SUBPART 217-2

MOTOR VEHICLE NY 91 INSPECTION AND MAINTENANCE PROGRAM REQUIREMENTS

(Statutory authority: Environmental Conservation Law, §§ 1-0101[1], 3-0301[2] [a], [m], [n], 19-0103, 19-0105, 19-0107, 19-0301[1][a]-[c], [2][a], 19-0303, 19-0305)

Sec.

Historical Note

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§ 217-2.1 Definitions.

(a) For the purpose of this Subpart, the general definitions of Part 200 and Subpart 217-1 of this Title apply.

(b) For the purpose of this Subpart, the following definitions also apply:

(1) *Algorithm.* A well defined and detailed procedure, often used for modeling computer programs, for solving a problem that involves a number of identified steps.

(2) *Analyzer system.* The equipment necessary for an official emissions inspection station to perform a vehicle emission test. An analyzer system must include an emission analyzer, computer system with display, bar code scanner, modem, and two printers, and may also include vehicle emission diagnostic capabilities that may be specified by the commissioner.

(3) *Automotive repair environment.* The environment of a service station or motor vehicle repair facility which is commonly contaminated with grease, oil, solvents, gasoline and other volatile organic compounds, as well as road grit, grime, dirt, and salt.

(4) *Department.* The New York State Department of Environmental Conservation.

(5) *Expansion slot.* The actual space provided within a computer system for an individual plug-in circuit board that would change the capabilities of a microcomputer.

(6) *Full service contract.* An agreement between the owner or operator of an official emissions inspection station and the manufacturer-vendor whereby the latter, at a minimum, supplies all consumable materials associated with the analyzer system, provides any periodic maintenance required by the manufacturer-vendor, and provides any parts and labor for repairs to the system not caused by negligence or caused deliberately. The manufacturer-vendor agrees to respond to service requests and complete needed repairs within 48 hours, not including Sundays and legal holidays, and to provide a machine on loan at no cost to the owner or operator if the equipment cannot be repaired within the 48 hours.

(7) *Hang-up check.* A verification that the propensity of certain classes of hydrocarbons to physically adhere to the surfaces (hang-up) of the sampling system has been reduced to a nearly nonexistent condition.

(8) *Inspection and maintenance program (I/M).* A program of conducting regular inspections of motor vehicles, including measurement of air contaminants in the vehicle exhaust and an inspection of emission control systems, to identify vehicles which do not meet the standards of Subpart 217-1 and/or which have malfunctioning or maladjusted emission control systems, and, when necessary, of requiring the repair or adjustment of vehicles to make the emission control systems function as intended and to reduce tailpipe emissions of air contaminants.

(9) *Inspection sticker or certificate of inspection.* A sticker obtained from the Department of Motor Vehicles by an official emissions inspection station, issued by such station and affixed to a motor vehicle as prescribed by 15 NYCRR 79 to evidence the satisfactory completion of an inspection of that motor vehicle in compliance with article V of the Vehicle and Traffic Law and 15 NYCRR 79.

(10) *Interface.* The means by which multiple devices are connected and interact with each other.

(11) *Limited service contract.* An agreement between the owner or operator of an official emissions inspection station and the manufacturer-vendor whereby the latter, at a minimum, agrees to respond to service requests and complete needed repairs within 48 hours, not including Sundays and legal holidays, and to provide a machine on loan at no cost to the owner or operator if the equipment cannot be repaired within the 48 hours.

(12) *Look-up table.* A tabulation of dates, factors, constants, and/or words that are accessible to a computer software subroutine that subsequently uses those tabulations to perform calculations, edits, or comparisons with other data.

(13) *Manufacturer-vendor.* Any person, association, or corporation which is engaged in the manufacture and/or sale or lease of equipment necessary to perform a motor vehicle emissions inspection.

(14) *Megabyte.* 1,048,576 bytes where a byte is eight bits of information processed as a unit.

(15) *Microprocessor.* The portion of a computer, consisting of a semiconductor integrated circuit, which performs data manipulation operations.

(16) *Nonvolatile memory.* Computer memory that retains its information even when electrical power to the computer is removed.

(17) *Official emissions inspection station.* Any person, association or corporation to which has been issued a license to conduct both safety and vehicle exhaust emission inspections of motor vehicles by the commissioner of the Department of Motor Vehicles, pursuant to sections 301, 302 and 303 of the Vehicle and Traffic Law.

(18) *Optical bench.* A generic term which refers to the hardware and electronics subassembly of the analyzer system that analyzes a gas sample for hydrocarbons, carbon monoxide, and carbon dioxide using non-dispersive infrared measurement principles.

(19) *Propane equivalency factor.* A fraction, whose decimal equivalent lies between .490 and .540, that represents the response of an individual optical bench to propane compared to the response to an equivalent concentration of hexane, at some specific point along the range over which measurements are made.

(20) *Random access memory.* A semiconductor computer memory that can be read and changed while the microcomputer is being operated.

(21) *X-Dimension.* The intended width of the narrow elements, bars and spaces, dictated by the rules for encoding information in a bar code symbol.

(22) *Zero and span check.* An electronic verification of the calibrated values of the optical bench without any gas (zero) and a predetermined upscale (span) point on the calibration curve.

Historical Note

Sec. filed Aug. 24, 1990 eff. 30 days after filing.

§ 217-2.2 Applicability.

Effective in accordance with the provisions of 15 NYCRR 79 (New York State Department of Motor Vehicles, Motor Vehicle Inspection Regulations), section 217-2.3 of this Subpart applies to all gasoline powered motor vehicles which are registered in the New York Metropolitan Air Quality Control Region and are subject to vehicle exhaust emissions testing as part of the annual vehicle inspection, except those motor vehicles expressly excluded by 15 NYCRR 79.2(f).

Historical Note

Sec. filed Aug. 24, 1990; renum. 217-2.4, new filed: Feb. 16, 1996 as emergency measure; May 15, 1996 as emergency measure; July 12, 1996 as emergency measure; Sept. 11, 1996 as emergency measure; Nov. 8, 1996 as emergency measure; Jan. 7, 1997 as emergency measure; March 7, 1997 as emergency measure; April 22, 1997 eff. 30 days after filing.

§ 217-2.3 Motor vehicle exhaust emission standards and inspection procedure.

(a) No person who owns, operates, or leases a gasoline powered motor vehicle subject to the requirements of this section shall operate said vehicle, or allow or permit it to be operated, in a manner such that it emits carbon monoxide (CO) or hydrocarbons (HC) in the exhaust in excess of the standards set forth in table 3 of this Subpart, or that it has a combined carbon monoxide (CO) and carbon dioxide (CO2) emission less than 6.0 percent when measured using the test procedures specified in the "Emissions Inspection Procedure (VS-28)."

(b) Any person who owns, operates, or leases a gasoline powered motor vehicle subject to the requirements of this section shall have adjustments, repairs, or replacements made to said vehicle to ensure that tailpipe emissions of carbon monoxide (CO) and hydrocarbons (HC) do not exceed the limits set forth in table 1 of this Subpart, and that the combined emission of carbon monoxide (CO) and carbon dioxide (CO2) is not less than 6.0 percent at the time that the tailpipe emissions are measured using the test procedure specified in the Department of Motor Vehicles "Emissions Inspection Procedure (VS-28)" unless an emission inspection waiver is issued by the Department of Motor Vehicles pursuant to section 79.25 of 15 NYCRR Part 79.

(c) *Table 3.*

Table 3

Model Year	*Hydrocarbon (ppm at idle)*	*Carbon Monoxide (percent at idle)*
1981+	220	1.2
1979-1980	300	2.5
1975-1978	300	3.0
1968-1974	700	6.0

Historical Note

Sec. filed Aug. 24, 1990; renum. 217-2.5, new filed: Feb. 16, 1996 as emergency measure; May 15, 1996 as emergency measure; July 12, 1996 as emergency measure; Sept. 11, 1996 as emergency measure; Nov. 8, 1996 as emergency measure; Jan. 7, 1997 as emergency measure; March 7, 1997 as emergency measure; April 22, 1997 eff. 30 days after filing.

§ 217-2.4 Motor vehicle inspection and maintenance (I/M) program.

(a) I/M programs have been required by the United States Environmental Protection Agency (E.P.A.) as a result of amendments to the federal Clean Air Act of 1977 in areas that have been designated as being in nonattainment of national ambient air quality standards. The purpose of I/

M programs is to conduct regular inspections of motor vehicles to identify vehicles which emit air contaminants in excess of specified limits because of malfunctions, maladjustments, or tampering, and to ensure that the vehicles are repaired or adjusted to function as intended and that emissions of air contaminants are within specified limits.

(b) The I/M program in New York State is a requirement of the state implementation plan to attain and maintain ambient air quality standards. The state implementation plan, and amendments thereto, requires the approval of the E.P.A. The plan constitutes a legal obligation of the state pursuant to the federal Clean Air Act.

(c) Since January 1, 1981, the I/M program in New York State has been implemented in the New York Metropolitan Air Quality Control Region. A change in the geographic area where the I/M program is to be conducted could occur if the state was required by the E.P.A. to amend the state implementation plan to expand or contract the area where I/M was necessary, or if the state, on its own initiative, amended its implementing regulations accordingly.

(d) The implementing regulations for the I/M program in New York State are 15 NYCRR Part 79, "Motor Vehicle Inspection," 6 NYCRR Subpart 217-1, "Emissions from Motor Vehicles propelled by Gasoline Engines," and 6 NYCRR Subpart 217-2, "Motor Vehicle Inspection and Maintenance Program Requirements."

(e) The department will certify analyzer systems, pursuant to the requirements of this Subpart, for a period not to exceed five years. Prior to the end of that period, the state will evaluate the I/M program and the performance of certified analyzer systems, and will determine whether to extend the original certification, require recertification, or adopt other changes to the program.

Historical Note

Sec. filed Aug. 24, 1990; renum. 217-2.6, new added by renum. 217-2.2, filed: Feb. 16, 1996 as emergency measure; May 15, 1996 as emergency measure; July 12, 1996 as emergency measure; Sept. 11, 1996 as emergency measure; Nov. 8, 1996 as emergency measure; Jan. 7, 1997 as emergency measure; March 7, 1997 as emergency measure; April 22, 1997 eff. 30 days after filing.

§ 217-2.5 Prohibitions and requirements.

(a) Effective January 1, 1991, no official emissions inspection station may use an analyzer system which has not been certified by the department. An analyzer system must meet the performance standards and criteria of this Subpart before it will be certified. Unless otherwise specified in the Subpart, the analyzer system as manufactured and installed shall comply in all respects with the prototype model upon which certification by the department will be based.

(b) The manufacturer-vendor of any analyzer system which is to be used by an official emissions inspection station for performing vehicle emission tests must:

(1) apply for and receive certification from the department before the analyzer system is installed and operated for the purpose of performing an official emissions inspection;

(2) provide to the department and maintain in force a bond, irrevocable letter of credit or other suitable financial security instrument acceptable to the department. The amount of such financial instrument, payable upon completion of certification, shall be $200,000 (two hundred thousand dollars) initially, and an additional $100,000 (one hundred thousand dollars) for every 250 analyzer systems sold to official emissions inspection stations in New York State. Such financial security shall be available to the department in the event that damages are suffered directly or indirectly by the state or by one or more official emissions inspection stations due to the failure by the manufacturer-vendor to comply fully with the provisions of these regulations, or for the payment of penalties to the department for violation of applicable laws or regulations.

(c) No manufacturer-vendor or any other person shall sell, offer for sale, cause to be offered for sale, or represent an analyzer system as one which can be used by an official emissions inspection station in New York State unless it has been certified by the department.

(d) The contract of sale, lease, or use between the manufacturer-vendor and the official emissions inspection station shall contain, at a minimum, the following provisions:

(1) Manufacturer-vendor will provide a minimum one year warranty, effective on January 1, 1991 or the date the equipment is installed, whichever occurs later, for each analyzer system it sells to an official emissions inspection station. The manufacturer-vendor will also make available both a full service contract and a limited service contract to any official emissions inspection station which is supplied with the manufacturer-vendor's equipment.

(2) All equipment provided by the manufacturer-vendor to a New York State official emissions inspection station as part of the I/M program shall be properly serviced, maintained, and repaired for five years through a combination of warranty provisions and the availability of maintenance and repair services either with or without a service contract being concluded between the manufacturer-vendor and the official emissions inspection station. Manufacturer-vendor shall also guarantee to each individual official emissions inspection station that it (manufacture-vendor) will take no action which would cause its name to be removed by the department from the list of approved analyzer systems.

(3) Manufacturer-vendor will repair on site the existing analyzer system or provide, on loan, a replacement analyzer system to any official emissions inspection station within two business days (9 a.m. to 5 p.m.), including Saturdays but excluding Sundays and legal holidays, of receiving notification, either oral or written, of a malfunction of the station's existing analyzer system. Manufacturer-vendor shall be relieved of this obligation if the official emissions inspection station is not complying with all of its obligations under its service contract, if any, or if the request for services arises as a result of unauthorized attempts by other than manufacturer-vendor personnel to repair, maintain or modify the analyzer, or as a result of accident, catastrophe, failure of the analyzer caused by the use of special devices or attachments not provided by manufacturer-vendor, improper use or misuse of the analyzer, fault or negligence of the official emissions inspection station, its employees, representatives or any unauthorized third party.

(4) The manufacturer-vendor will initially train any employee of the official emissions inspection station in the proper use of the manufacturer-vendor's analyzer system upon installation of the equipment. Such training is to be conducted at no additional cost to the inspection station, and must be conducted on-site at the inspection station. Subsequent to the initial training, the manufacturer-vendor must make such training available at the request of the owner or operator of an official emissions inspection station.

(5) Manufacturer-vendor is responsible for quality control of the analyzer system and will carry out the random sampling and product quality assurance requirements contained in Subpart 217-2.

(6) Manufacturer-vendor agrees to make any necessary modifications or repairs to, or recall, or replacement of analyzer systems, to correct any defects discovered during the quality assurance testing required by Subpart 217-2 or as a result of field quality assurance measures which identify generic design and functional defects in the analyzer.

(7) If manufacturer-vendor decides to discontinue participation in the program, or if its analyzer system is decertified by the department, it will buy back all analyzer systems from the inspection stations which purchased them for an amount equal to the unamortized cost based on straight line amortization over five years from the date that the equipment was delivered to the official emissions inspection station to the date that the analyzer system is decertified or that the manufacturer-vendor terminates its participation in the program. This requirement does not apply in the event a manufacturer-vendor terminates its participation in the program after having sold or otherwise having transferred control of all its New York State service contracts to another manufacturer-vendor, or,to another person, association, or corporation, where the department is satisfied that analyzer system maintenance and repair services will be continued in conformance with the requirements of this Subpart.

(8) A force majeure event is an occurrence which is beyond the control of the manufacturer-vendor and which directly or indirectly causes a delay in implementing any of the measures required by a contract. If such event occurs, the manufacturer-vendor shall be entitled to a modification of the scheduled requirements to the extent that such delay was beyond the control of the manufacturer-vendor. The manufacturer-vendor bears the burden of establishing

that the event was beyond its control and of demonstrating that the extension of time to comply is necessary because of the force majeure event. As a condition precedent to obtaining relief under this provision, the manufacturer-vendor agrees to notify the department and the official emissions inspection station in writing within five days of the date the manufacturer-vendor knew or should have known of the occurrence of any force majeure event. The notice shall include: anticipated lengths of delay, cause of the event, measures taken to minimize the delay, and proposed date by which subsequent scheduled events will be achieved.

(e) The manufacturer-vendor of an analyzer system that is certified by the department must have available and offer both a full service contract and a limited service contract to any official emissions inspection station which is supplied with that manufacturer-vendor's equipment. Other levels of service contracts may be offered at the discretion of the manufacturer-vendor.

(1) The owner or operator of an official emissions inspection station is not required to purchase the service contract; maintenance and repairs may be paid for as they are needed in lieu of the inspection station having a service contract.

(2) The manufacturer-vendor must provide a copy of the terms and costs of the service contracts to the department at the time that certification of the analyzer system is requested.

(3) The manufacturer-vendor may alter the terms and costs of the service contracts as it may deem appropriate, and must advise the department of any such changes that occur after certification.

(f) The manufacturer-vendor of an analyzer system that is certified by the department must train any employee of the official emissions inspection station in the proper operation of the equipment when the equipment is initially installed.

Such training is to be provided on-site of the inspection station, and at no additional cost to the official emissions inspection station. Subsequent training must be made available throughout the life of the program. The manufacturer-vendor must also train appropriate state employees in the proper operation and maintenance of the analyzer system prior to program implementation on January 1, 1991.

(g) The manufacturer-vendor must provide a minimum one year warranty for an analyzer system, including all components associated with the system, effective on January 1, 1991 or the date the equipment is installed at an official emissions inspection station, whichever occurs later. Furthermore, the manufacturer-vendor of a certified analyzer system is required to repair or update the system at no charge to the owner or operator of the official emissions inspection station if testing by state representatives indicates that any component of the system does not meet the original technical specifications under which such equipment was certified.

(h) The department recommends, but does not require, that the manufacturer-vendor of an analyzer system that is certified by the department have available and offer a five year warranty that is transferable by the analyzer system owner to a subsequent owner. The owner or operator of the official emissions inspection station is not required to purchase an analyzer system with a five year warranty. This requirement does not affect the requirement in section 217-2.3(f) for a mandatory one-year warranty.

(i) The manufacturer-vendor of a certified analyzer system must provide a list of consumable materials along with prices of such items and an estimated rate of usage, to the owner or operator of an official emissions inspection station before the sale of a system to the owner or operator is completed. Consumable materials include, but are not limited to, filters, printer paper, and calibration gases.

(j) Manufacturer-vendor will provide the following information to the department of Environmental Conservation and the Department of Motor Vehicles:

(1) notice of each installation of an approved analyzer system in an official emissions inspection station, within seven days of the installation;

(2) immediate notification of any generic design or functional defect in the analyzer identified by compliance with section 217-2.6, such notice to include a detailed plan of the manufacturer-vendor's proposed remedy.

Historical Note

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§ 217-2.6 Analyzer system technical specifications.

(a) An analyzer system must have a useful life of a minimum of five years, and must comply with the requirements of this Subpart before it will be certified by the department.

(b) The following minimum technical specifications apply. Enhancements to an analyzer system not specifically required by the department may be offered and provided by the manufacturer-vendor provided they do not interfere with or alter the operation of the required hardware or software.

(1) The minimum performance capabilities of an analyzer system are:

(i) vehicle emission measurements of hydrocarbons, carbon monoxide, and carbon dioxide;

(ii) engine revolutions per minute (RPM) measurement;

(iii) exhaust dilution determination;

(iv) manual bar code data entry;

(v) data, including test result, printout;

(vi) inspection sticker printing and dispensing;

(vii) printing capability by an additional printer for all other printing needs;

(viii) ability to read and write information from and to both a floppy diskette and an internal hard disk;

(ix) information display to inspector;

(x) fully menu driven, interactive, simple microprocessor controlled operation; and

(xi) bi-directional communication and data transfer via a modem.

(2) An analyzer system must be compatible with all types of automotive repair environments. All components of the analyzer system must be capable of performing over an ambient temperature range of 41 to 110°F and at relative humidities up to 85 percent across the temperature range.

(3) A system tamper lockout must be provided which prohibits unauthorized access to the hardware, software, or data storage elements of the system that can reasonably be expected to compromise the system performance. A tamper lockout must:

(i) prepare a record and issue a screen reminder, where possible;

(ii) abort the operating program(s); and

(iii) require authorized service to occur. The state's authorized representative must be notified by the manufacturer-vendor.

(4) The electrical power and design specifications are:

(i) the input electrical power to an analyzer system must be maintained at 115 volts, alternating current, and 60 hertz, with a maximum voltage variation of 10 percent;

(ii) any external power cable must be capable of handling the power requirements of the analyzer system, and must be equipped with a standard 3-prong connector;

(iii) the power cord must be ten feet in length or longer, and must be durable, oil resistant, and waterproof;

(iv) provisions must be made for storing the power cord in a safe manner;

(v) circuit breakers and/or fuses must be used to protect individual electrical circuits, and the circuit breakers and fuses must be readily accessible from the exterior of the cabinet;

(vi) the analyzer system must be designed so that analyzer operation is unaffected by electrical line noise and voltage surges;

(vii) the analyzer system must be designed to ensure no change in performance due to electromagnetic radiation and induction environments.

(5) The general instrument construction specifications are:

(i) the analyzer system must be designed and constructed to provide reliable and accurate performance in the automotive repair environment;

(ii) the analyzer must be supplied with a cabinet with enough storage space to secure all accessories and operating manuals;

(iii) the equipment must be constructed with materials that are resistant to corrosive substances typically found in the automotive repair environment;

(iv) the exterior and interior finish of the entire cabinet and console must be durable enough to withstand chemicals and environmental conditions normally found in the automotive repair environment;

(v) the analyzer system may be either permanently mounted or mobile; if the equipment is mobile, it must be designed so that normal movement will not cause it to tip over;

(vi) mobile analyzer systems on wheels must have wheels which are at least three inches in diameter and which have a locking mechanism to prevent movement on an incline;

(vii) the instruments, motors, and pumps of the analyzer system are to be shockmounted or otherwise designed so operation is unaffected by vibrations and shocks encountered under normal operating conditions in an automotive repair environment; and

(viii) ventilation air for internal assemblies and components must be filtered to remove air borne particulates.

(6) Identification requirements are:

(i) Each certified analyzer system installed in an official emissions inspection station is to be assigned a serial number. The serial number and the date (month and year) that the analyzer was manufactured must be imprinted on a metallic plate and permanently attached to the analyzer in a location that allows easy viewing. The propane equivalency factor must be available to system auditors either by a tag attached to the unit or through access to the optical bench software.

(ii) Each official emissions inspection station must be identified in the analyzer system software and in the manufacturer-vendor's records by a facility identification number (currently of seven digits) assigned by the Department of Motor Vehicles.

(7) Each analyzer system must be supplied with an operating manual. The manual must contain an overview of the analyzer and software operation, describe the inspection and test procedures, gas check procedures, leak check procedures, and inspection sticker and paper loading procedures.

(8) Analyzer systems must include a training mode, separate from the inspection routine, to allow an operator to perform a complete inspection procedure without requiring an actual emissions test and without generating an official inspection record.

(9) Changes to a certified analyzer system initiated by the manufacturer-vendor to improve the efficiency or performance of the equipment or for any other reason require the approval of the department before they can be made. Approval of such changes will be contingent upon a demonstration by the manufacturer-vendor that the changes will not result in a violation of any requirement of this Subpart. Changes made to the analyzer system without the department's approval may result in decertification of the equipment and in forfeiture of the financial instrument pursuant to the agreement between the state and the manufacturer-vendor.

(c) The following minimum technical performance standards and criteria apply to the microcomputer elements of the analyzer system. Any of these requirements may be surpassed in equipment for which the manufacturer-vendor requests certification.

(1) The microcomputer must include a minimum of 640,000 (KB) random access memory (RAM).

(2) The microcomputer must have a minimum of two drives.

(i) Backup storage of inspection, calibration, and/or service records shall be on a removable disk which is secured from access by unauthorized personnel.

(ii) The storage of the operating program, inspection records, calibration records, and all look-up tables shall be on a minimum of 40 megabyte hard disk. The storage must be capable of adding additional information to the look-up tables over a ten-year period.

(3) The video monitor must:

(i) be a minimum 12-inch monochrome display;

(ii) be capable of displays during test modes;

(iii) clearly provide readable characters and prompts at a distance of eight feet during test modes; and

(iv) contain a monochrome graphics interface.

(4) The keyboard must be fully interfaced with the microcomputer, and must have all the keys necessary to operate the system.

(5) The analyzer system must have a real time clock and calendar which makes the current date and time available. The clock and calendar must be able to function for five years, despite power interruptions that may occur for up to 30 days.

(6) The analyzer system must have enough ports to allow the connection of all peripheral devices, and one additional port for future use.

(7) The analyzer system must have two full height expansion slots reserved for use by the department.

(8) The manufacturer-vendor is responsible for developing a method of securing the vehicle inspection system software and inspection records from tampering.

(d) The following minimum technical performance standards and criteria apply to the printing components of the analyzer system. The system must include two printers; a secure printer for printing inspection stickers and receipts and a standard printer for all other printing needs.

(1) The standards for the secure printer are:

(i) the printer and the inspection stickers must be key locked inside a tamper resistant housing;

(ii) the printer must be capable of producing a New York State inspection sticker;

(iii) the printer housing must be designed to prevent inspection stickers from being pulled out through the top or from being inserted from outside the housing;

(iv) the secure printer must be capable of printing New York State inspection stickers that will be continuously pinfed, fan-folded forms. The inspection sticker form shall be made available for a fee to the official emissions inspection stations by the Department of Motor Vehicles.

(v) the secure printer and related software must ensure that the first and last stickers are not wasted as part of the alignment or loading process;

(vi) instructions for loading the inspection stickers into the secure printer shall be posted on the locked printer housing or otherwise in a location where the operator can easily read them during sticker loading;

(vii) the secure printer housing must have a storage capacity for at least 100 inspection stickers;

(viii) the secure printer must produce easily legible characters using ink that remains highly visible for at least one year when exposed to an annual average of 12 hours of direct sunlight per day; and

(ix) the secure printer must be capable of printing a New York State motor vehicle inspection sticker in the graphics mode.

(2) Each time a vehicle passes inspection, a signal must be sent to the secure printer causing a New York State inspection sticker to be printed.

(3) An inspection receipt will be attached to the inspection sticker, on the same paper stock, and must be printed by the secure printer at the same time that the sticker is printed.

(4) The specifications for the standard printer are:

(i) the standard printer must be an 80-column printer that can interface with the microcomputer;

(ii) the paper for the standard printer shall be blank, white, pin-fed, and shall measure 8½ inches wide by 11 inches long not including pinhole stubs; and

(iii) the font type is at the discretion of the manufacturer except that it must differ from the type font used in the secure printer.

(5) The standard printer will be used to perform all other analyzer system printing needs other than those performed by the secure printer. The standard printer will, as a minimum, print the following documents:

(i) a rejection notice whenever a vehicle fails the inspection. It is to be printed automatically upon the failure of the vehicle to pass inspection;

(ii) daily inspection report to be automatically printed at a specific time each day. This report will contain information on each inspection performed since the previous daily inspection report was printed; and

(iii) reports for state auditors which include failure rate reports, sticker reports, calibration reports, inspection summaries, and audit reports.

(e) The following minimum technical specifications apply to the bar code reader. The bar code reader, or scanner, must be a hand-held reader with at least 20 feet of cord. The scanner shall be capable of reading bar codes in one application through the windshield.

(1) The bar code reader must have the following performance characteristics:

(i) The scanner shall be a non-contact, moving beam type, capable of 30 to 40 scans per second.

(ii) The scanner light source shall have a 630 to 680 nanometer wavelength. Scanners with a light source wavelength outside of this range may be used if the manufacturer-vendor can demonstrate that performance is comparable to a conforming scanner.

(iii) The scanner shall have a field width of 8 inches at a working distance of 12 inches.

(2) The bar code reader must be durable enough to sustain a four foot drop without damage. The scanner must be capable of operating properly in an automotive repair environment, and it must be capable of reading bar codes through commonly available types of windshield glass.

(3) Bar code readers must meet the following operational specifications:

(i) The system must record whether data was entered via the keyboard or from bar code scanning. The system software will request manual data entry when a specific number of rescans do not result in automatic data acquisition.

(ii) The lead character(s) immediately following the start character shall be a data identifier that meets existing guidelines.

(iii) The bar code reader shall be capable of reading bar codes with a minimum X-dimension of 0.010 inches (10 mils).

(iv) The bar code reader shall be capable of reading information specified by the state which includes, but is not limited to, vehicle registration information from a document affixed to the inside of the windshield, invoice and inspection sticker serial numbers, inspector identification information from a document supplied to the inspector by the state, and auditor identification information from a document supplied to the auditor by the state.

(f) The analyzer system must be equipped with a modem. When installing an analyzer system, a telephone jack using standard telephone connectors shall be provided for the modem. The modem shall be shielded to eliminate electromagnetic interference.

(g) The analyzer system must have a communications package which is compatible with Department of Motor Vehicles host systems for receiving inspection data. The communications package shall be capable of accessing independent on-line repair and diagnostic services.

(h) The analyzer system must be provided with the hardware and software necessary to determine engine speed for any vehicle manufactured prior to certification of the analyzer system. Each emission test record shall include the engine speed in revolutions per minute (RPM).

(i) The following minimum technical specifications apply to the vehicle tailpipe emission measurements and to the calibration of the emission measurement system.

(1) The manufacturer-vendor must submit data to the department to demonstrate that the analyzer system is capable of maintaining an average response that is unbiased, and that the emission measurement system maintains a consistent level of precision over the period between calibrations.

(2) Calibration check intervals shall initially be 168 hours. The department may specify a different calibration interval when evidence from a measurement assurance program indicates that such a change is justified. When the manufacturer-vendor can demonstrate that stability can be maintained over periods longer than 168 hours, approval from the department may be sought for a less frequent calibration interval, contingent upon the development of operating and system monitoring data which show that the stability of the analyzer performance is not diminished.

(3) Emission measurement assurance will be established using statistical methods adequate to verify the continuous acceptability of measurement reliability and product quality.

(4) The analyzer system operator shall be automatically locked out from proceeding with vehicle emissions tests if:

(i) the unit has not been tested for leaks in the previous 24 hours, or it fails a leak recheck;

(ii) the unit cannot be properly calibrated;

(iii) the supply of inspection stickers in the secure printer is exhausted;

(iv) the official emissions inspection station license has expired;

(v) the inspector certification has expired;

(vi) a daily inspection report has not been printed;

(vii) there has been unauthorized access to the analyzer system software, stored data, or secure printer;

(viii) no dial tone is detected by the analyzer system during a prescribed maximum time period; and

(ix) the internal system clock has failed.

(5) The system response to the gas calibration check shall be automatically recorded in a calibration file. Before the system is checked against a reference gas(es), a zero check shall be performed for which the system response must also be recorded in the calibration file. System responses against a reference gas(es) which indicate increased variation or biased average response of the analyzer will require an adjustment to the system.

(6) A leak check of the analyzer system must be conducted each day and before the gas check required in paragraph (2) of this subdivision is performed. The operator shall be prompted to check all fittings and to repeat the leak check if an error of three percent or more results. The analyzer system must be locked out if the retest shows another error of three percent or more.

(7) The infrared beam strength from the source to the detector must be monitored. When the beam degrades beyond the adjustment range specified by the manufacturer-vendor, the analyzer system shall be locked out from operation.

(8) If the analyzer system cannot successfully self adjust in response to required checks of the system, it shall automatically lock itself out from being used to perform an official vehicle exhaust emissions test, and display a message to the operator upon startup advising that an official test cannot be performed. The analyzer system can still be used for tune-up or diagnostic purposes, however, the display shall advise the operator that the emissions readings are unreliable.

(9) The required gas check or the resulting calibration procedure, if necessary, shall limit gas usage to two liters each. Such gases must be of a quality that ensures precise and traceable results. The analyzer system display screen shall provide adequate prompts to guide the operator through calibration procedures in a manner that minimizes the amount of gas(es) used.

(10) During an audit procedure, proper operation of an analyzer system will be determined based on the continued stable and unbiased operation of the analyzer when tested against a reference gas(es).

(11) The least significant digits to be shown on the analyzer system display screen are 1 ppm (parts per million) for hydrocarbons, 0.01 percent for carbon monoxide, 0.1 percent for carbon dioxide, and 10 RPM engine speed.

(12) The 90 percent response time from the tailpipe probe to the analyzer system display screen must not exceed eight seconds.

(13) Interference by non-interest gases must not exceed 10 ppm for hydrocarbons, 0.05 percent for carbon monoxide, and 0.20 percent for carbon dioxide.

(14) The analyzer system must be designed to reach stable operation within 20 minutes at 41°F, and gas sampling shall be disabled through a system lockout until the instrument meets warm-up requirements.

(15) The sampling components of an analyzer system must include, as a minimum, a tailpipe probe, sample line, water removal system, particulate trap, pump, and flow control components.

(16) The analyzer system shall be designed to accommodate any gas cylinders or other hardware necessary to perform the required gas checks and calibration routines. Adequate space shall be provided for routine access, servicing, and replacement of the hardware.

(17) The vehicle exhaust emission measurement mode of the analyzer system shall be prevented from being activated until a successful hang-up check has been performed immediately before the test sequence.

(i) Hang-up must not exceed 20 ppm of hexane equivalent.

(ii) The hang-up check is valid if the hydrocarbon analyzer response to ambient air sampled through the probe and sample line drops below 20 ppm of hexane after the analyzer has been zeroed on room air.

(iii) If the hydrocarbon concentration does not drop below 20 ppm of hexane within 150 seconds after the hang-up check is started, the display screen shall give the message, "POSSIBLE DIRTY FILTERS OR SAMPLE LINE."

(iv) If the hydrocarbon concentration does not drop below 20 ppm of hexane within five minutes after the hang-up check is started, the display screen shall give the message, "HC HANG-UP PROBLEM IN SAMPLE LINE."

(v) After each test, instructions shall appear on the display screen to direct the operator to remove the probe from the vehicle.

(18) Gas analysis response must be corrected for changes in barometric pressure. The transducer used to monitor barometric pressure shall have sufficient range to accommodate changes in elevation to 1,500 feet and local weather changes of plus or minus two inches of mercury over the operating temperature range.

(j) More detailed guidelines with respect to the components of an analyzer system and the checks and calibration of such system have been prepared and are available to any person who requests them by contacting the New York State Department of Environmental Conservation, Division of Air Resources, 50 Wolf Road, Albany, New York 12233. Certification of an analyzer system may be facilitated by consulting these technical guidelines. The department reserves the right to upgrade or modify all guidelines. Such changes will not be made without notice and an opportunity to review and comment being provided to all manufacturer-vendors and other persons involved in the I/M program.

(k) All analyzer systems must have microcomputer software which enables the system to produce New York State motor vehicle inspection stickers, provides a uniform inspection screen sequence among the analyzer systems, provides for uniform data storage that may be accessed in a consistent manner among the analyzer systems, provides uniform data entry editing among the analyzer systems, enables the analyzer system to perform in a reliable and accurate manner, and provides that the operation of the analyzer system meets the requirements of this Subpart. Detailed guidelines with respect to the software characteristics of an analyzer system have been prepared and are available to any person who requests them by contacting the New York State Department of Environmental Conservation, Division of Air Resources, 50 Wolf Road, Albany,

NY 12233. Certification of an analyzer system may be facilitated by consulting these software guidelines. The department reserves the right to upgrade or modify all software guidelines. Such changes will not be made without notice and an opportunity to review and comment being provided to all manufacturer-vendors and other persons involved in the I/M program.

Historical Note

Sec. filed Aug. 24, 1990; renum. 217-2.8, new added by renum. 217-2.4, filed: Feb. 16, 1996 as emergency measure; May 15, 1996 as emergency measure; July 12, 1996 as emergency measure; Sept. 11, 1996 as emergency measure; Nov. 8, 1996 as emergency measure; Jan 7, 1997 as emergency measure; March 7, 1997 as emergency measure; April 22, 1997 eff. 30 days after filing

§ 217-2.7 Certification of analyzer systems.

(a) The manufacturer-vendor of an analyzer system must submit the following to the department when requesting certification of the equipment. Separate documentation must be submitted for each analyzer system, marketed under different names or model numbers, that the department is requested to certify.

(1) a detailed description of the analyzer system and data processing system, and a description of the capabilities and procedures for the use, maintenance, and calibration of the analyzer system including a description of how lockout conditions will be implemented;

(2) a description of how program updates and modifications will be made in the microprocessor software;

(3) a copy of the analyzer system warranty and service contracts, including a description of the servicing network and parts availability to be established to serve official emissions inspection stations within the state;

(4) a detailed description of the proposed training program to be conducted on-site at the inspection station for the official emissions inspection station owners, operators, and employees;

(5) a detailed description of any program requirements which the manufacturer-vendor intends to subcontract to another firm;

(6) a copy of any manual, written in plain language, which is to be provided with the analyzer system; and

(7) such other material or information as the department may require to ascertain compliance with the requirements of this Subpart.

(b) Each manufacturer-vendor of an analyzer system for which certification is requested must commit to maintaining, calibrating, servicing, and providing data processing services to official emissions inspection stations for at least five years from January 1, 1991.

(c) Each manufacturer-vendor of an analyzer system for which certification is requested must certify to the department that the analyzer system complies with all other applicable New York State and Federal certification requirements. The manufacturer-vendor must submit copies of any appropriate approval or certification.

(d) The department shall perform prototype testing of an analyzer system for which the manufacturer-vendor requests certification.

(1) The manufacturer-vendor must deliver a prototype of the analyzer system to a location specified by the department at the time that the department is requested to certify the equipment.

(2) The department will complete the initial prototype testing within 30 days after the equipment is delivered. When the initial prototype testing reveals any condition that requires corrections or repairs by the manufacturer-vendor, the department will retest the equipment as soon as practicable after the manufacturer-vendor completes whatever modifications may be needed.

(3) The department will notify the manufacturer-vendor of any deficiencies in the equipment which would prevent it from being certified.

(4) The prototype shall remain the property of the manufacturer-vendor, but shall remain in the custody of the department for as long as the department deems necessary, but no longer than the period during which analyzer systems represented by the prototype continue to be certified for use at official emissions inspection stations.

Historical Note

Sec. added by renum. 217-2.5, filed: Feb. 16, 1996 as emergency measure; May 15, 1996 as emergency measure; July 12, 1996 as emergency measure; Sept. 11, 1996 as emergency measure; Nov. 8, 1996 as emergency measure; Jan. 7, 1997 as emergency measure; March 7, 1997 as emergency measure; April 22, 1997 eff. 30 days after filing.

§ 217-2.8 Analyzer system product assurance, auditing, and decertification.

(a) The department may decertify an analyzer system because the manufacturer-vendor fails to comply with the requirements of this Subpart or if the manufacturer-vendor fails to pay damages ordered by the commissioner for noncompliance with this Subpart. The department may decertify the manufacturer-vendor's analyzer system(s) if the manufacturer-vendor has failed to make satisfactory progress toward correcting failures.

(b) The manufacturer-vendor of a certified analyzer system must conduct a product quality assurance program to assure that emission measurement performance requirements are being met by each unit offered for sale in New York State.

(1) The manufacturer-vendor is to submit a description of its product quality assurance program to the department at the time that certification is requested.

(2) The product quality assurance program must provide that each unit be tested before it is delivered to the official emissions inspection station.

(3) The product quality assurance program must provide that each unit be monitored for a minimum of one week.

(c) The manufacturer-vendor of a certified analyzer system must undertake a continuous program of random sampling of the equipment supplied by them to official emissions inspection stations. The program of random sampling is to gauge vehicle exhaust emission measurement performance.

(1) The manufacturer-vendor must submit quarterly reports to the department of their continuous program of random sampling.

(2) The manufacturer-vendor must take steps to correct any recurring faults in their analyzer system revealed through the continuous program of random sampling.

(d) When the department identifies a recurring fault in an analyzer system, it will require the manufacturer-vendor to remedy the problem on a mutually acceptable prescribed schedule. If such a remedy to the system fault is not achieved, the department will initiate enforcement action.

(e) The department will initiate decertification proceedings, in accordance with 6 NYCRR 621.14, if the manufacturer-vendor fails to abide by the schedule and a mutually agreeable solution to the equipment fault is not achieved.

(f) When an analyzer system is decertified, the manufacturer-vendor must buy back all decertified analyzer systems that were supplied to official emissions inspection stations from the owner or operator of each such inspection station who wishes to sell the equipment back to the manufacturer-vendor. The buy back price shall be calculated by using linear depreciation over five years from the date that the equipment was delivered to the official emissions inspection station to the date of decertification.

Historical Note

Sec. added by renum. 217-2.6, filed: Feb. 16, 1996 as emergency measure; May 15, 1996 as emergency measure; July 12, 1996 as emergency measure; Sept. 11, 1996 as emergency measure; Nov. 8, 1996 as emergency measure; Jan. 7, 1997 as emergency measure; March 7, 1997 as emergency measure; April 22, 1997 eff. 30 days after filing.