.

Figure 2 OBDII - Connector

- For a two-speed test, an inductive pick-up is attached to one of the vehicle's spark plug wires, or an alternate RPM pickup device is used as approved by the Program Manager to allow measurement of engine RPMs at high and idle speeds. During these speeds, a sample probe is placed in the vehicle's exhaust pipe to collect an exhaust gas sample. The EIS automatically routes the exhaust sample through a filtering and drying system to measure the proportions of CO and HC. The EIS compares the proportions of CO and HC found in the vehicle's exhaust to programmed standards to determine whether the vehicle passes or fails the emissions test.

Each approved EIS prints out the results of the emissions test on Vehicle Inspection Reports (VIRs) purchased from VPMD. In addition, each EIS is capable of printing a Customer Report on plain paper. For purposes of quality assurance, the VIR forms are sequentially-numbered and must be kept inside the EIS. Periodic replacement of paper and printer toner cartridges is a part of normal EIS operation routine. The sequentially-numbered bar-coded VIRs used for the EIS shall be purchased from the Division in groups of 100 and are not transferable to other Air Care Stations.

The EIS is designed to perform a number of other functions that are an integral part of the VPM Program. They automatically store the results of each vehicle emissions test as provided for in the specifications; they provide automated procedures for detecting analyzer leaks; and they are capable of calibrating themselves by using a quantity of "span gases" (low and high concentration blends of gases having known and standardized proportions of CO, CO_2 and HC). An internal clock keeps track of the time that has elapsed since the last calibration and leak check, and will require calibration and leak test to be performed at predetermined intervals. Each of these capabilities helps ensure the accuracy and quality of the VPM Program.

5.1 Emission Inspection System Overview

Follow the step by step prompts on the EIS system overview. Log on to the system to enter appropriate emissions inspection data. Please see figures 4 through 6 for examples of what the system's menus and submenus may contain. These figures illustrate actual menus and features incorporated into the software.

EIS Start-Up Procedure

Locate the Main Power (black rocker) button next to the power cord connector on the back of the EIS. To turn on the computer, locate the computer power button on the lower right hand side of the EIS (as you are facing the back of the machine see Figure 3 below). Press computer power button for one second and listen for four (4) audible beeps indicating the computer received the start-up command. The EIS requires a 15-minute warm up period.

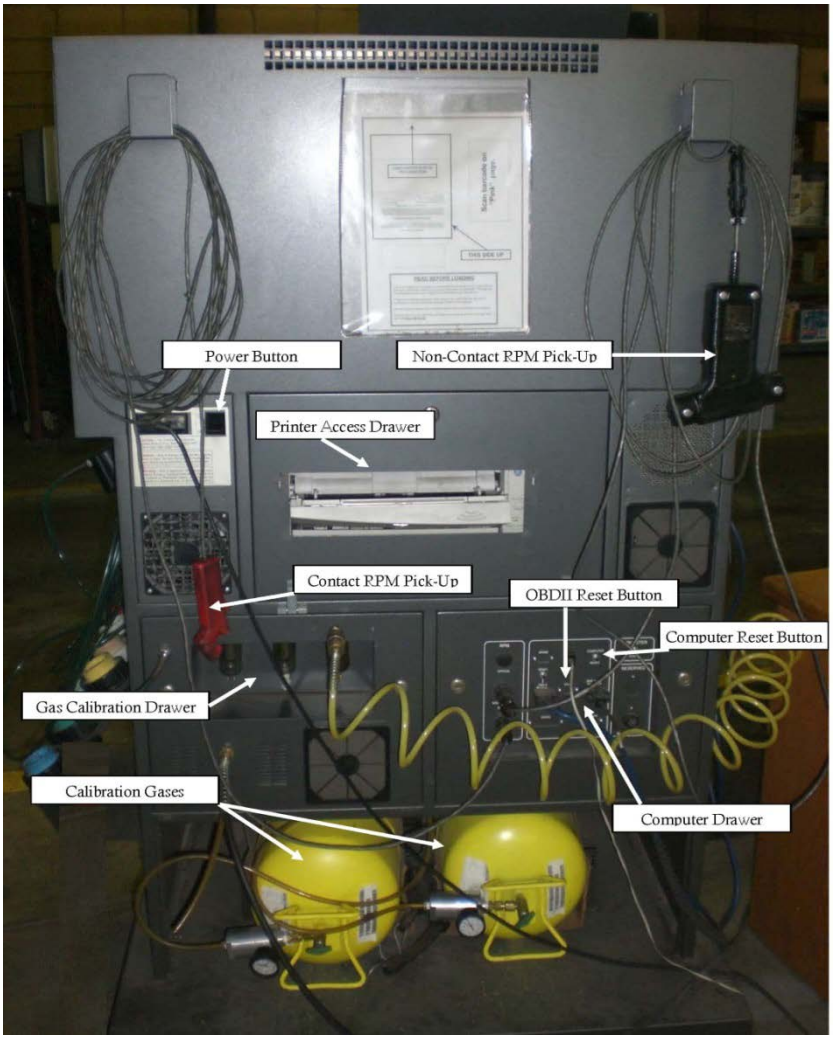


Figure 3 Back of the EIS 5000

Vehicle Inspection System (Figure 4)

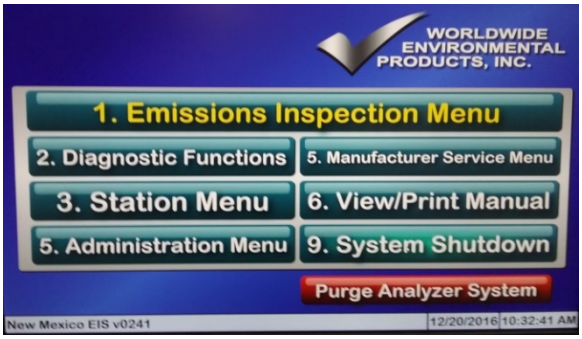


Figure 4 -Vehicle Inspection System Menu

- (1) Allows access to the Emissions Inspection Menu. In this sub-menu, the authorized inspector may log in to perform an actual emissions test. The Analyzer Maintenance Menu is also available here. This sub-menu is used to perform routine calibration operations required by the EIS. (Operations under this section will be covered in detail beginning in Section 6.0 Testing Procedures
- (2) Allows access to the Diagnostic Functions Menu.
- (3) Allows Access to the Station Menu. This sub-menu includes the VIR loading function.
- (5) Allows access to the VPM Administration Menu. This sub-menu is password protected. Only authorized Program auditors are allowed into this sub-menu.
- (5) Allows access to the Manufacturer Service Menu. This sub-menu is password protected. Only authorized EIS manufacturer technicians are allowed into this sub-menu.
- (6) Is the EIS view/print manual menu. This contains the complete User's Manual for the EIS.
- (9) Shuts down the system.

Diagnostic Functions Menu (Figure 5)

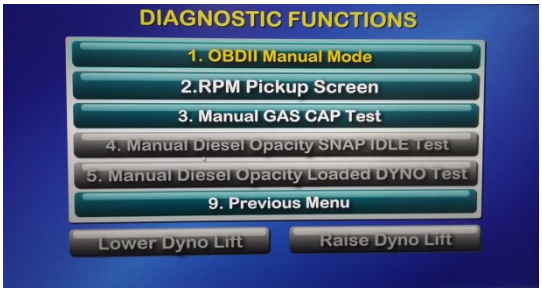
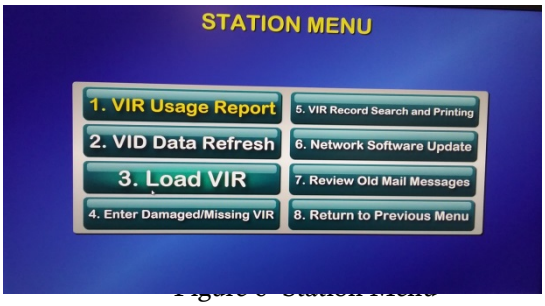


Figure 5 - Diagnostic Functions Menu

- (1) Allows access for manually connecting to an OBDII Equipped vehicle. Data Available depends on the connected vehicle which can include displaying fault codes, resetting fault codes, readiness indicators, O_2 sensor data stream and fuel system data stream.
- (2) Allows access for connecting an RPM pick-up to a vehicle.
- (3) Allows access to the gas cap test outside of an Official I/M Test
- (9) Returns to previous menu

Station Menu (Figure 6)



- (1) This menu allows access to the VIR usage database and can track VIR usage for up to 91 days by entering a date range. This data includes the date, VIR number and vehicle VIN number.
- (2) Instructs the EIS to conduct a VID data refresh via the internet.
- (3) Allows access to enter first and last VIR numbers of purchased VIRs.
- (4) Allows access to reporting damaged or missing VIR numbers.
- (5) Allows previous inspection reports (VIR) to be re-printed.
- (6) Performs a manufacturer software update using the Modem/Network.
- (7) Allows access to mail messages previously displayed after a data file refresh. Allows technical service bulletins and announcements to be retrieved for displaying on screen and printing.
- (8) Returns to the previous menu.

6.0 Testing Procedure

Initially, an Inspector or a station manager must ask the following questions:

- Have you been driving this vehicle for at least 15 minutes?
- Has the vehicle been tested in the last 90-days? ("Yes" will require an after repair test)
- During an After Repair Test ask: What repairs were done and what was the cost?
- What is your customer zip code?
- On out of state license plates ask: Do you plan to register in New Mexico or your home state? (If registering in New Mexico enter NP for license plate; if registering in a home state use characters on out of state plate)

Before starting the test, inspectors shall conduct a visual check of the vehicle to verify that the vehicle is safe for testing and will not present any safety hazards that could endanger the inspector or the general public, and to determine which emissions test is applicable to the vehicle.

If vehicle presented for inspection is not subject to testing, the Air Care Inspector must inform the owner that vehicle inspection is not required and refer them to MVD for registration or VPMD for additional information.

Inspectors should refuse to test unsafe vehicles but should document the rejection by entering the VIN into the analyzer and then immediately abort test and select applicable safety reason for the rejection. No fee will be collected for rejected tests. This information will be sent to VPMD, so that VPMD has a record of the rejection should a complaint arise.

Examples of **unsafe** conditions include:

- Major system leaks (fuel, oil, transmission, coolant, exhaust, etc.),
- Inability to hold steady engine revolutions per minute (RPM),
- Unusual engine noises (loud knocking),
- Emergency/parking brake system is inoperable,
- Unsafe hood operation (hood does not stay open),
- Engine warning lights on for engine temperature, oil, etc.

6.1 Vehicle Preparation

Vehicle preparation procedures are as follows:

- Verify that the transmission is in park (Automatic) or in neutral (Standard) and set the parking brake.
- Vehicles requiring a two-speed idle test must have been driven a minimum of 15 minutes to achieve normal operating temperature which can be verified by checking the temperature gauge.
- Turn off all accessories (including air conditioning).
- Ensure there is nothing in the shop environment, such as equipment or tool boxes, which prevents the inspector from clearly observing the exhaust for visible smoke.

The Inspection/Maintenance Program is the vehicle inspection test consisting of the following five parts:

1. Visual inspection of the catalytic converter and connections for all vehicles.
2. Tailpipe exhaust analysis for 1995 and older vehicles.
3. On-Board Diagnostic (OBDII) test for 1996 and newer vehicles.
4. Visible emissions test for all vehicles (smoking, zero tolerance).
5. Gas cap pressure test for model year 2005 and older vehicles.
6. Inspect Exhaust System for leaks.

6.2 Visual Inspection of the Vehicle

After evaluating a vehicle for safe operation, the inspector will collect and verify the following for entering into the computerized EIS Emissions Inspection System.

The Air Care Inspector shall determine for each vehicle being inspected the specific year and model of the vehicle by VIN number and what emissions control devices or equipment should be in place and operable. The inspector should first consult the emissions label and then, if necessary, the inspector should check their approved emissions control system application guide (Mitchell or Motor manual, Mitchell Pro-Demand or Alldata Pro), to obtain more information.

- Check the **under-hood label**, (see Figure 7). Since the 1972 model year, federal law requires every new vehicle to be equipped with a permanent label within the engine compartment. The label should contain the following information:
  - Name of vehicle manufacturer
  - Statement as to whether the vehicle conforms to California or U.S. Environmental Protection Agency (EPA) emissions control requirements;
  - Engine size in cubic inches (CI), cubic liters (L), or cubic centimeters (CC);
  - Exhaust emissions control type displayed with initials like TWC, WU-TWC, OC, etc.
  - Ensure the correct number of Catalytic Converters are present.

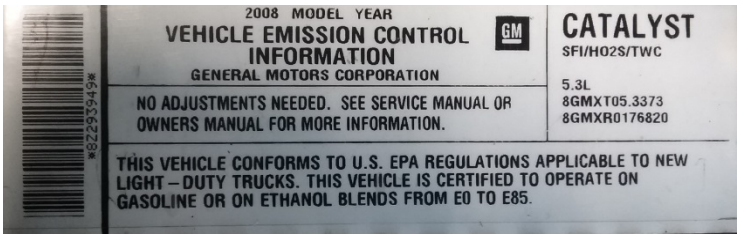


Figure 7 –Under Hood Label

- For unlabeled vehicles, the Air Care Inspector can identify the year or the vehicle and identify the emissions control system by:
  - Using the 17 character Vehicle Identification Number (VIN) (1980 and newer) the tenth (10th) character will identify the year model of the chassis and the fourth (4th) character will identify the GVWR for domestic trucks only.
  - By using other gathered data off the vehicle (Make, model year, engine cylinders, ect.), then using the approved emissions application guides to identify the engine and its required emissions control devices.

6.3 Visual Inspection Pass/Fail Determination and Catalysts

An Air Care Inspector shall gather the data (See Table 1 EIS EMISSIONS INSPECTION SYSTEM Data) from the vehicle presented for emissions testing and enter it into the EIS. The Air Care Station shall have available current references such as emission control application guide books approved by the Program Manager that can be used for reference purposes. There is computer software available commercially that can be used in place of these guide books. Contact the Program headquarters for more information.

Vehicle Identification Number	Vehicle Make	Vehicle Model Year
Gross Vehicle Weight (trucks only)	Engine Size	Body Type
Fuel Type	Odometer Reading	Number of Cylinders
Exhaust Configuration	License Plate ID	Catalyst Inspection Result
Test Type	Zip Code	Transmission Type

Table 1 EIS Emissions Inspection System Data

The required emissions control devices shall be visually checked to determine whether they are installed properly, modified, disconnected, damaged or removed.

For all vehicles, the Air Care Inspector shall enter "P" (pass, if installed properly and in good condition) or "F" (fail, modified disconnected removed or damaged) or "NA" (not applicable, or not required) as appropriate for the catalytic converter(s). The EIS will display a visual prompt on the screen when this PASS/FAIL/NA information should be entered by the inspector.

Inspect vehicles for catalyst.

Any of the following result in a "FAIL" for the visual inspection.

- Missing, (any or all),
- Modified, or
- Rendered inoperative
- Any defeat devices

If all catalysts are installed satisfactorily and are clearly intact, the vehicle shall "PASS" the visual inspection portion of the test.

6.4 Emissions Inspection Menu (Figure 8)

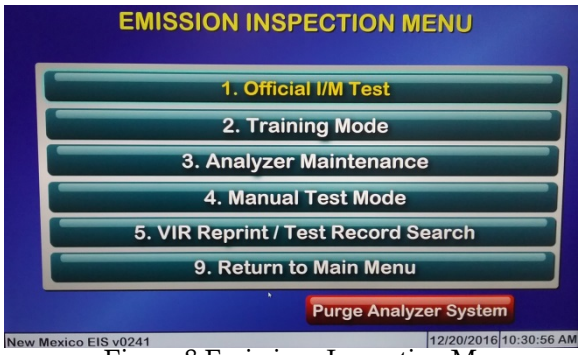


Figure 8 Emissions Inspection Menu

- (1) Allows an Official I/M Test to be performed by Air Care Inspectors authorized by VPM. This is the main function used by an Inspector to perform a test. Once a test is commenced, the inspector will have to enter the following information:
- Inspector Personal Identification Number
- Test Type (Must ask customer if vehicle has been tested in the last 90-days)
    - Initial test
    - After repairs (retest) - Selected if tested at ANY VPMD approved Air Care Station before 90 days elapses).
- Vehicle Identification (VIN)
- Vehicle License Number
- Vehicle Make
- Vehicle Model Year

- Vehicle Type – Car or Truck, (recreation vehicles, vans, four wheel drives shall be entered as a truck)
- Gross Vehicle Weight Rating (GVWR)
- Number of cylinders – Select number of cylinders or select R for Rotary.
- Engine size – enter in by Liters or CC (Cubic Centimeters)
- Fuel type
- Odometer Reading at the time of the test
- Single/dual exhaust
- Customer zip code
- Other information deemed necessary by VPMD

  Once a test has commenced, the analyzer will prompt the necessary steps to complete the test and as detailed in the remainder of this section. Model years 1996 or newer will utilize the automated OBDII procedure where the EIS will conduct an emission test via the vehicle's computer. Model years 1995 and older will use the two-speed tailpipe test. Certain 1996 and 1997 model years which are OBDII incompatible will default to the two-speed emissions test format as programmed into the EIS.

- Other menu option under the EMISSIONS INPECTION MENU include:
  - (1) Allows access to the Official Test Mode
  - (2) Allows access to the Training Mode
  - (3) Allows access to the Analyzer Maintenance Menu. Refer to Section 7, EIS Maintenance for items under this option.
  - (4) Allows access to the Manual Test Mode. This test mode displays HC, CO, CO_2 and O_2. There is also an RPM display.
  - (5) Allows previous inspection reports (VIRs) to be reprinted.
  - (9) Returns to the previous menu.

6.5 EIS Communication with Vehicle Information Database (VID)

First Call
The EIS software is equipped with First Call functions. This is where after the vehicles VIN # and License Plate # are entered into the (EIS); the (EIS) will search the VID for a previous test and auto-populate most data entry fields. The inspector must verify entries and correct entries if they are incorrect.

Second Call
Second Call is the process of transmitting emission data up to the VID immediately upon completion of an emission test. Second Call allows the public to register their vehicle immediately upon completion of a passed emission test. Second Call also benefits VPMD by allowing staff to have near-real time access to test information in the VID.

6.6 On-Board Diagnostic Test

OBDII test - On most vehicles 1996 and newer the vehicle's on-board computer continuously runs self-check to determine how the emission controls equipment are working. The OBDII test is a faster test than tailpipe exhaust analysis and provides the added benefit of early detection of emissions related problems. A "check engine" light that stays on indicates an emissions related problem and will result in a failed test.

Emission Control Functional Tests
Pollution Control Equipment (tamper check) - The Air Care Inspector checks that the emissions control equipment is installed and properly connected.

Check Engine Light-Malfunction Indicator Light
The malfunction indicator light (MIL), or "Check Engine Light", shall be checked on all vehicles equipped with an On-Board Diagnostics systems II. **Do not confuse other vehicle maintenance indicators with the MIL, e.g. oil change or check gauges.**

Malfunction Indicator Light
OBDII ONLY
MIL is defined by

- Check Engine
- Service Engine Soon or
- Holographic designs:

Key On Engine Off (KOEO)
The inspector will turn the engine off and, then key-on to verify that the check engine light is operable. A "Pass" entry indicates that the MIL properly operates and repairs are not needed. If the check engine light does not come on, turn the key to the off position, remove the key for at least 30 seconds, and then retry before entering FAIL.

Key On Engine Running (KOER)
The inspector will then start the engine with the transmission in park (automatic) or neutral (standard) and the parking brake on. The MIL should have come on and then after a brief period, gone out. A fail result indicates that either the MIL does not light at all in the KOEO position or that it remains on or flashes when the engine is running - KOER.

EIS - Vehicle Data Link Connection
Data link connector (DLC) locations vary for many vehicles. In general, DLCs are located in an open location under the driver's side dashboard. A guide and DLC locations resources are available commercially and via the EIS during an emissions inspection.

6.7 Two-Speed Test

Tailpipe exhaust analysis - A computerized gas analysis is performed on vehicles 1995 and older to ensure that the carbon monoxide (CO) and hydrocarbon emissions (HC) are within accepted limits. The exhaust limits vary according to vehicle model year and weight. (see Table 2, this page)

Maximum Allowable Exhaust Emissions							
Test Type	Vehicle Model Year***	Gross Vehicle Weight Rating (in pounds)	Group Code**	Idle Mode HC PPM	Idle Mode CO%	2500 RPM Test HC PPM	2500 RPM Test CO%
Two-Speed	1981-1985	0 to 6000	C/T	220	1.2	220	1.2
	1986-1990	0 to 6000	C/T	200	1.2	200	1.2
	1991-1995	0 to 6000	C/T	180	1.2	180	1.2
Two-Speed	1983-1988	6001 to 8500	LT	300	1.2	300	3.0
	1989-1995	6001 to 8500	LT	220	1.2	220	1.2
Two-Speed	1981-1990	8501 to 10,000	MT	400	4.0	400	3.0
	1991-1995	8501 to 10,000	MT	220	2.0	220	2.0
OBD II	1996-newer	All to be tested OBDII *	All	N/A	N/A	N/A	N/A

Table 2 - Maximum Allowable Exhaust Emissions

* Certain vehicles 1996 and newer which have been determined to be OBDII non-compliant will be tested using the two-speed idle test. The exhaust standard of 100 ppm HC and 1.0% CO at idle and 2500 RPM will be used for these OBDII incompatible vehicles. ** Group code: C = Car, T = Truck/Van, LT = Light Truck, MT = Medium Truck *** Vehicles 35 years old or older DO NOT require emissions testing in order to register.

Preconditioned Two-Speed Idle Emissions Test

The Program approved EIS will provide a series of automatic prompts which will direct the Air Care Inspector on how to proceed through the two-speed test. The conditions and procedures for performing the Visible Smoke Test, and recording the results, shall be as follows:

Pre-testing a vehicle to see if it will pass the emissions test is prohibited and may result in the revocation of an inspector's certificate.

General Test Procedures:

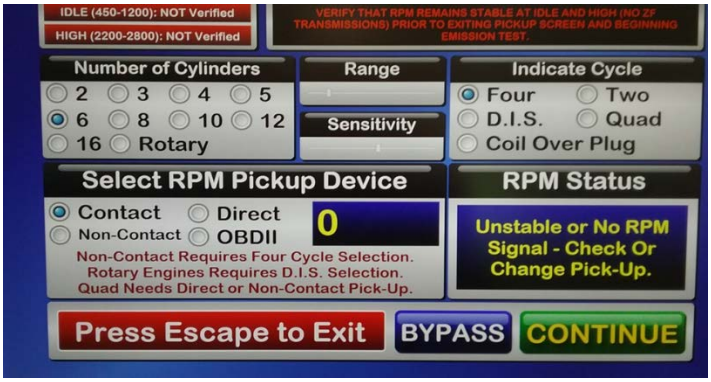
The EIS will prompt the Air Care Inspector to start the emissions test. The EIS will display a visual message on the screen, such as: "*Connect the tachometer probe (red one) with the engine turned off. Start the engine and insert the analyzer probe into the vehicles tailpipe*." Inspectors should ensure that the EIS probe is properly inserted into the tailpipe, and that there are no "kinks" in the hose. In the case of a vehicle that employs a spark arrestor on the tail pipe, a narrow gauge probe should be used in place of the standard flex probe. For vehicles with dual exhaust systems, the dual probe adaptor shall be used.

Specific Test Procedures for Visible Emissions:

- High-Speed Test - Depress the accelerator pedal for ten (10) seconds holding the engine speed to between 2,200 and 2,800 RPM and observe the vehicle's tailpipe(s) for visible emissions. When the timer expires allow the engine to return to an idle.
- Idle Test - Observe the tailpipe exhaust plume of the vehicle for another 10 seconds. At the conclusion of the 10 seconds, the inspector will be asked "Did the vehicle produce visible emissions? (Y/N)"
- Should the inspector enter a "Y" for "Yes" on visible emissions observed, the test will continue with a Fail result based on visible emissions and may show a fail for excessive HC as well. Should the inspector enter an "N" for "No" visible emissions, then other factors in the test will determine the Pass/Fail result of the test.

RPM Test Procedure

Figure 9 is an example of the menu that will aid you in choosing and setting up a RPM pick-up device. Read this display and become familiar with its functions before continuing with vehicle inspections. Validate the engine RPM at either the 450 to 1200 RPM or 2200-2800 RPM with the stable RPM function in the upper left corner before attempting to continue.



Figures 9 RPM Set-Up Screen

6.8 Visible Emissions

Spark-ignited vehicles requiring an emissions inspection must be checked for visible smoke. This portion of the inspection can be accomplished with either the OBDII or the traditional tailpipe test, but there is no 10 second engine rev-up for the OBDII test. In either case the EIS will be used to document your observation on the VIR.

The presence of tailpipe smoke anytime during the emission test results in a 'Fail' test.
Visible smoke often indicates major engine problems and the need for repairs.
No vehicle shall be failed for water vapor condensation or steam.

The Air Care Inspector will watch the tailpipe as the vehicle enters the facility; during the idle portion of the emissions test; and during the high-speed portion of the emissions test (using a properly positioned mirror). If the inspector observes **any smoke** (not steam) during any part of the inspection, the visible portion of the emissions test shall be a FAIL and will be entered as FAIL when prompted by the EIS.

6.9 Gas Cap Evaluation

As prompted by EIS, the Air Care Inspector must perform the fuel cap integrity test on 2005 and older model year vehicles equipped with an evaporative emission control system. Inspectors should consult the gas cap adaptor guide to determine the appropriate gas cap adaptor to be used in the test.

Notice: Be aware, some vehicles may not have gas caps that can be tested by the tester. If no adaptor is available, the inspector shall enter "No" for "is there an adaptor available to fit this cap?" Be advised that less than 1% of vehicles subject to testing do not have available adaptors. VPMD does perform a VID analysis to identify and take action on inspectors falsely entering "No" when adaptors were clearly available.

When prompted by the EIS, inspect the gas cap(s) for proper fit and installation. The EIS will ask

- Is the gas cap the correct cap for the vehicle?
- Is there an adaptor that will fit the cap?
- Is there a second gas cap to be tested? This question will be prompted at the conclusion of the first gas cap test.

Responses are either Yes or No. Notice – if multiple gas tanks are present that are plumbed to the engine and have filler necks, the gas caps for these tanks must be tested. Always test the primary gas tank cap first.

Following the EIS and cap tester prompts, attach the fuel cap to the adaptor and perform the test. The test results are automatically captured by the EIS. If no adaptor is available from the tester manufacturer (for the vehicle being tested), enter "No adaptor available" as prompted by the EIS.

6.10 Vehicle Inspection Report (VIR) Interpretation and Distribution

The EIS will print out of the Vehicle Inspection Report (VIR) at the completion of the test.

VIRs are printed in numerical order and shall include:
(a) Sequential Certificate Number
(b) Air Care Station Identification Number
(c) Air Care Inspector Identification Number
(d) Vehicle Information
(e) Visual Inspection Results
(f) OBDII or exhaust analysis Test Results
(g) Overall Test Results, i.e., Pass, Fail

Vehicle PASSED

In the event of a PASS test, the customer shall be given the VIR with the certificate middle portion attached to be provided to the New Mexico Motor Vehicle Division (MVD) upon registration.

- The Air Care Inspector shall **retain** the bottom – Station Copy in the inspection station files for purposes of auditing and record keeping.

Vehicle FAILED

If the word "FAIL" appears on the VIR, the center certificate portion will be blacked out indicating that the vehicle has failed the test and repairs and/or adjustments are required.

- The Air Care Inspector of an IS –Inspection Only Station may advise the customer of failed items only.
- The Air Care Inspector of an IR – Inspection Repair Station may advise specific repairs and adjustments, and, if known, the repairs and/or adjustments which may be required to pass a retest.
- When the result is FAIL the station shall provide ONLY the VIR (customer copy) to the customer. The Station is to detach and retain the "blacked out" middle portion with the attached lower portion station copy for auditing and record keeping. See Figure 10.

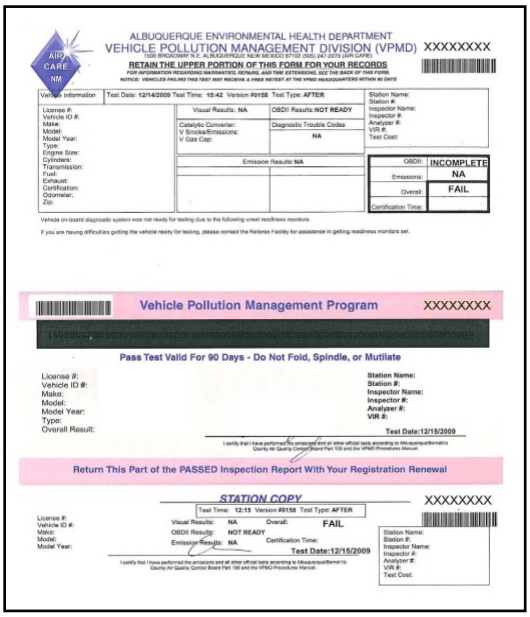


Figure 10 FAILED Emission Inspection

The customer may not use the FAILED VIR for MVD vehicle registration. The Air Care Station shall retain the bottom portion of the VIR.

The Air Care Inspector shall inform the customer that the necessary repairs and/or adjustments and subsequent retest must be completed prior to re-registration of the vehicle. The customer may go to any Air Care Station for a retest. The Air Care Inspector shall inform the customer that **one free retest is available at VPMD** upon presentation of the FAILED VIR within 90-days of the test. The Air Care Inspector may inform the customer that under certain strictly-limited circumstances a time extension may be granted by VPMD.

INVALID or ABORTED Vehicle Test

Invalid or aborted results may not constitute a complete emissions test. Air Care Inspectors and Stations shall contact VPM Headquarters for guidance in this matter. They **may not charge** customers for ABORTED or INVALID tests. If a numbered official VIR is generated as a result of the emissions test, the Air Care Station may charge the customer for the test.

MISPRINTED VIRs or INVALID VIRs

The Air Care Station shall keep **both copies** of these INVALID VIRs for future credits. If the INVALID is caused by engine or exhaust system problems, the Air Care Inspector shall advise the motorist to make the necessary repairs before attempting another inspection.

FAILED Vehicle After Repairs Test (Retest)

Vehicles that are being retested after required repairs and/or adjustments have been made shall have a complete inspection, including the two part emissions test. (Inspector must ask customer if the vehicle has been tested and failed within the previous 90-days and if so enter the test as an "After Repairs"). If the test is a retest, the EIS will request additional information regarding the type and cost of the repairs, if known.

Vehicle Inspection Report

The EIS is equipped with a printer that is capable of producing a 3-part bar coded carbonless Certificate of Vehicle Inspection Report - VIR 8 ½ inches wide by 11 inches long (see Figure 11 on this page).

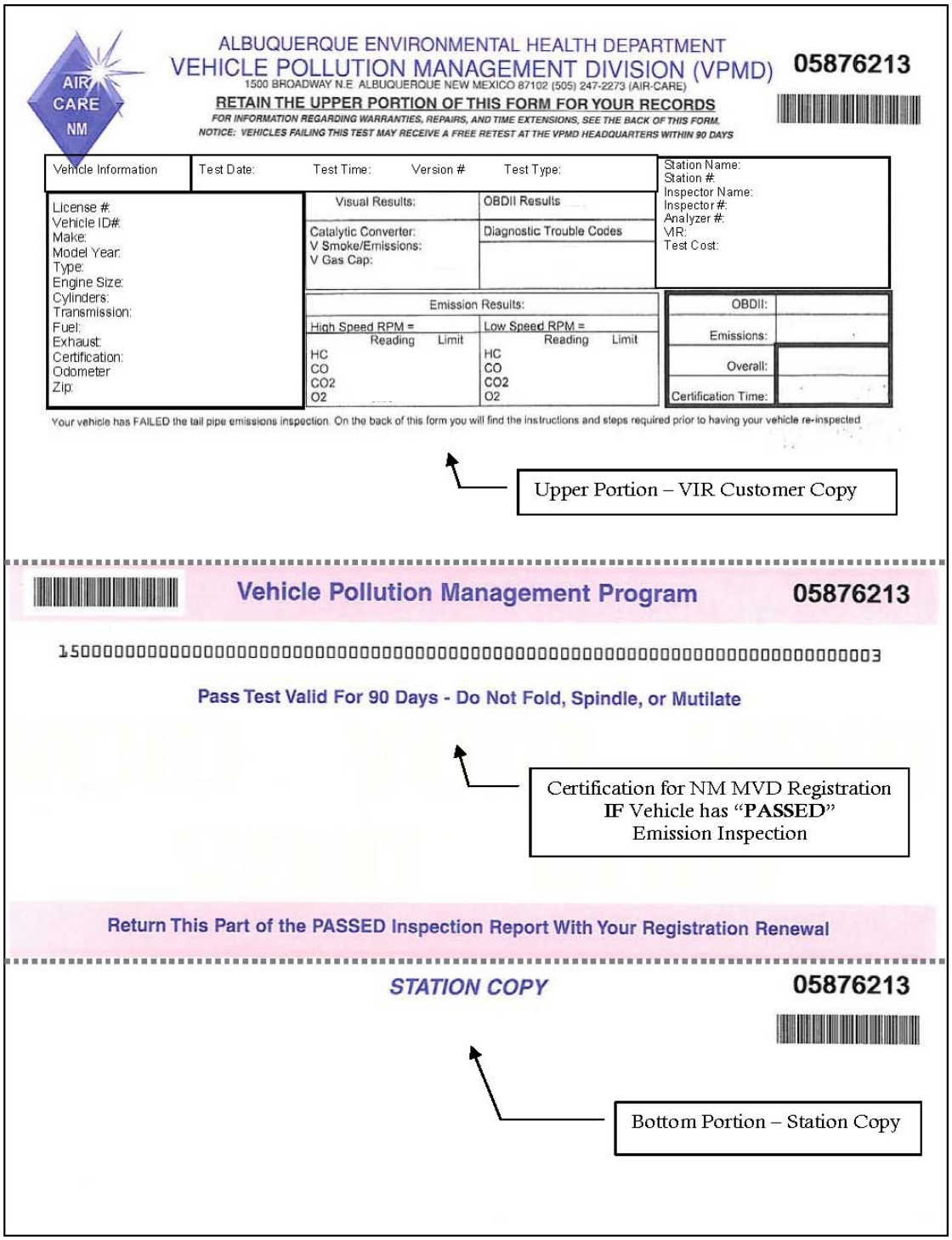
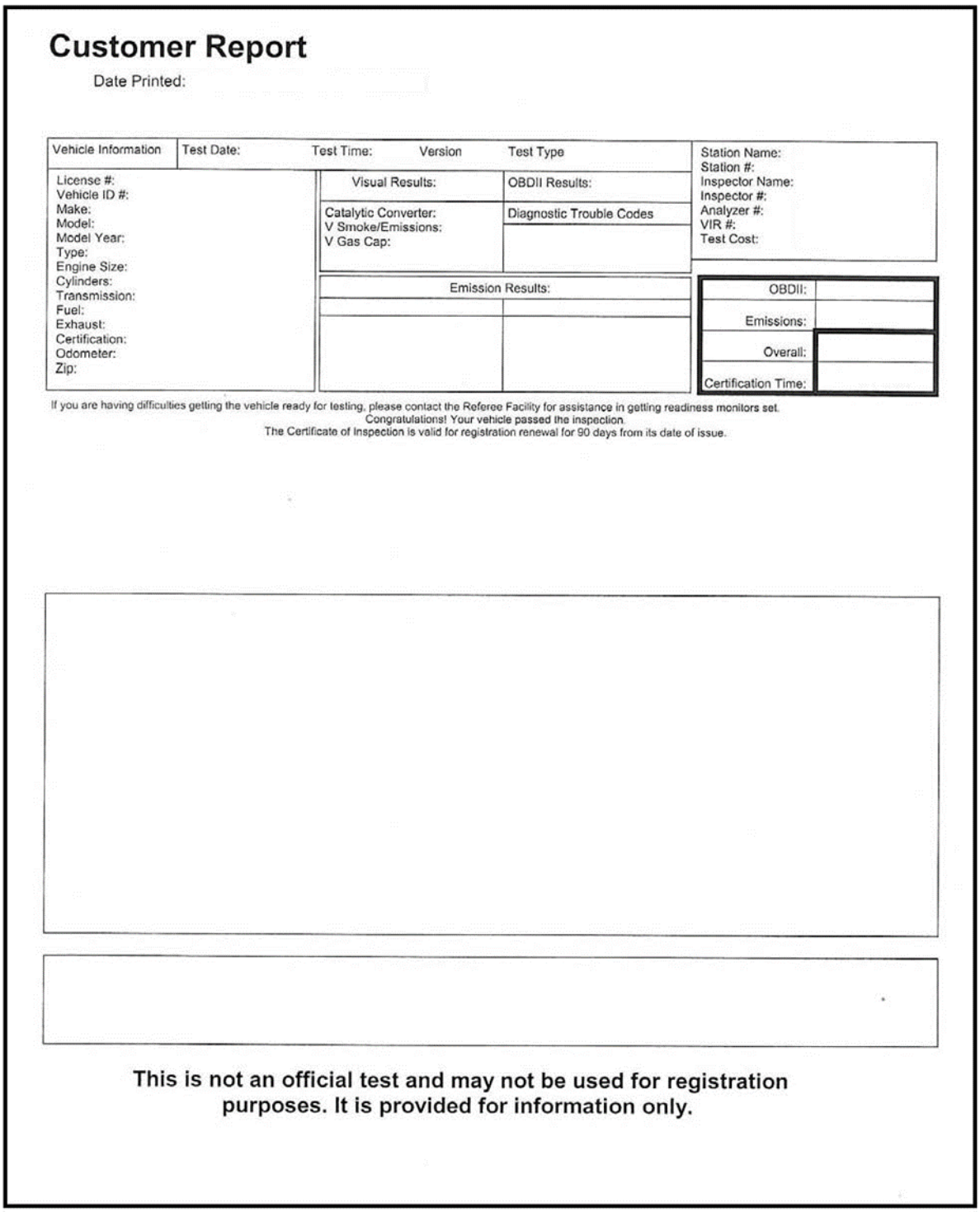


Figure 11 Certificate of Vehicle Inspection Report

Customer Report

The Customer Report (see Figure 12 on this page) is also generated by the printer in the EIS with the same dimensions and information as the VIR.



Customer Report

Date Printed:

Vehicle Information	Test Date:	Test Time:	Version	Test Type

License #:
Vehicle ID #:
Make:
Model:
Model Year:
Type:
Engine Size:
Cylinders:
Transmission:
Fuel:
Exhaust:
Certification:
Odometer:
Zip:

Visual Results:	OBDII Results:
Catalytic Converter: V Smoke/Emissions: V Gas Cap:	Diagnostic Trouble Codes

Emission Results:	

Station Name:
Station #:
Inspector Name:
Inspector #:
Analyzer #:
VIR #:
Test Cost:

OBDII:	
Emissions:	
Overall:	
Certification Time:	

If you are having difficulties getting the vehicle ready for testing, please contact the Referee Facility for assistance in getting readiness monitors set.
Congratulations! Your vehicle passed the inspection.
The Certificate of Inspection is valid for registration renewal for 90 days from its date of issue.

This is not an official test and may not be used for registration purposes. It is provided for information only.

Figure 12 EIS Generated Customer Report

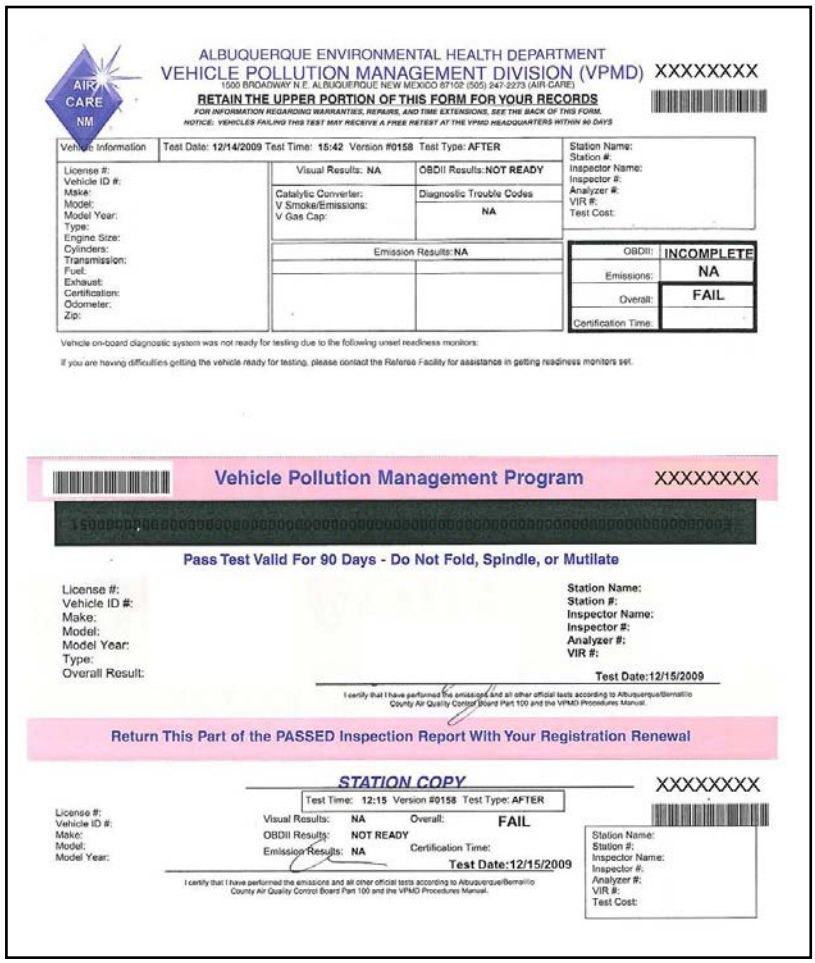
If the vehicle has failed the test, the Inspector must inform the customer of the option for a free retest at VPMD within 90 days and that only VPMD can grant a time extension for repairs.

In order to qualify for a time extension, the vehicle owner must take the vehicle, failed test, and repair receipts or written estimate from a licensed repair facility exceeding $300 to the VPMD referee/retest center at 1500 Broadway NE. The owner may choose to do the repairs themselves or have the repairs performed by another individual or shop, but must use a licensed repair facility to receive a quote for repairs in order to qualify for a time extension.

The Air Care Station or Inspector shall not, in any manner, attempt to require Subject Vehicle owners to have vehicles which have received a FAIL VIR repaired at the Air Care Station. Repairs shall not be performed during the course of the emissions inspection. Inspection Only Stations cannot engage in any troubleshooting routines or repairs of vehicles failing the emissions test.

The PASS station copy, and the FAILED (blacked-out) certificates portion of the test if failed must be kept on record, filed in numerical order, in a secured location in the Air Care Station and made available and/or surrendered to VPMD staff on demand or during regularly scheduled auditing by Quality Assurance staff.

The top portion of the VIR is the vehicle owner's record of inspection, and may be presented to the Division for a FREE retest if the center portion is lost. This VIR is valid for only 90-days. If the entire VIR is lost, the vehicle owner may have the original inspecting Air Care Station generate a Customer Report as proof that a test was performed. This Customer Report may be presented with the vehicle at the VPM Headquarters for a FREE retest.


ALBUQUERQUE ENVIRONMENTAL HEALTH DEPARTMENT
VEHICLE POLLUTION MANAGEMENT DIVISION (VPMD) XXXXXXXX
1500 BROADWAY N.E. ALBUQUERQUE NEW MEXICO 87102 (505) 247-2273 (AIR-CARE)
RETAIN THE UPPER PORTION OF THIS FORM FOR YOUR RECORDS
FOR INFORMATION REGARDING WARRANTIES, REPAIRS, AND TIME EXTENSIONS, SEE THE BACK OF THIS FORM.
NOTICE: VEHICLES FAILING THIS TEST MAY RECEIVE A FREE RETEST AT THE VPMD HEADQUARTERS WITHIN 90 DAYS

Vehicle Information | Test Date: 12/14/2009 Test Time: 15:42 Version #0158 Test Type: AFTER

License #:
Vehicle ID #:
Make:
Model:
Model Year:
Type:
Engine Size:
Cylinders:
Transmission:
Fuel:
Exhaust:
Certification:
Odometer:
Zip:

Visual Results: NA | OBDII Results: NOT READY
Catalytic Converter:
V Smoke/Emissions:
V Gas Cap:
Diagnostic Trouble Codes: NA
Emission Results: NA

Station Name:
Station #:
Inspector Name:
Inspector #:
Analyzer #:
VIR #:
Test Cost:

OBDII: INCOMPLETE
Emissions: NA
Overall: FAIL
Certification Time:

Vehicle on-board diagnostic system was not ready for testing due to the following unset readiness monitors:

If you are having difficulties getting the vehicle ready for testing, please contact the Referee Facility for assistance in getting readiness monitors set.

Vehicle Pollution Management Program XXXXXXXX

Pass Test Valid For 90 Days - Do Not Fold, Spindle, or Mutilate

License #:
Vehicle ID #:
Make:
Model:
Model Year:
Type:
Overall Result:

Station Name:
Station #:
Inspector Name:
Inspector #:
Analyzer #:
VIR #:

Test Date:12/15/2009

I certify that I have performed the emissions and all other official tests according to Albuquerque/Bernalillo County Air Quality Control Board Part 100 and the VPMD Procedures Manual.

Return This Part of the PASSED Inspection Report With Your Registration Renewal

STATION COPY XXXXXXXX

Test Time: 12:15 Version #0158 Test Type: AFTER

License #:
Vehicle ID #:
Make:
Model:
Model Year:

Visual Results: NA Overall: FAIL
OBDII Results: NOT READY
Emission Results: NA Certification Time:
Test Date:12/15/2009

I certify that I have performed the emissions and all other official tests according to Albuquerque/Bernalillo County Air Quality Control Board Part 100 and the VPMD Procedures Manual.

Station Name:
Station #:
Inspector Name:
Inspector #:
Analyzer #:
VIR #:
Test Cost:

Figure 13 FAILED Emission Inspection and VIR

7. EIS Maintenance

Daily start-up, or every 24hrs, leak check, gas-cap calibration, and VID data refresh are required; and every 72 hours a gas calibration procedure is required. Air Care Inspectors and Station owners/managers are responsible for properly maintaining the EIS for proper operation and emission measurements. Materials and supplies shall include:

a. A full extra high gas bottle;
b. A full extra low gas bottle;
c. Two new spare flex probes;
d. Narrow gauge exhaust probe for spark arrestor exhaust;
e. 2 Leak check caps;
f. 6 Spare filters for sample probe;
g. Extra ream of Copy paper for printer;
h. Up to date Gas Cap application guide;
i. Gas Cap Adapter set (12 various colored to date; and additionally 1 red fail cap 1 green pass cap);
j. Current Motors or Alldata Application manuals, (or electronic media with knowledge of operation of the same);
k. Mirror mounted for smoking vehicle exhaust observation;
l. Both your 11X17 and large metal sign with pricing and hours clearly posted;
m. Current signed Station and Inspector certificates posted in public spaces.

Use only approved manufacturer parts to maintain the warranty of the equipment. Refer to the equipment maintenance manuals for more information.

Item/Part	Servicing	Frequency
Water/Air Filter Bowls	Evaluate on a regular schedule. Use non-alcohol, oil-free cleaners. See Fig. 14	After every filter replacement
Dry Side Paper Filter	Only replace with manufacturer's provided parts when the filter becomes discolored or grey. If the EIS indicates low flow during a vehicle emissions test or hydrocarbon hang-up test fails, check the filter. See Fig. 16	Inspect weekly or during the 3-day calibration.
Sample Probe	Check for restricted tip. See Fig. 15	Daily
Sample Hose	Check for kinks/holes; use only shop air (less than 60 psi) to clean hose and probe. See Fig. 15	Weekly or when low-flow or dilution problems persist
EIS	Clean monitor, keyboard and mouse with a soft cloth and chemical free, non-abrasive cleaner.	When dirty

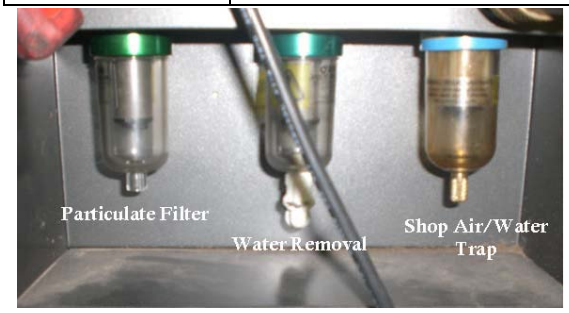


Figure 14 EIS Filter Drawer

Figure 15 New/Old Probes

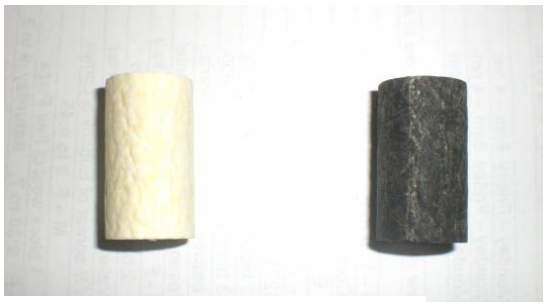


Figure 16 - Clean/Dirty Filter

Verify that you are using the correct values on the blend code, as values vary with bottle change. See Figure 17.

Figure 17 - Blend Codes

EIS Analyzer Requirements:

- Air Compressor capable of producing 90psi
- Dedicated internet network connection
- Dedicated 120v electrical outlet

Other Station Requirements:

- Post your metal signs within easy curbside view for passers-by.
- Post your majority test price and hours open for testing clearly on the metal sign.
- Have your 11”x17” cardboard signs posted visible to the public with your station hours and pricing.
- Have signed current Inspector and Station certifications posted in your public spaces.

7.1 Analyzer Maintenance Menu

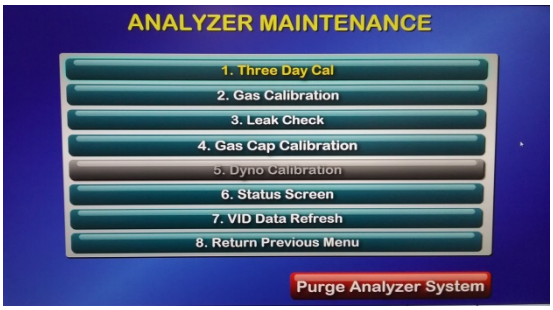


Figure 18 - Analyzer Maintenance

This menu begins the instrument calibration that is required to keep the EIS functional in order to perform accurate emissions tests. See Figure 18.

1) Allows an analyzer gas calibration, leak check and gas cap calibration to be performed. This combines gas bench calibration, leak check, and gas cap calibration into one selection.

2) Allows only an analyzer gas calibration to be performed. The calibration process is integrated with a zero air check, low concentration standard blend, and a high concentration blend. This test is performed every three (3) days.

3) Allows only a leak check to be performed. This is a daily requirement.

4) Allows only a gas cap calibration to be performed. This is a daily requirement.

6) Allows access to the system's status screen.

7) Allow access to the VID data file refresh. In this feature, the analyzer calls up and synchronizes itself with the central database.

8) Returns to the previous menu

Refill VIR/Paper Drawer

VIRs are loaded face down; load the bottom edge first into paper tray. See Figure 19. (Recommend that VIRs are completely used before loading a new stack of 100)

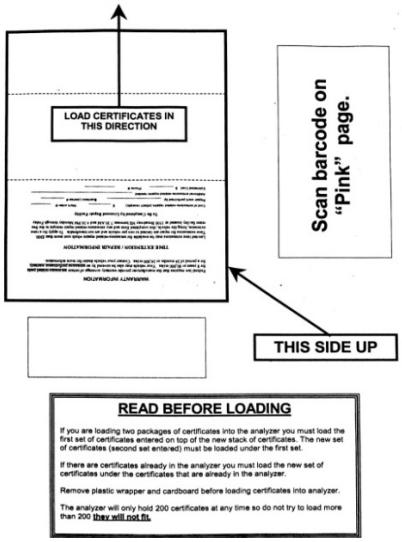
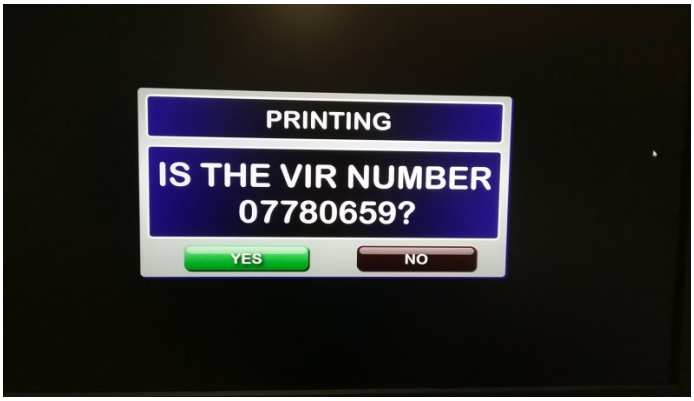


Figure 19 – VIR Loading

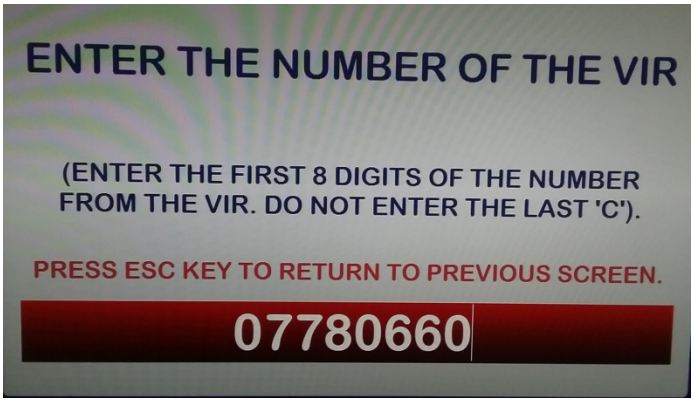
7.2 Correcting VIR Number Sequence:

1. Is the VIR number eight digit XXXXXXXX? (ex.07780659) (YES or NO)



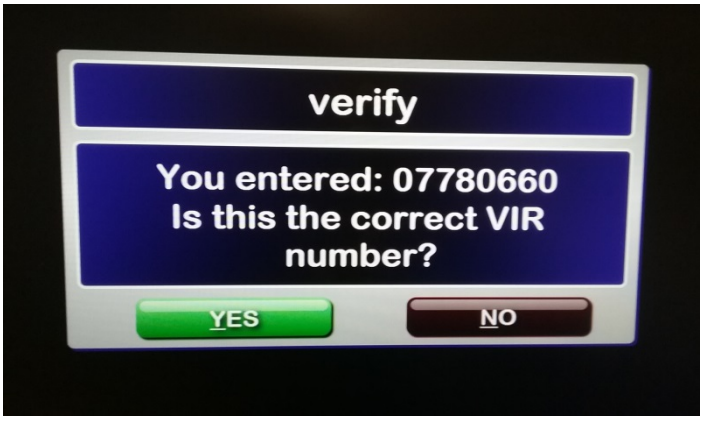
2. Select “NO” and enter

3. The EIS will prompt to enter the number from the VIR that printed.



4. Enter the VIR number eight digit XXXXXXXX? (ex.07780660)

5. The EIS will ask to verify that this is the number that was printed. Enter YES or NO as appropriate



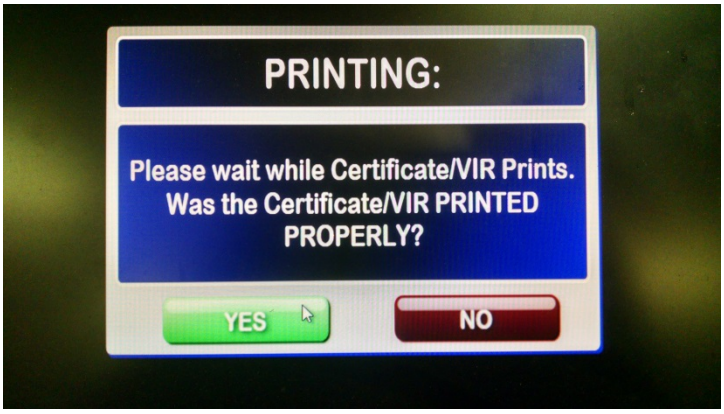
6. The EIS will ask what happened to the unused stickers (VIR)

7. Select appropriate answer “Damaged”, “Voided”, or “Missing/ Stolen”

8. EIS will show that printed VIR was found and determine how many VIRs are missing.
   Select OK enter

9. EIS will prompt to report any missing VIRS to VPMD and request a notification form. Select OK.

10. EIS will reprint VIR for customer use, and continue prompt was the VIR printed properly?



11. Your VIR numbering should now be correct.

12. Void first VIR with improper number discovered and deliver corrected signed VIR to customer.

13. Sign and void wrongly numbered VIR and file.

8. Compliance Assistance/Performance Audits (CAP)

Compliance Assistance is performed through a variety of means or methods. Examples include:

- Process where VPMD Auditors assist stations and inspectors with their compliance requirements; this is done when the inspector recertifies.
- Offer station or inspector assistance or additional training;
- Review of station requirements;
- Review of site requirement;
- Any station owner or inspector can contact VPMD and request additional assistance by calling (505) 764-1110 ext. 5 to speak directly to an auditor.

9 Enforcement/Compliance - Air Care Inspectors

A notice could be given to any Air Care Inspector if any of the following actions occur:

- Violating any or all of the official rules and regulations applicable to Air Care Inspectors as outlined in 20.11.100 NMAC.
- Negligence, which may include failing to take corrective action or safeguards as required by the Program.
- Fraudulent activities, including:
    - Adjusting or repairing a motor vehicle in a manner which would cause it to FAIL an inspection test when it should PASS or PASS when it should FAIL,
    - Entering false data in to an approved EIS,
    - Persuading a customer to authorize repairs at the Air Care Inspector's place of business through willful misrepresentation of emissions inspection requirements,
    - Performing repairs purporting to be essential to emissions requirements but which are unrelated to the emissions inspection result, or
    - Otherwise intentionally deceiving or misleading the public or attempting to subvert the Program data.

The VPMD Auditors will also investigate alleged violations and public complaints filed against Air Care Stations and Inspectors. The Auditors will report their findings to the Quality Assurance (QA) Supervisor. If it is discovered that violations have occurred as a result of a misunderstanding of the Program's rules and regulations, the VPM Program shall take corrective or enforcement actions and may require retraining/retesting of Air Care Inspectors. If, it is determined that violations occurred, then the QA Supervisor shall officially inform the Air Care Inspector of the allegations and pending disciplinary action.

Such disciplinary action may include suspension or revocation of certification for a length of time deemed appropriate by the VPM Program. Any such suspension or revocation will bar the inspector from participating directly or indirectly in any Air Care inspection activities.

Air Care Stations may be held responsible for the Inspector's actions if evidence supports that the inspector violations occurred due to lack of diligence or supervision by the Air Care Station owner/operator. Stations allowing improper tests, a non-certified individual to perform part or all of a test, improper filing and storage of Program documents, insufficient supplies, or improperly posted signs will be assessed against the station.

Categories of Violations and Infractions

Three general categories of infractions have been identified by 20.11.100 NMAC. These categories have been assigned point values and are tracked for each Air Care Station and Inspector. These categories are described below, and a list of examples in each category is provided. These lists are not all-inclusive, and the Program will add specific infractions to these lists in the future.

Intentional Violations

An intentional violation is a violation that is the result of actions that are reckless, deliberate or purposeful or that occur when the person who committed the act or omission knew or should have known the conduct was a violation of 20.11.100 NMAC.

Each intentional violation may result in issuance of up to 16 points for each occurrence, and a suspension or revocation notice of Program certification, as appropriate, for the Air Care Station and Inspection at which the infractions occurred. In addition to suspension or revocation of certification, cases involving an intentional violation could be referred to the US EPA, Attorney General, District Attorney or City Attorney, as appropriate, for further investigation of fraudulent acts or other acts contrary to law. Fraudulent testing such as clean scanning is typically easily identifiable in the electronic information sent to VPMD from the analyzers during a test.

Examples of Intentional Violations may include but are not limited to:

- Pretesting;
- Performing an emissions inspection without physically examining the vehicle for emissions equipment;
- Allowing a non-certified inspector to perform an inspection;
- Adjusting a vehicle to be in Program non-compliance **after** it has passed an inspection;
- Adjusting a vehicle during the test to Pass or Fail;
- Guaranteeing an emissions test to Pass prior to testing the vehicle;
- Clean scanning or clean piping: using a vehicle to fraudulently Pass a different vehicle;
- Accepting cash for a "guaranteed" PASS;
- Purchasing and/or using VIRs from sources other than the VPM Program Headquarters;
- Temporarily replacing emission control devices.

Serious Violations

Serious violations are actions that occur as a result of Inspector error, which includes an omission, and are likely to result in inaccurate test results. Serious violations will be assessed four (4) points each. Serious violations may also result in mandatory conferences at the Program Headquarters to discuss the violation and means of assuring no future repetitions of the problem. The results of the conference will be documented and may include commitments to complete additional training. The Program may agree to vacate points if such commitments are completed successfully and on a timely manner.

Examples of serious violations may include but are not limited to:

- Incorrect gross vehicle weight on trucks;
- Incorrect exhaust system identified;
- Missed item on the visual inspection, either missing or present;
- Charging for an invalid test;
- Improper storage and handling of VIRs, Customer Consent Forms and Data Entry Forms;
- Not appearing for mandatory conferences;
- Not retaining bottom portion of FAIL VIR;
- Not posting official signs properly;
- Improperly warmed up vehicle;
- Identifying the test incorrectly (Initial vs. After Repair Test (retest, re-inspection);
- Lacking the required materials;
- Not entering proper repair costs for retests;
- Not posting fee charged for inspection.

Minor Violations

Minor violations are common errors, that do not impact the Pass/Fail outcome of a test but which can be prevented by diligence and care. Each minor violation will be assessed two (2) points. Minor violations will result in formal written notices of violation.

Examples of minor violations may include but are not limited to:

- Wrong vehicle identification number;
- Not signing VIRs;
- Data entry errors.

Patterns of Violations

When errors continue to occur; the level of enforcement increases. More severe penalties also may be imposed as a result of an Air Care Station or Inspector committing subsequent errors. Points will accumulate over a period of any consecutive twelve months.

The consequences of cumulative points are as follows:

- 2 – 8 POINTS = Formal written notice.
- 12 POINTS = Mandatory conference, possible suspension or voluntary Settlement Agreement.
- 16 POINTS = Notice of Intent to Suspend or Revoke.

In cases of suspension, the Program Manager may consider reinstatement following a showing of affirmative corrective measures agreed to by the QA Supervisor and the Air Care Station or Inspector.

Appeals, Conferences, Hearings and Settlement Agreements

For appeal, conferences and settlement agreement of enforcement actions, inspectors and station should follow the prescribed processes and time frames provided in the enforcement documentation they will receive should an enforcement action occur for the inspector or station.

10 Definitions

FROM 20.11.100 NMAC (Refer to 20.11.100 NMAC for additional information on any item that is defined below but not referenced in the rest of this manual)

"Air care inspection station" means a private business authorized by a certificate in accordance with 20.11.100.21 NMAC to inspect motor vehicles and issue certificates of inspection. It also means stations established by the city of Albuquerque and Bernalillo County, or other governmental entities, for testing government owned or leased motor vehicles.

"Air care inspector" means an individual authorized by a certificate issued by the program to perform inspections of motor vehicles and who has met the requirements of 20.11.100.26 NMAC.

"Air care station" means an air care inspection station, or a fleet air care station.

"Audit" means an assessment by VPMD, either as a physical on-site visit or an off-site review of data collected electronically, designed to determine whether air care inspectors and air care stations are correctly performing all tests and other functions required by the VPMD program. Physical on-site audits shall be of two types: overt and covert.

"Biennial" means every other year.

"Chassis" means the complete motor vehicle, including standard factory equipment, but excluding the body and cab.

"City" means the city of Albuquerque, a New Mexico municipal corporation.

"Clean piping" means the illegal act of an air care station or air care inspector that results in a fraudulent "pass" for a vehicle's tailpipe emissions test by entering into the emissions analyzer unique information identifying the vehicle being tested, but then performing the tailpipe test on a different vehicle, which bypasses actual testing of the first vehicle.

“Clean scanning” means the illegal act of an air care station or air care inspector that results in a fraudulent “pass” for a vehicle’s emissions test by entering into the emissions analyzer unique information identifying the vehicle being tested, but then performing the emissions test on a different vehicle, which bypasses actual testing of the first vehicle.

“County” means the county of Bernalillo, a political subdivision of the state of New Mexico.

“Covert audit” means a quality assurance site visit by an anonymous agent delegated by VPMD to drive a vehicle into the selected station and asked to have the vehicle tested. The vehicle may be set up by VPMD in a tampered or failed condition. Covert audits are required by EPA to ensure that air care stations and air care inspectors are performing the emissions test correctly.

“Covert surveillance” means a quality assurance audit by observation done from an off-site location near the air care station, often using binoculars to monitor the actions of an air care inspector performing emissions testing.

“Dealer” means any person who sells or solicits or advertises the sale of new or used motor vehicles subject to registration in the state of New Mexico and as further defined in the Motor Vehicle Code Chapter 66, NMSA 1978.

“Distributor” means any person who distributes or sells new or used motor vehicles to dealers and who is not a manufacturer.

“Division” or “VPMD” means the vehicle pollution management division of the city environmental health department, which provides the staff for the Albuquerque-Bernalillo county vehicle pollution management program.

“Driver” means every person who drives or is in actual physical control of a motor vehicle upon a highway or upon property used for inspections.

“Emissions analyzer” means a device for measuring the concentration of certain exhaust gases emitted by a motor vehicle.

“Emissions inspection system” or “EIS” means the equipment and software for conducting the official emissions inspection.

“Essential parts” means all integral and body parts of a vehicle of a type required to be registered under the Motor Vehicle Code, the removal, alteration or substitution of which would tend to conceal the identity of the vehicle or substantially alter its appearance, model type or mode of operation.

“Exhaust emissions” means CO, HC and all other substances emitted through a motor vehicle’s exhaust system, after passing downstream of the engine block exhaust ports and exhaust emissions control devices, if any.

“Exhaust emissions control device” means equipment designed by the manufacturer of the vehicle and installed on a motor vehicle for the purpose of reducing pollutants emitted from the vehicle, or a system or engine modification designed by the manufacturer of the motor vehicle that causes a reduction of pollutants emitted from the vehicle, or equipment designed by the vehicle manufacturer to prevent damage to or tampering with other exhaust emissions control devices.

“Fast idle condition or unloaded 2,500 rpm” means an exhaust emissions inspection conducted with the engine of the vehicle running under an accelerated condition as required by 40 CFR Part 51, Subpart S, Inspection/Maintenance Program Requirements.

"Field audit gas" means a gas mixture with known concentrations of CO2, CO, and HC that is used by the program to check the accuracy of exhaust gas analyzers used by authorized inspection stations.

"Fleet" means a group of vehicles under the common ownership or control of a commercial or governmental entity.

"Fleet air care station" means any person, business, government entity, firm, partnership or corporation that provides for the construction, equipping, maintaining, staffing, managing and operation of authorized inspection station for the sole purpose of inspecting its private fleet of motor vehicles subject to 20.11.100 NMAC, and not offering inspection services to its employees or the general public.

"Fuel" means any material that is burned by the engine of a vehicle in order to propel the vehicle.

"Gas cap test" means the determination of the ability of the gas cap(s) to retain pressure.

"Gross vehicle weight" means the weight of a vehicle without load, plus the weight of any load thereon.

"Government vehicle" means a motor vehicle exempt from the payment of a registration fee and owned or leased by any federal, state, local, or other governmental entity.

"Headquarters" means the main office of the vehicle pollution management program.

"Highway" means every way or place generally open to the use of the public as a matter of right for the purpose of vehicular travel, even though it may be temporarily closed or restricted for the purpose of construction, maintenance, repair or reconstruction.

"Idle mode test" means an unloaded exhaust emissions test conducted only at the idle condition.

"Inspection or re-inspection or test" means the mandatory vehicular anti-tampering and emissions inspection conducted both visually and with equipment or chemical sensing devices as required by 20.11.100 NMAC.

"Low emissions tune-up" means adjustments and repairs that can reduce motor vehicle emissions including, but not limited to, the following procedures:

a) checking and setting to manufacturer's specifications, the idle mixture, idle speed, ignition timing and dwell;
b) checking for proper connection of vacuum lines, electrical wires, and for proper operation of pollution control devices;
c) checking and replacement of air breathing filters and positive crankcase ventilation valve as necessary;
d) replacement of spark plugs, points, and wires; and
e) for all motor vehicles equipped with computer controlled closed-loop feedback exhaust emissions control devices and systems, inspecting the operation of the emissions control system according to the motor vehicle manufacturer's specified procedures, including hose routing and on-board diagnostics, new vehicle warranty and repair or replacement as necessary.

"Manufacturer" means every person engaged in the business of constructing or assembling vehicles of a type required to be registered under the laws of the state of New Mexico.

"Manufacturer's certificate of origin" or "MCO" means a certification, on a form supplied by or approved by the MVD, signed by the manufacturer, stating that the new vehicle described therein has been transferred to the New Mexico dealer or distributor named therein or to a dealer duly licensed or recognized as a dealer or distributor in another state, territory or possession of the United States, and that the transfer is the first transfer of the vehicle in ordinary trade and commerce. Every MCO contains a space for proper reassignment to a New Mexico dealer or to a dealer duly licensed or recognized as a dealer or distributor in another state, territory or possession of the United States. The certificate also contains a description of the vehicle, the number of cylinders, type of body, engine number and the serial number or other standard identification number provided by the manufacturer of the vehicle, if the information exists.

"Model year" means the year of manufacture of the vehicle based on the annual production period of the vehicle as designated by the manufacturer and indicated on the title and registration of the vehicle. If the manufacturer does not designate a production period for the vehicle, then the model year means the calendar year of manufacture.

"Motor vehicle" means any vehicle that:

a) is propelled by a spark ignition, internal combustion engine;
b) has four or more wheels in contact with the ground;
c) is subject to registration with the MVD to an owner of record who is domiciled within Bernalillo county, or is a government vehicle which is assigned to a governmental unit within Bernalillo county;
d) has a GVW greater than 1,000 and less than 10,001 pounds;
e) is for use upon public roads and highways;
f) is a 1975 model year or newer; and
g) is a vehicle not otherwise exempted by 20.11.100 NMAC.

"New motor vehicle" is a vehicle that has undergone a transfer of ownership and is being registered for the first time to any person, but does not include the sale to another licensed motor vehicle dealer for the purpose of resale as a new vehicle.

"Operator" means driver, as defined in 20.11.100 NMAC.

"Overt audit" means an on-site quality assurance assessment of the performance of an air care station or an air care inspector, conducted by VPMD personnel. An overt audit may also be an assessment of an air care station's emissions analyzer to ensure that the equipment is maintained appropriately and operating correctly.

"Owner" means a person who holds the legal title of the motor vehicle or, if the vehicle is the subject of an agreement for conditional sale or lease with the right of purchase upon performance of the conditions stated in the agreement and with an immediate right of possession vested in the conditional vendee or lessee, or in the event a mortgagor of a vehicle is entitled to possession, then "owner" means the conditional vendee, lessee or mortgagor.

"Pass fail criteria" means the standards established by 20.11.100 NMAC that specify the maximum allowable motor vehicle exhaust emissions under appropriate specified operating conditions.

"Person" means any individual, partnership, firm, public or private corporation, association, trust, estate, political subdivision or agency, or any other legal entity or legal representative, agent or assign.

“Pretesting” means the determination by an air care station or inspector, of the “pass” or “fail” status of a vehicle and providing the information to the vehicle owner prior to performing the required complete emissions test.

“Program” or “VPMD program” means the Albuquerque - Bernalillo county vehicle pollution management program.

“Program manager” means a classified city employee selected in accordance with provisions of the joint powers agreement between the city and the county to perform for the joint air quality control board the duties required to enforce and administer the provisions of 20.11.100 NMAC, or the program manager’s designee.

“Reconstructed vehicle” means a vehicle that was assembled or constructed largely from of essential parts, new or used, derived from other vehicles or makes of vehicles of various names, models and types or that, if originally otherwise constructed, was materially altered by the removal of essential parts, new or used, derived from other vehicles or makes of vehicles.

“Registration and re-registration” means both original registration and renewal of motor vehicle registration as provided in the New Mexico Motor Vehicle Code, Chapter 66 NMSA 1978.

“Standard gases” means NIST certified emissions samples of gases maintained as primary standards for determining the composition of working gases, field audit gases, or the accuracy of analyzers.

“Truck” means every motor vehicle designed, used or maintained primarily for the transportation of property. In addition, all vehicles with a GVW greater than 6,000 pounds shall be considered a truck.

“Vehicle information database” or “VID” means a database consisting of data collected from each official inspection as specified in the EIS.

“VIR” means vehicle inspection report, a program-certified document (VIR) signed by a certified air care inspector or other program authorized official stating that the vehicle described therein is either in compliance (pass), not in compliance (fail), or has an approved time extension in order to achieve compliance through additional repairs or adjustments (time-limit extension).

“Visible emissions” means any fume, smoke, particulate matter, vapor or gas, or combination thereof, excluding water vapor or steam.

“Working gases” means program-approved span gases maintained by an authorized air care inspection station to perform periodic calibration of approved exhaust gas analyzers.

Abbreviations and symbols

a) A/F means air/fuel.
b) ASE means the national institute for automotive service excellence.
c) CO means carbon monoxide.
d) CO2 means carbon dioxide.
e) DTC means diagnostic trouble code.
f) EHD means the environmental health department.
g) EIS means the emissions inspection system.
h) EPA means the environmental protection agency.
i) GVW means gross vehicle weight.
j) HC means hydrocarbon.
k) HP means horsepower.
l) LNG means liquefied natural gas.
m) LPG means liquefied petroleum gas.
n) MPH means miles per hour.
o) MCO means manufacturer's certificate of origin.
p) MVD means the Motor Vehicle Division of the New Mexico Taxation and Revenue Department.
q) NDIR means non-dispersive infrared.
r) NIST means national institute of standards and technology.
s) OBDII means a vehicle's on-board diagnostics second generation.
t) % means percent.
u) PCV means positive crankcase ventilation.
v) ppm means parts per million.
w) VID means the vehicle information database.
x) VIN means vehicle identification number.