concentration used, stop the time measurement.

(iv) If the elapsed time is more than 20.0 seconds, make necessary adjustments.

(v) Repeat with the CO, CO_2, and NO_X instruments and span gases.

(2) *Option.* If the following parameters are determined, the initial system response time may be generally applied to future checks:

(i) *Analyzer and bypass flow rates.* (A) Determine by experimentation the minimum analyzer and bypass flow rates individually and in combination that will produce a response time as close as possible to 20.0 seconds per paragraph (c)(1) of this section.

(B) Record the highest minimum flow rate for each flow meter as determined in paragraph (c)(2)(i)(A) of this section.

(ii) *Capillary flow analyzers.* This procedure is applicable only to analyzers that have sample capillaries such as the HFID and CL analyzers. It is also assumed that the system has sample/span valves that perform the function of valves V9 and V13 in.

(A) Operate the analyzer(s) at the in-use capillary pressure.

(B) Adjust the bypass flow rate to the flow rate recorded in paragraph (c)(2)(i)(B) of this section.

(C) Measure and record the response time from the sample/span valve(s) per paragraph (c)(1) of this section.

(D) The response time required by paragraph (c)(2)(ii)(C) of this section can be determined by switching from the ''sample'' position to the ''span'' position of the sample/span valve and observing the analyzer response on a chart recorder. Normally, the ''sample'' position would select a ''room air'' sample and the ''span'' position would select a span gas.

(E) Adjust the bypass flow rate to the normal in-use value.

(F) Measure and record the response time from the sample/span valve(s) per paragraph (c)(1) of this section.

(G) Determine the slowest response time (step in paragraph (c)(2)(ii)(C) of this section or step in paragraph (c)(2)(ii)(D) of this section) and add 2 seconds to it.

§ 92.119 Hydrocarbon analyzer calibration.

The HFID hydrocarbon analyzer shall receive the following initial and periodic calibration:

(a) *Initial and periodic optimization of detector response.* Prior to introduction into service and at least annually thereafter, the HFID hydrocarbon analyzer shall be adjusted for optimum hydrocarbon response. Alternate methods yielding equivalent results may be used, if approved in advance by the Administrator.

(1) Follow good engineering practices for initial instrument start-up and basic operating adjustment using the appropriate fuel (see § 92.112) and zero-grade air.

(2) Optimize on the most common operating range. Introduce into the analyzer a propane-in-air mixture with a propane concentration equal to approximately 90 percent of the most common operating range.

(3) HFID optimization is performed:

(i) According to the procedures outlined in Society of Automotive Engineers (SAE) paper No. 770141, ''Optimization of Flame Ionization Detector for Determination of Hydrocarbons in Diluted Automobile Exhaust'', author, Glenn D. Reschke (incorporated by reference at § 92.5); or

(ii) According to the following procedures:

(A) If necessary, follow manufacturer's instructions for instrument start-up and basic operating adjustments.

(B) Set the oven temperature 5 °C hotter than the required sample-line temperature. Allow at least one-half hour after the oven has reached temperature for the system to equilibrate.

(C) *Initial fuel flow adjustment.* With the fuel and air-flow rates set at the manufacturer's recommendations, introduce a 350 ppmC ±75 ppmC span gas to the detector. Determine the response at a given fuel flow from the difference between the span-gas response and the zero-gas response. Incrementally adjust the fuel flow above and below the manufacturer's specification. Record the span and zero response at these fuel flows. A plot of the difference between the span and zero response versus fuel flow will be similar to the one shown in Figure B119–1 of this section. Adjust the fuel-flow rate to the rich side of the curve, as shown. This is initial flow-rate setting and may not be the final optimized flow rate.

(D) *Oxygen interference optimization.* Choose a range where the oxygen interference check gases (see § 92.112) will fall in the upper 50 percent. Conduct this test with the oven temperature set as required. Oxygen interference check gas specifications are found in § 92.112.

(*1*) Zero the analyzer.

(*2*) Span the analyzer with the 21-percent oxygen blend.

(*3*) Recheck zero response. If it has changed more than 0.5 percent of full scale repeat paragraphs (a)(3)(ii)(D) (*1*) and (*2*) of this section.

(*4*) Introduce the 5 percent and 10 percent oxygen interference check gases.

(*5*) Recheck the zero response. If it has changed more ±1 percent of full scale, repeat the test.

(*6*) Calculate the percent of oxygen interference ($\%O_2I$) for each mixture in step in paragraph (a)(3)(ii)(D)(*4*) of this section.

$$\text{Percent } O_2I = ((\text{B-Analyzer response (ppmC)})/B) \times (100)$$

$$\text{Analyzer response} = ((A)/(\text{Percent of full-scale analyzer response due to A})) \times (\text{Percent of full-scale analyzer response due to B})$$

Where:

A=hydrocarbon concentration (ppmC) of the span gas used in step in paragraph (a)(3)(ii)(D)(*2*) of this section.

B=hydrocarbon concentration (ppmC) of the oxygen interference check gases used in step in paragraph (a)(3)(ii)(D)(*4*) of this section.

(*7*) The percent of oxygen interference ($\%O_2I$) must be less than ±3.0 percent for all required oxygen interference check gases prior to testing.

(*8*) If the oxygen interference is greater than the specifications, incrementally adjust the air flow above and below the manufacturer's specifications, repeating paragraphs (a)(3)(ii)(D) (*1*) through (*7*) of this section for each flow.

(*9*) If the oxygen interference is greater than the specification after adjusting the air flow, vary the fuel flow and thereafter the sample flow, repeating paragraphs (a)(3)(ii)(D) (*1*) through (*7*) of this section for each new setting.

(*10*) If the oxygen interference is still greater than the specifications, repair or replace the analyzer, FID fuel, or burner air prior to testing. Repeat this section with the repaired or replaced equipment or gases.

(E) *Linearity check.* For each range used, check linearity as follows:

(*1*) With the fuel flow, air flow and sample flow adjust to meet the oxygen interference specification, zero the analyzer.

(*2*) Span the analyzer using a calibration gas that will provide a response of approximately 90 percent of full-scale concentration.

(*3*) Recheck the zero response. If it has changed more than 0.5 percent of full scale, repeat steps in paragraphs (a)(3)(ii)(E) (*1*) and (*2*) of this seciton.

(*4*) Record the response of calibration gases having nominal concentrations of 30, 60, and 90 percent of full-scale concentration. It is permitted to use additional concentrations.

(*5*) Perform a linear least square regression on the data generated. Use an equation of the form y = mx, where x is the actual chart deflection and y is the concentration.

(*6*) Use the equation z = y/m to find the linear chart deflection (z) for each calibration gas concentration (y).

(*7*) Determine the linearity (%L) for each calibration gas by:

Percent L=(100)(z − x)/(Full-scale linear chart deflection)

(*8*) The linearity criterion is met if the %L is less than ±2 percent for each data point generated. Below 40 ppmC the linearity criterion may be expanded to ±4 percent. For each emission test, a calibration curve of the form y = mx is to be used. The slope (m) is defined for each range by the spanning process.

(*9*) If the %L for any point exceeds the specifications in step in paragraph (a)(3)(ii)(E)(*8*) of this section, the air fuel, and sample-flow rates may be varied within the boundaries of the oxygen interference specifications.

(*10*) If the %L for any data point still exceeds the specifications, repair or replace the analyzer, FID fuel, burner air, or calibration bottles prior to testing. Repeat the procedures of this section with the repaired or replaced equipment or gases.

(F) *Optimized flow rates.* The fuel-flow rate, air-flow rate and sample-flow rate are defined as ''optimized'' at this point.

(iii) Alternative procedures may be used if approved in advance by the Administrator.

(4) After the optimum flow rates have been determined they are recorded for future reference.

(b) *Initial and periodic calibration.* Prior to introduction into service and monthly thereafter, the HFID hydrocarbon analyzer shall be calibrated on all normally used instrument ranges. Use the same flow rate and pressures as when analyzing samples. Calibration gases shall be introduced directly at the analyzer.

(1) Adjust analyzer to optimize performance.

(2) Zero the hydrocarbon analyzer with zero-grade air.

(3) Calibrate on each used operating range with propane-in-air calibration gases having nominal concentrations of 15, 30, 45, 60, 75 and 90 percent of that range. For each range calibrated, if the deviation from a least-squares best-fit straight line is 2 percent or less of the value at each data point, concentration values may be calculated by use of single calibration factor for that range. If the deviation exceeds 2 percent at any point, the best-fit non-linear equation which represents the data to within 2 percent of each test point shall be used to determine concentration.

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Figure to § 92.119

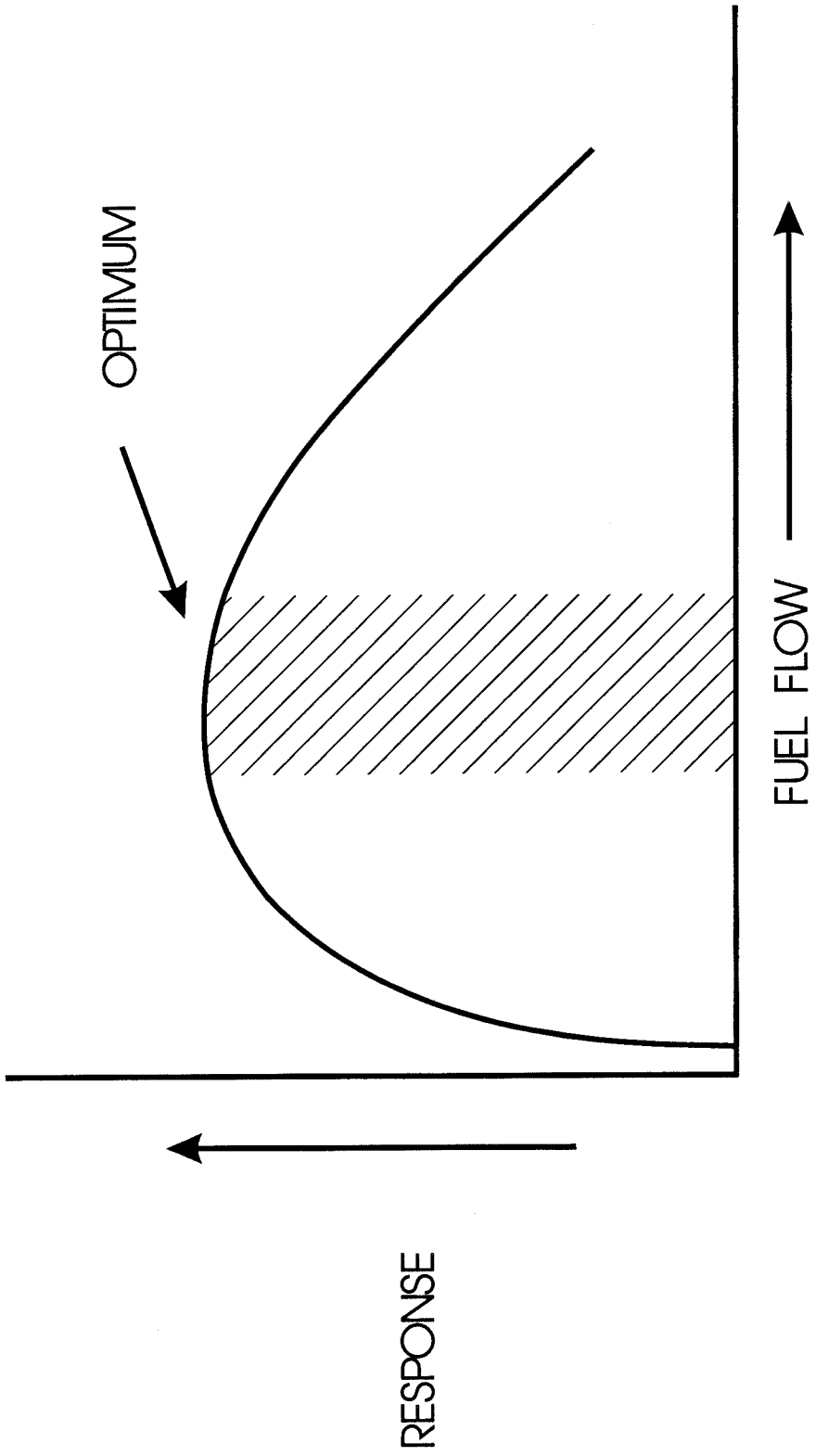

Figure B119-1 RESPONSE VS. FUEL FLOW

BILLING CODE 6560–50–C

§ 92.120 NDIR analyzer calibration and checks.

(a) *NDIR water rejection ratio check.* (1) Zero and span the analyzer on the lowest range that will be used.

(2) Introduce a saturated mixture of water and zero gas at room temperature directly to the analyzer.

(3) Determine and record the analyzer operating pressure (GP) in absolute units in Pascal. Gauges G3 and G4 may be used if the values are converted to the correct units.

(4) Determine and record the temperature of the zero-gas mixture.

(5) Record the analyzers' response (AR) in ppm to the saturated zero-gas mixture.

(6) For the temperature recorded in paragraph (a)(4) of this section, determine the saturation vapor pressure.

(7) Calculate the water concentration (Z) in the mixture from:

$$Z=(PWB/GP)(10^6)$$

(8) Calculate the water rejection ratio (WRR) from:

$$WRR=(Z/AR)$$

(b) *NDIR CO_2 rejection ratio check.* (1) Zero and span the analyzer on the lowest range that will be used.

(2) Introduce a CO_2 calibration gas of at least 10 percent CO_2 or greater to the analyzer.

(3) Record the CO_2 calibration gas concentration in ppm.

(4) Record the analyzers' response (AR) in ppm to the CO_2 calibration gas.

(5) Calculate the CO_2 rejection ratio (CO_2RR) from:

$$CO_2RR=(\text{ppm } CO_2)/AR$$

(c) *NDIR analyzer calibration.* (1) Detector optimization. If necessary, follow the manufacturer's instructions for initial start-up and basic operating adjustments.

(2) Calibration curve. Develop a calibration curve for each range used as follows:

(i) Zero the analyzer.

(ii) Span the analyzer to give a response of approximately 90 percent of full-scale chart deflection.

(iii) Recheck the zero response. If it has changed more than 0.5 percent of full scale, repeat steps in paragraphs (c)(2)(i) and (c)(2)(ii) of this section.

(iv) Record the response of calibration gases having nominal concentrations of 15, 30, 45, 60, 75, and 90 percent of full-scale concentration.

(v) Generate a calibration curve. The calibration curve shall be of fourth order or less, have five or fewer coefficients, and be of the form of equation (1) or (2). Include zero as a data point. Compensation for known impurities in the zero gas can be made to the zero-data point. The calibration curve must fit the data points within 2 percent of point or 1 percent of full scale, whichever is less. Equations (1) and (2) follow:

$$y = Ax^4 + Bx^3 + Cx^2 + Dx + E \quad (1)$$

$$y = x/(Ax^4 + Bx^3 + Cx^2 + Dx + E) \quad (2)$$

where:

y = concentration.
x = chart deflection.

(vi) Option. A new calibration curve need not be generated if:

(A) A calibration curve conforming to paragraph (c)(2)(v) of this section exists;

(B) The responses generated in paragraph (c)(2)(iv) of this section are within 1 percent of full scale or 2 percent of point, whichever is less, of the responses predicted by the calibration curve for the gases used in paragraph (c)(2)(iv) of this section.

(vii) If multiple range analyzers are used, only the lowest range must meet the curve fit requirements below 15 percent of full scale.

(3) If any range is within 2 percent of being linear a linear calibration may be used. To determine if this criterion is met:

(i) Perform a linear least-square regression on the data generated. Use an equation of the form y=mx, where x is the actual chart deflection and y is the concentration.

(ii) Use the equation z=y/m to find the linear chart deflection (z) for each calibration gas concentration (y).

(iii) Determine the linearity (%L) for each calibration gas by:

$$\text{Percent } L=(100)(z-x)/(\text{Full-scale chart deflection})$$

(iv) The linearity criterion is met if the %L is less than ±2 percent for each data point generated. For each emission test, a calibration curve of the form y=mx is to be used. The slope (m) is defined for each range by the spanning process.

§ 92.121 Oxides of nitrogen analyzer calibration and check.

(a) *Quench checks; NO_X analyzer.* (1) Perform the reaction chamber quench check for each model of high vacuum reaction chamber analyzer prior to initial use.

(2) Perform the reaction chamber quench check for each new analyzer that has an ambient pressure or ''soft vacuum'' reaction chamber prior to initial use. Additionally, perform this check prior to reusing an analyzer of this type any time any repairs could potentially alter any flow rate into the reaction chamber. This includes, but is not limited to, sample capillary, ozone capillary, and if used, dilution capillary.

(3) Quench check as follows:

(i) Calibrate the NO_X analyzer on the lowest range that will be used for testing.

(ii) Introduce a mixture of CO_2 calibration gas and NO_X calibration gas to the CL analyzer. Dynamic blending may be used to provide this mixture. Dynamic blending may be accomplished by analyzing the CO_2 in the mixture. The change in the CO_2 value due to blending may then be used to determine the true concentration of the NO_X in the mixture. The CO_2 concentration of the mixture shall be approximately equal to the highest concentration experienced during testing. Record the response.

(iii) Recheck the calibration. If it has changed more than ±1 percent of full scale, recalibrate and repeat the quench check.

(iv) Prior to testing, the difference between the calculated NO_X response and the response of NO_X in the presence of CO_2 (step in paragraph (a)(3)(ii) of this section must not be greater than 3.0 percent of full-scale. The calculated NO_X response is based on the calibration performed in step in paragraph (a)(3)(i) of this section.

(b) *Oxides of nitrogen analyzer calibration.* (1) Every 30 days, perform a converter-efficiency check (see paragraph (b)(2) of this section) and a linearity check (see paragraph (b)(3) of this section).

(2) Converter-efficiency check. The apparatus described and illustrated in Figure B121–1 of this section is to be used to determine the conversion efficiency of devices that convert NO_2 to NO. The following procedure is to be used in determining the values to be used in the equation below:

(i) Follow the manufacturer's instructions for instrument startup and operation.

(ii) Zero the oxides of nitrogen analyzer.

(iii) Connect the outlet of the NO_X generator to the sample inlet of the oxides of nitrogen analyzer which has been set to the most common operating range.

(iv) Introduce into the NO_X generator-analyzer system a span gas with a NO concentration equal to approximately 80 percent of the most common operating range. The NO_2 content of the gas mixture shall be less than 5 percent of the NO_X concentration.

(v) With the oxides of nitrogen analyzer in the NO Mode, record the concentration of NO indicated by the analyzer.

(vi) Turn on the NO_X generator O_2 (or air) supply and adjust the O_2 (or air) flow rate so that the NO indicated by the analyzer is about 10 percent less than indicated in step in paragraph (b)(2)(v)

of this section. Record the concentration of NO in this NO + O_2 mixture.

(vii) Switch the NO_X generator to the generation mode and adjust the generation rate so that the NO measured on the analyzer is 20 percent of that measured in step in paragraph (b)(2)(v) of this section. There must be at least 10 percent unreacted NO at this point. Record the concentration of residual NO.

(viii) Switch the oxides of nitrogen analyzer to the NO_X mode and measure total NO_X. Record this value.

(ix) Switch off the NO_X generation, but maintain gas flow through the system. The oxides of nitrogen analyzer will indicate the total NO_X in the NO + O_2 mixture. Record this value.

(x) Turn off the NO_X generator O_2 (or air) supply. The analyzer will now indicate the total NO_X in the original NO in N_2 mixture. This value should be no more than 5 percent above the value indicated in step in paragraph (b)(2)(iv) of this section.

(xi) Calculate the efficiency of the NO_X converter by substituting the concentrations obtained into the following equation:

(A) Percent Efficiency=(1+(a − b)/(c − d))(100)

where:

a=concentration obtained in paragraph (b)(2)(viii) of this section.
b=concentration obtained in paragraph (b)(2)(ix) of this section.
c=concentration obtained in paragraph (b)(2)(vi) of this section.
d=concentration obtained in paragraph (b)(2)(vii) of this section.

(B) The efficiency of the converter shall be greater than 90 percent. Adjustment of the converter temperature may be necessary to maximize the efficiency. If the converter does not meet the conversion-efficiency specifications, repair or replace the unit prior to testing. Repeat the procedures of this section with the repaired or new converter.

(3) Linearity check. For each range used, check linearity as follows:

(i) With the operating parameters adjusted to meet the converter efficiency check and the quench checks, zero the analyzer.

(ii) Span the analyzer using a calibration gas that will give a response of approximately 90 percent of full-scale concentration.

(iii) Recheck the zero response. If it has changed more than 0.5 percent of full scale, repeat steps in paragraphs (b)(3)(i) and (b)(3)(ii) of this section.

(iv) Record the response of calibration gases having nominal concentrations of 30, 60 and 90 percent of full-scale concentration. It is permitted to use additional concentrations.

(v) Perform a linear least-square regression on the data generated. Use an equation of the form y=mx where x is the actual chart deflection and y is the concentration.

(vi) Use the equation z=y/m to find the linear chart deflection (z) for each calibration gas concentration (y).

(vii) Determine the linearity (%L) for each calibration gas by:

Percent L=(100)(z − x)/(Full-scale chart deflection)

(viii) The linearity criterion is met if the %L is less than ±2 percent of each data point generated. For each emission test, a calibration curve of the form y=mx is to be used. The slope (m) is defined for each range by the spanning process.

(ix) If the %L exceeds ±2 percent for any data point generated, repair or replace the analyzer or calibration bottles prior to testing. Repeat the procedures of this section with the repaired or replaced equipment or gases.

(x) Perform a converter-efficiency check (see paragraph (b)(2) of this section).

(xi) The operating parameters are defined as ''optimized'' at this point.

(4) Converter checking gas. If the converter quick-check procedure is to be employed, paragraph (b)(5) of this section, a converter checking gas bottle must be named. The following naming procedure must occur after each converter efficiency check, paragraph (b)(2) of this section.

(i) A gas bottle with an NO_2 concentration equal to approximately 80 percent of the most common operation range shall be designated as the converter checking gas bottle. Its NO concentration shall be less than 25 percent of its NO_2 concentration, on a volume basis.

(ii) On the most common operating range, zero and span the analyzer in the NO_X mode. Use a calibration gas with a concentration equal to approximately 80 percent of the range for spanning.

(iii) Introduce the converter checking gas. Analyze and record concentrations in both the NO_X mode (X) and NO mode (Y).

(iv) Calculate the concentration of the converter checking gas using the results from step in paragraph (b)(4)(iii) of this section and the converter efficiency from paragraph (b)(2) of this section as follows:

Concentration=(((X–Y)(100))/Efficiency)+Y

(5) Converter quick-check.

(i) Span the analyzer in the normal manner (NO_X mode) for the most common operating range.

(ii) Analyze the converter checking gas in the NO_X mode, record the concentration.

(iii) Compare the observed concentration with the concentration assigned under the procedure in paragraph (b)(4) of this section. If the observed concentration is equal to or greater than 90 percent of the assigned concentration, the converter operation is satisfactory.

(c) *Initial and periodic calibration.* Prior to its introduction into service and monthly thereafter, the chemiluminescent oxides of nitrogen analyzer shall be calibrated on all normally used instrument ranges. Use the same flow rate as when analyzing samples. Proceed as follows:

(1) Adjust analyzer to optimize performance.

(2) Zero the oxides of nitrogen analyzer with zero-grade air or zero-grade nitrogen.

(3) Calibrate on each normally used operating range with NO-in-N_2 calibration gases with nominal concentrations of 15, 30, 45, 60, 75 and 90 percent of that range. For each range calibrated, if the deviation from a least-squares best-fit straight line is 2 percent or less of the value at each data point, concentration values may be calculated by use of a single calibration factor for that range. If the deviation exceeds 2 percent at any point, the best-fit non-linear equation which represents the data to within 2 percent of each test point shall be used to determine concentration.

(d) If a stainless steel NO_2 to NO converter is used, condition all new or replacement converters. The conditioning consists of either purging the converter with air for a minimum of 4 hours or until the converter efficiency is greater than 90 percent. The converter must be at operational temperature while purging. Do not use this procedure prior to checking converter efficiency on in-use converters.

BILLING CODE 6560–50–P

Figure to § 92.121

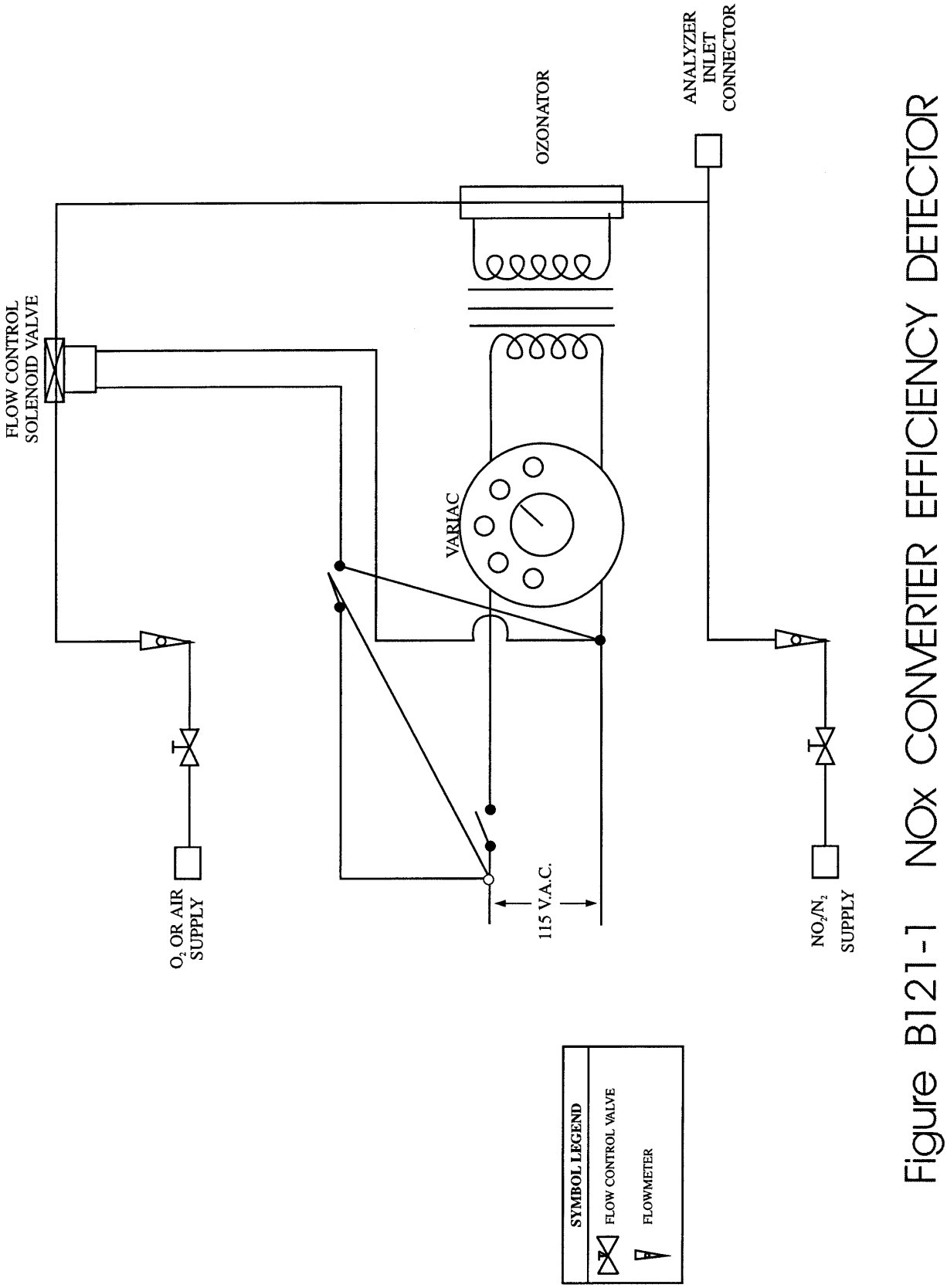

Figure B121-1 NOx CONVERTER EFFICIENCY DETECTOR

BILLING CODE 6560–50–C

§ 92.122 Smoke meter calibration.

The smokemeter shall be checked according to the following procedure prior to each test:

(a) The zero control shall be adjusted under conditions of ''no smoke'' to give a recorder or data collection equipment response of zero;

(b) Calibrated neutral density filters having approximately 10, 20, and 40 percent opacity shall be employed to check the linearity of the instrument. The filter(s) shall be inserted in the light path perpendicular to the axis of the beam and adjacent to the opening from which the beam of light from the light source emanates, and the recorder response shall be noted. Filters with exposed filtering media should be checked for opacity every six months; all other filters shall be checked every year, using NIST or equivalent reference filters. Deviations in excess of 1 percent of the nominal opacity shall be corrected.

§ 92.123 Test procedure; general requirements.

(a) The locomotive/locomotive engine test procedure is designed to determine the brake specific emissions of hydrocarbons (HC, total or non-methane as applicable), total hydrocarbon equivalent (THCE) and aldehydes (as applicable), carbon monoxide (CO), oxides of nitrogen (NO_X), and particulates, and the opacity of smoke emissions. The test procedure consists of measurements of brake specific emissions and smoke opacity at each throttle position and of measurements of smoke opacity during each change in throttle position as engine power is increased. If less than 2 percent of the total exhaust flow is removed for gaseous and particulate sampling in notches 1 through 8, and if less than 4 percent of the total exhaust flow is removed for gaseous and particulate sampling at idle and dynamic brake, all measurements of gaseous, particulate and smoke emissions may be performed during one test sequence. If more than 2 percent, or 4 percent as applicable, of the total exhaust is removed for gaseous and particulate sampling, measurements of gaseous, and particulate emissions are performed during one test sequence, and a second test sequence is performed for the measurement of smoke.

(1) In the raw exhaust sampling procedure, sample is collected directly from the exhaust stream during each throttle setting. Particulates are collected on filters following dilution with ambient air of another raw exhaust sample. The fuel flow rate for each throttle setting is measured.

(2) For locomotives with multiple exhaust stacks, smoke testing is only required for one of the exhaust stacks provided the following conditions are met:

(i) The stack that is not tested is not visibly smokier than the stack that is tested; and

(ii) None of the measured opacity values for the stack tested are not greater than three-quarters of the level allowed by any of the applicable smoke standards.

(b) The test consists of prescribed sequences of engine operating conditions (see §§ 92.124 and 92.126) to be conducted either on a locomotive; or with the engine mounted on an engine dynamometer, or attached to a locomotive alternator/generator.

(1) *Locomotive testing.* (i) The electrical power output produced by the alternator/generator at each throttle setting is recorded as measurements of either the wattmeter or the output voltage, phase angle, and current flow through the electrical resistance bank.

(ii) The locomotive fuel supply system shall be disconnected and a system capable of measuring the net rate at which fuel is supplied to the engine (accounting for fuel recycle) shall be connected.

(2) *Engine testing.* (i) When the test is performed using a dynamometer, engine torque and rpm shall be recorded during each throttle setting.

(ii) The complete engine shall be tested, with all emission control devices, and charge air cooling equipment installed and functioning.

(iii) On air-cooled engines, the engine cooling fan shall be installed.

(iv) Additional accessories (e.g., air compressors) shall be installed or their loading simulated if typical of the in-use application. In the case of simulated accessory loadings, the manufacturer shall make available to the Administrator documentation which shows that the simulated loading is representative of in-use operation. Power for accessories necessary to operate the engine (such as fuel pumps) shall be treated as parasitic losses and would not be included in the engine power output for purposes of calculating brake specific emissions.

(v) The engine may be equipped with a production type starter.

(vi) Means of engine cooling shall be used which will maintain the engine operating temperatures (e.g., temperatures of intake air downstream of charge air coolers, oil, water, etc.) at approximately the same temperature as would occur in a locomotive at each test point under the equivalent ambient conditions. In the case of engine intake air after compression and cooling in the charge air cooler(s), the temperature of the air entering the engine shall be within ±5°F, at each test point, of the typical temperatures occurring in locomotive operations under ambient conditions represented by the test. Auxiliary fan(s) may be used to maintain engine cooling during operation on the dynamometer. Rust inhibitors and lubrication additives may be used, up to the levels recommended by the additive manufacturer. If antifreeze is to be used in the locomotive application, antifreeze mixtures and other coolants typical of those approved for use in the locomotive may be used.

(vii) The provisions of paragraph (b)(1)(i) of this section apply to engine testing using a locomotive alternator/generator instead of a dynamometer.

§ 92.124 Test sequence; general requirements.

(a) *Air temperature.* (1) The temperature of dilution air for the particulate sample dilution tunnel shall comply with the requirements of § 92.114 throughout the test sequence.

(2) For the testing of locomotives and engines, the ambient (test cell or out-of-door) air temperature, the temperature of the engine intake air, and the temperature of the air which provides cooling for the engine charge air cooling system shall be between 45°F (7°C) and 105°F (41°C) throughout the test sequence. Manufacturers and remanufacturers may test at higher temperatures without approval from the Administrator, but no corrections are allowed for the deviations from test conditions.

(b) For the testing of locomotives and engines, the atmospheric pressure shall be between 31.0 inches Hg and 26.0 inches Hg throughout the test sequence. Manufacturers and remanufacturers may test at lower pressures without approval from the Administrator, but no corrections are allowed for the deviations from test conditions.

(c) No control of humidity is required for ambient air, engine intake air or dilution air.

(d)*Flow restrictions.* (1) *Locomotive testing.* Restrictions to the flow of air into the engine and of exhaust out of the engine shall be those inherent to the locomotive. No adjustments or changes shall be made to these parameters. The temperature of the inlet fuel to the engine shall not exceed 125°F.

(2) *Engine testing.* (i) Air inlet and exhaust restrictions shall be set to represent the average restrictions which would be seen in use in a representative application.

(ii) Inlet depression and exhaust backpressure shall be set with the engine operating at rated speed and maximum power, i.e., throttle notch 8.

(iii) The locations at which the inlet depression and exhaust backpressure are measured shall be specified by the manufacturer or remanufacturer.

(iv) The settings shall be made during the preconditioning.

(e) Pre-test engine measurements (e.g., idle and throttle notch speeds, fuel flows, etc.), pre-test engine performance checks (e.g., verification of engine power, etc.) and pre-test system calibrations (e.g., inlet and exhaust restrictions, etc.) can be done during engine preconditioning, or at the manufacturer's convenience subject to the requirements of good engineering practice.

(f) The required test sequence is described in Table B124–1 of this section, as follows:

TABLE B124–1.—TEST SEQUENCE FOR LOCOMOTIVES AND LOCOMOTIVE ENGINES

Mode No.	Notch setting	Time in notch	Emissions measured [2]	Power, and fuel consumption measured
Warmup	Notch 8	5 ± 1 min	None	None.
Warmup	Lowest Idle	15 min maximum	None	None.
1a	Low Idle [1]	6 min minimum	All	Both.
1	Normal Idle	6 min minimum	All	Both.
2	Dynamic Brake [1]	6 min minimum	All	Both.
3	Notch 1	6 min minimum	All	Both.
4	Notch 2	6 min minimum	All	Both.
5	Notch 3	6 min minimum	All	Both.
6	Notch 4	6 min minimum	All	Both.
7	Notch 5	6 min minimum	All	Both.
8	Notch 6	6 min minimum	All	Both.
9	Notch 7	6 min minimum	All	Both.
10	Notch 8	15 min minimum	All	Both.

[1] Omit if not so equipped.

[2] The EPA test sequence for locomotives and locomotive engines may be performed once, with gaseous, particulate and smoke measurements performed simultaneously, or it may be performed twice with gaseous, and particulate measurements performed during one test sequence and smoke measurements performed during the other test sequence.

§ 92.125 Pre-test procedures and preconditioning.

(a) *Locomotive testing.* (1) Determine engine lubricating oil and coolant levels and fill as necessary to manufacturers recommended full levels.

(2) Connect fuel supply system and purge as necessary; determine that the fuel to be used during emission testing is in compliance with the specifications of § 92.113.

(3) Install instrumentation, engine loading equipment and sampling equipment as required.

(4) Operate the engine until it has reached the specified operating temperature.

(b) *Engine testing.* (1) Determine engine lubricating oil level and fill as necessary to manufacturers recommended full level.

(2)(i) Connect fuel supply system and purge as necessary; determine that the fuel to be used during emission testing is in compliance with the specifications of § 92.113.

(ii) Connect engine cooling system.

(3) Install instrumentation, and sampling equipment as required. Couple the engine to the dynamometer or locomotive alternator/generator.

(4) Start cooling system.

(5) Operate the engine until it has reached the specified operating temperature.

(6) Establish that the temperature of intake air entering the engine after compression and cooling in the charge air cooler(s), at each test point, is within ±5 °F of the temperatures which occur in locomotive operations at the ambient temperature represented by the test.

(c) *Both locomotive and engine testing.* (1) Allow a minimum of 30 minutes warm-up in the stand-by or operating mode prior to spanning the analyzers.

(2) Replace or clean filter elements (sampling and analytical systems) as necessary, and then vacuum leak check the system, § 92.118. A pressure leak check is also permitted per § 92.118. Allow the heated sample line, filters, and pumps to reach operating temperature.

(3) Perform the following system checks:

(i) If a stainless steel NO_2 to NO converter is used, purge the converter with air (zero-grade air, room air, or O_2) for a minimum of 30 minutes. The converter must be at operational temperature while purging.

(ii) Check the sample system temperatures (see § 92.114).

(iii) Check the system response time (see § 92.118). System response time may be applied from the most recent check of response time if all of the following are met:

(A) The flow rate for each flow meter is equal to or greater than the flow rate recorded in § 92.118.

(B) For analyzers with capillaries, the response time from the sample/span valve is measured using in-use pressures and bypass flows (see § 92.118).

(C) The response time measured in step in paragraph (c)(3)(iii)(B) of this section is equal to or less than the slowest response time determined for *Capillary flow analyzers* in § 92.118 plus 2 seconds.

(iv) A hang-up check is permitted.

(v) A converter-efficiency check is permitted. The check need not conform to § 92.121. The test procedure may be aborted at this point in the procedure in order to repair the NO_2 to NO converter. If the test is aborted, the converter must pass the efficiency check described in § 92.121 prior to starting the test run.

(4) Introduce the zero-grade gases at the same flow rates and pressures used to calibrate the analyzers and zero the analyzers on the lowest anticipated range that will be used during the test. Immediately prior to each test, obtain a stable zero for each anticipated range that will be used during the test.

(5) Introduce span gases to the instruments under the same flow conditions as were used for the zero gases. Adjust the instrument gains on the lowest range that will be used to give the desired value. Span gases should have a concentration greater than 70 percent of full scale for each

range used. Immediately prior to each test, record the response to the span gas and the span-gas concentration for each range that will be used during the test.

(6) Check the zero responses. If they have changed more than 0.5 percent of full scale, repeat paragraphs (c)(4) and (5) of this section.

(7) Check system flow rates and pressures. Note the values of gauges for reference during the test.

§ 92.126 Test run.

(a) The following steps shall be taken for each test:

(1) Prepare the locomotive, engine, dynamometer, (as applicable) and sampling system for the test. Change filters, etc. and leak check as necessary.

(2) Connect sampling equipment as appropriate for the sampling procedure employed; i.e. raw or dilute (evacuated sample collection bags, particulate, and raw exhaust sampling equipment, particulate sample filters, fuel flow measurement equipment, etc.).

(3) Start the particulate dilution tunnel, the sample pumps, the engine cooling fan(s) (engine dynamometer testing) and the data collection and sampling systems (except particulate sample collection). The heated components of any continuous sampling systems(s) (if applicable) shall be preheated to their designated operating temperatures before the test begins.

(4) Adjust the sample flow rates to the desired flow rates and set gas flow measuring devices to zero (particulate dilution tunnel).

(5) Read and record all required general and pre-test data (i.e., all required data other than data that can only be collected during or after the emission test).

(6) Warm-up the locomotive or locomotive engines according to normal warm-up procedures.

(7) Begin the EPA Test Sequence for Locomotives and Locomotive Engines (see § 92.124). Record all required general and test data throughout the duration of the test sequence.

(i) Mark the start of the EPA Test Sequence for Locomotives and Locomotive Engines on all data records.

(ii) Begin emission measurement after completing the warmup phase of the EPA Test Sequence for Locomotives and Locomotive Engines, as specified in paragraph (b) of this section. Mark the start and end of each mode on all data records.

(iii) A mode shall be voided where the requirements of this subpart that apply to that test mode are not met. This includes the following:

(A) The data acquisition is terminated prematurely; or

(B) For engine testing, the engine speed or power output exceeds the tolerance bands established for that mode; or

(C) Measured concentrations exceed the range of the instrument; or

(D) The test equipment malfunctions.

(iv) Modes within the test sequence shall be repeated if it is voided during the performance of the test sequence. A mode can be repeated by:

(A) Repeating the two preceding modes and then continuing with the test sequence, provided that the locomotive or engine is not shut down after the voided test mode; or

(B) Repeating the preceding mode and then continuing with the test sequence from that point, provided that the locomotive or engine is not operated in any mode with lower power than the preceding mode after the voided test mode. For example, if the Notch 2 mode is voided, then the locomotive or engine would be returned to Notch 1 while any repairs are made.

(b) *Sampling and measurement timing.* (1) Gaseous emissions shall be sampled and measured continuously.

(2)(i) Sampling of particulate emissions from the raw exhaust (for dilution) shall be conducted continuously.

(ii) Sampling of particulates from the diluted exhaust shall begin within ten seconds after the beginning of each test mode, and shall end six minutes after the beginning of each test mode.

(iii) Sampling of CO_2 in the dilution air and diluted exhaust does not need to be continuous, but the measurements used for the calculations must be made after the first two minutes of each mode.

(3) Fuel flow rate shall be measured continuously. The value reported for the fuel flow rate shall be a one-minute average of the instantaneous fuel flow measurements taken during the last minute of the minimum sampling period listed in Table B124–1 in § 92.124; except for testing during idle modes, where it shall be a three-minute average of the instantaneous fuel flow measurements taken during the last three minutes of the minimum sampling period listed in Table B124–1 in § 92.124. Sampling periods greater than one minute, but no greater than three minutes are allowed for modes 2, 3, and 4, where required by good engineering practice.

(4) Engine power shall be measured continuously. The value reported for the engine power shall be a one-minute average of the instantaneous power measurements taken during the last minute of the minimum sampling period listed in Table B124–1 in § 92.124.

(c) *Exhaust gas measurements.* (1) Should the analyzer response exceed 100 percent of full scale or respond less than 15 percent of full scale, the next higher or lower analyzer range shall be used.

(2) Each analyzer range that may be used during a test sequence must have the zero and span responses recorded prior to the execution of the test sequence. Only the range(s) used to measure the emissions during a test sequence are required to have their zero and span recorded after the completion of the test sequence.

(3) It is permitted to change filter elements between test modes, provided such changes do not cause a mode to be voided.

(4) A leak check is permitted between test modes, provided such changes do not cause a mode to be voided.

(5) A hang-up check is permitted between test modes, provided such changes do not cause a mode to be voided.

(6) If, during the emission measurement portions of a test, the value of the gauges downstream of the NDIR analyzer(s) differs by more than ±2 inches of water from the pretest value, the test is void.

(7)(i) For bag samples, as soon as possible transfer the exhaust and dilution air bag samples to the analytical system and process the samples.

(ii) A stabilized reading of the exhaust sample bag on all applicable analyzers shall be made within 20 minutes of the end of the sample collection phase of the mode.

§ 92.127 Emission measurement accuracy.

(a) Good engineering practice dictates that exhaust emission sample analyzer readings below 15 percent of full scale chart deflection should generally not be used.

(b) Some high resolution read-out systems such as computers, data loggers, etc., can provide sufficient accuracy and resolution below 15 percent of full scale. Such systems may be used provided that additional calibrations are made to ensure the accuracy of the calibration curves. The following procedure for calibration below 15 percent of full scale may be used:

(1) If a 16-point gas divider is used, 50 percent of the calibration points shall be below 10 percent of full scale. The gas divider shall conform to the accuracy requirements specified in § 92.112.

(2) If a 7- or 9-point gas divider is used, the gas divider shall conform to the accuracy requirements specified in

§ 92.112, and shall be used according to the following procedure:

(i) Span the full analyzer range using a top range calibration gas meeting the calibration gas accuracy requirements of § 92.112.

(ii) Generate a calibration curve according to, and meeting the applicable requirements of §§ 92.118 through 92.122.

(iii) Select a calibration gas (a span gas may be used for calibrating the CO_2 analyzer) with a concentration between the two lowest non-zero gas divider increments. This gas must be ''named'' to an accuracy of ±1.0 percent (±2.0 percent for CO_2 span gas) of NIST gas standards, or other standards approved by the Administrator.

(iv) Using the calibration curve fitted to the points generated in paragraphs (b)(2)(i) and (ii) of this section, check the concentration of the gas selected in paragraph (b)(2)(iii) of this section. The concentration derived from the curve shall be within ±2.3 percent (±2.8 percent for CO_2 span gas) of the gas' original named concentration.

(v) Provided the requirements of paragraph (b)(2)(iv) of this section are met, use the gas divider with the gas selected in paragraph (b)(2)(iii) of this section and determine the remainder of the calibration points. Fit a calibration curve per §§ 92.118 through 92.122 for the entire analyzer range.

§ 92.128 Particulate handling and weighing.

(a) At least 1 hour before the test, place each filter in a closed (to eliminate dust contamination) but unsealed (to permit humidity exchange) petri dish and place in a weighing chamber meeting the specifications of § 92.110(a) of this section for stabilization.

(b) At the end of the stabilization period, weigh each filter on the microbalance. This reading is the tare weight and must be recorded.

(c) The filter shall then be stored in a covered petri dish or a sealed filter holder until needed for testing. If the filters are transported to a remote test location, the filter pairs, stored in individual petri dishes, should be transported in sealed plastic bags to prevent contamination. At the conclusion of a test run, the filters should be removed from the filter holder, and placed face to face in a covered but unsealed petri dish, with the primary filter placed face up in the dish. The filters shall be weighed as a pair. If the filters need to be transported from a remote test site, back to the weighing chamber, the petri dishes should be placed in a sealed plastic bag to prevent contamination. Care should be taken in transporting the used filters such that they are not exposed to excessive, sustained direct sunlight, or excessive handling.

(d) After the emissions test, and after the sample and back-up filters have been returned to the weighing room after being used, they must be conditioned for at least 1 hour but not more than 80 hours and then weighed. This reading is the gross weight of the filter and must be recorded.

(e) The net weight of each filter is its gross weight minus its tare weight. Should the sample on the filter contact the petri dish or any other surface, the test is void and must be rerun.

(f) The particulate filter weight (Pf) is the sum of the net weight of the primary filter plus the net weight of the backup filter.

(g) The following optional weighting procedure is permitted:

(1) At the end of the stabilization period, weigh both the primary and back-up filters as a pair. This reading is the tare weight and must be recorded.

(2) After the emissions test, in removing the filters from the filter holder, the back-up filter is inverted on top of the primary filter. They must then be conditioned in the weighing chamber for at least 1 hour but not more than 80 hours. The filters are then weighed as a pair. This reading is the gross weight of the filters (Pf) and must be recorded.

(3) Paragraphs (a), (c), and (e) of this section apply to this option, except that the word ''filter'' is replaced by ''filters''.

§ 92.129 Exhaust sample analysis.

(a) The analyzer response may be read by automatic data collection (ADC) equipment such as computers, data loggers, etc. If ADC equipment is used the following is required:

(1) The response complies with § 92.130.

(2) The response required in paragraph (a)(1) of this section may be stored on long-term computer storage devices such as computer tapes, storage discs, or they may be printed in a listing for storage. In either case a chart recorder is not required and records from a chart recorder, if they exist, need not be stored.

(3) If the data from ADC equipment is used as permanent records, the ADC equipment and the analyzer values as interpreted by the ADC equipment are subject to the calibration specifications in §§ 92.118 through 92.122, as if the ADC equipment were part of the analyzer.

(b) Data records from any one or a combination of analyzers may be stored as chart recorder records.

(c) Software zero and span.

(1) The use of ''software'' zero and span is permitted. The process of software zero and span refers to the technique of initially adjusting the analyzer zero and span responses to the calibration curve values, but for subsequent zero and span checks the analyzer response is simply recorded without adjusting the analyzer gain. The observed analyzer response recorded from the subsequent check is mathematically corrected back to the calibration curve values for zero and span. The same mathematical correction is then applied to the analyzer's response to a sample of exhaust gas in order to compute the true sample concentration.

(2) The maximum amount of software zero and span mathematical correction is ±10 percent of full scale chart deflection.

(3) Software zero and span may be used to switch between ranges without adjusting the gain of the analyzer.

(4) The software zero and span technique may not be used to mask analyzer drift. The observed chart deflection before and after a given time period or event shall be used for computing the drift. Software zero and span may be used after the drift has been computed to mathematically adjust any span drift so that the ''after'' span check may be transformed into the ''before'' span check for the next mode.

(d) For sample analysis perform the following sequence:

(1) Warm-up and stabilize the analyzers; clean and/or replace filter elements, conditioning columns (if used), etc., as necessary.

(2) Leak check portions of the sampling system that operate at negative gauge pressures when sampling, and allow heated sample lines, filters, pumps, etc., to stabilize at operating temperature.

(3) Optional: Perform a hang-up check for the HFID sampling system:

(i) Zero the analyzer using zero air introduced at the analyzer port.

(ii) Flow zero air through the overflow sampling system, where an overflow system is used. Check the analyzer response.

(iii) If the overflow zero response exceeds the analyzer zero response by 2 percent or more of the HFID full-scale deflection, hang-up is indicated and corrective action must be taken.

(iv) The complete system hang-up check specified in paragraph (f) of this section is recommended as a periodic check.

(4) Obtain a stable zero reading.

(5) Zero and span each range to be used on each analyzer used prior to the

beginning of the test sequence. The span gases shall have a concentration between 75 and 100 percent of full scale chart deflection. The flow rates and system pressures shall be approximately the same as those encountered during sampling. The HFID analyzer shall be zeroed and spanned through the overflow sampling system, where an overflow system is used.

(6) Re-check zero response. If this zero response differs from the zero response recorded in paragraph (d)(5) of this section by more than 1 percent of full scale, then paragraphs (d) (4), (5), and (6) of this section should be repeated.

(7) If a chart recorder is used, identify and record the most recent zero and span response as the pre-analysis values.

(8) If ADC equipment is used, electronically record the most recent zero and span response as the pre-analysis values.

(9) Measure (or collect a sample of) the emissions continuously during each mode of the test cycle. Indicate the start of the test, the range(s) used, and the end of the test on the recording medium (chart paper or ADC equipment). Maintain approximately the same flow rates and system pressures used in paragraph (d)(5) of this section.

(10) (i) Collect background HC, CO, CO_2, and NO_X in a sample bag (optional).

(ii) Measure the concentration of CO_2 in the dilution air and the diluted exhaust for particulate measurements.

(11) Perform a post-analysis zero and span check for each range used at the conditions specified in paragraph (d)(5) of this section. Record these responses as the post-analysis values.

(12) Neither the zero drift nor the span drift between the pre-analysis and post-analysis checks on any range used may exceed 3 percent for HC, or 2 percent for NO_X, CO, and CO_2, of full scale chart deflection, or the test is void. (If the HC drift is greater than 3 percent of full-scale chart deflection, hydrocarbon hang-up is likely.)

(13) Determine HC background levels (if necessary) by introducing the background sample into the overflow sample system.

(14) Determine background levels of NO_X, CO, or CO_2 (if necessary).

(e) HC hang-up. If HC hang-up is indicated, the following sequence may be performed:

(1) Fill a clean sample bag with background air.

(2) Zero and span the HFID at the analyzer ports.

(3) Analyze the background air sample bag through the analyzer ports.

(4) Analyze the background air through the entire sample probe system.

(5) If the difference between the readings obtained is 2 percent or more of the HFID full scale deflection:

(i) Clean the sample probe and the sample line;

(ii) Reassemble the sample system;

(iii) Heat to specified temperature; and

(iv) Repeat the procedure in this paragraph (e).

§ 92.130 Determination of steady-state concentrations.

(a)(1) For HC and NO_X emissions, a steady-state concentration measurement, measured after 300 seconds (or 840 seconds for notch 8) of testing shall be used instead of an integrated concentration for the calculations in § 92.132 if the concentration response meets either of the criteria of paragraph (b) of this section and the criterion of paragraph (c) of this section.

(2) For CO and CO_2 emissions, a steady-state concentration measurement, measured after 300 seconds (or 840 seconds for notch 8) of testing shall be used. The provisions of paragraphs (b) through (f) of this section do not apply for CO and CO_2 emissions.

(b) (1) The steady-state concentration is considered representative of the entire measurement period if the time-weighted concentration is not more than 10 percent higher than the steady-state concentration. The time-weighted concentration is determined by integrating the concentration response (with respect to time in seconds) over the first 360 seconds (or 900 seconds for notch 8) of measurement, and dividing the area by 360 seconds (or 900 seconds for notch 8).

(2) A steady-state concentration is considered representative of the entire measurement period if the estimated peak area is not more than 10 percent of the product of the steady-state concentration and 360 seconds (or 900 seconds for notch 8). The estimated peak area is calculated as follows, and as shown in Figure B130–1 of this section):

(i) Draw the peak baseline as a straight horizontal line intersecting the steady-state response.

(ii) Measure the peak height from the baseline with the same units as the steady-state concentration; this value is h.

(iii) Bisect the peak height by drawing a straight horizontal line halfway between the top of the peak and the baseline.

(iv) Draw a straight line from the top of the peak to the baseline such that it intersects the response curve at the same point at which the line described in paragraph (b)(2)(iii) of this section intersects the response curve.

(v) Determine the time between the point at which the notch was changed and the point at which the line described in paragraph (b)(2)(iv) of this section intersects the baseline; this value is t.

(vi) The estimated peak area is equal to the product of h and t, divided by 2.

(c) In order to be considered to be a steady-state measurement, a measured response may not vary by more than 5 percent after the first 60 seconds of measurement.

(d) For responses meeting either of the criteria of paragraph (b) of this section, but not meeting the criterion of paragraph (c) of this section, one of the following values shall be used instead of a steady-state or integrated concentration:

(1) The highest value of the response that is measured after the first 60 seconds of measurement (excluding peaks lasting less than 5 seconds, caused by such random events as the cycling of an air compressor); or

(2) The highest 60-second, time-weighted, average concentration of the response after the first 60 seconds of measurement.

(e) For responses not meeting the criterion in paragraph (c) of this section, the Administrator may require that the manufacturer or remanufacturer identify the cause of the variation, and demonstrate that it is not caused by a defeat device.

(f) The integrated concentration used for calculations shall be from the highest continuous 120 seconds of measurement.

(g) Compliance with paragraph (b)(2) of this section does not require calculation where good engineering practice allows compliance to be determined visually (i.e., that the area of the peak is much less than the limits set forth in paragraph (b)(2) of this section).

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Figure to § 92.130

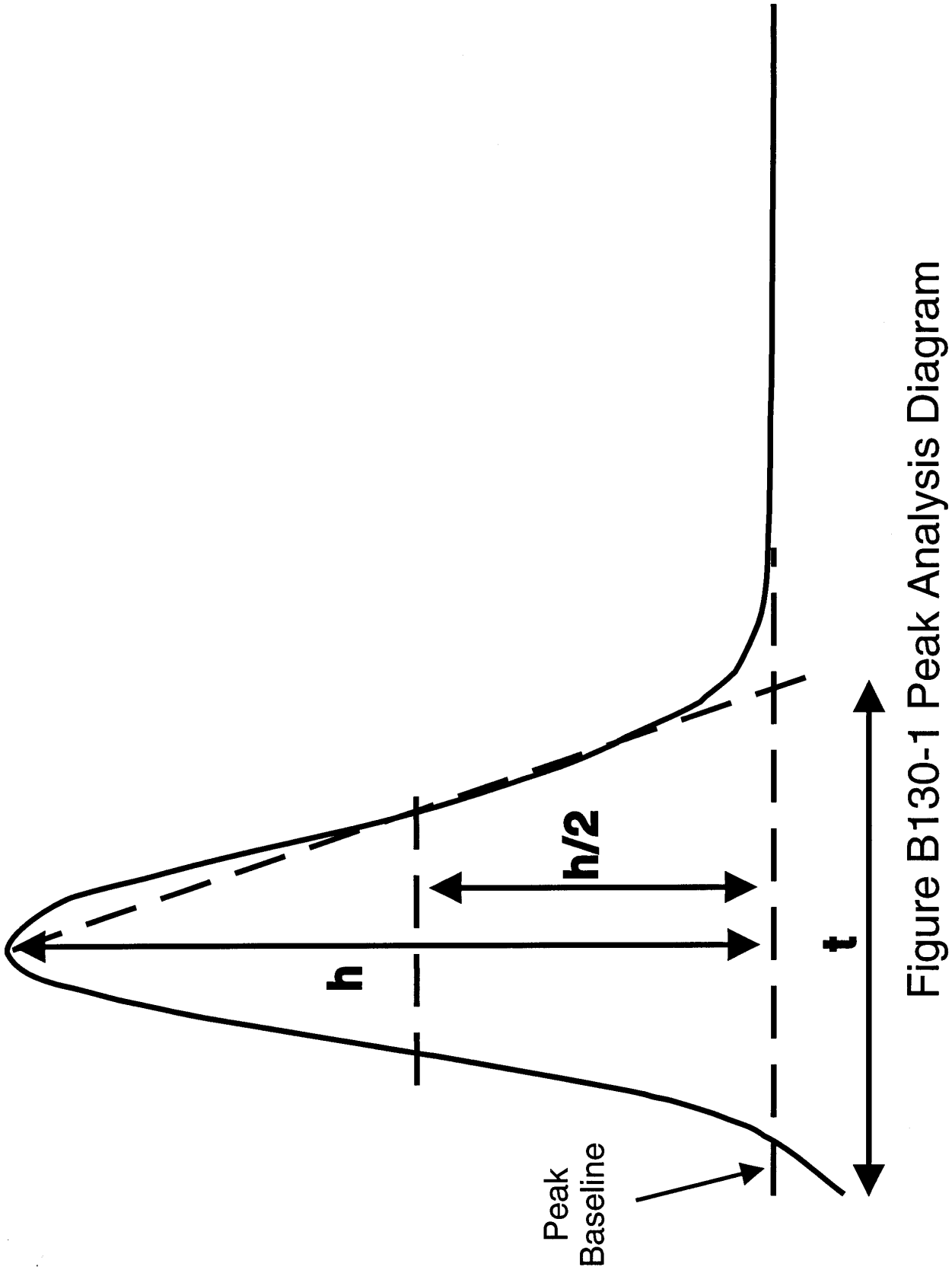

Figure B130-1 Peak Analysis Diagram

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§ 92.131 Smoke, data analysis.

The following procedure shall be used to analyze the smoke test data:

(a) Locate each throttle notch test mode, or percent rated power setting test mode. Each test mode starts when the throttle is placed in the mode and ends when the throttle is moved to the succeeding mode. The start of the first idle mode corresponds to the start of the test sequence.

(b) Analyze the smoke trace by means of the following procedure:

(1) Locate the highest reading, and integrate the highest 3-second average reading around it.

(2) Locate and integrate the highest 30-second average reading.

(3) The highest reading occurring more than two minutes after the notch change (excluding peaks lasting less than 5 seconds, caused by such random events as the cycling of an air compressor) is the ''steady-state'' value.

(c)(1) The values determined in paragraph (b) of this section shall be normalized by the following equation:

$$N_n = 100 \times \left[1 - \left[1 - \frac{N_m}{100}\right]^{1/L}\right]$$

Where:

N_n is the normalized percent opacity, N_m is the average measured percent opacity (peak or steady-state), and L is actual distance in meters from the point at which the light beam enters the exhaust plume to the point at which the light beam leaves the exhaust plume.

(2) The normalized opacity values determined in paragraph (c)(1) of this section are the values that are compared to the standards of subpart A of this part for determination of compliance.

(d) This smoke trace analysis may be performed by direct analysis of the recorder traces, or by computer analysis of data collected by automatic data collection equipment.

§ 92.132 Calculations.

(a) *Duty-cycle emissions.* This section describes the calculation of duty-cycle emissions, in terms of grams per brake horsepower hour (g/bhp-hr). The calculation involves the weighted summing of the product of the throttle notch mass emission rates and dividing by the weighted sum of the brake horsepower. The final reported duty-cycle emission test results are calculated as follows:

(1)(i) $E_{idc}=(\Sigma\ (M_{ij})\ (F_j))/(\Sigma\ (BHP_j)\ (F_j))$

Where:

E_{idc}=Duty-cycle weighted, brake-specific mass emission rate of pollutant i (i.e., HC, CO, NO_X or PM and, if appropriate, THCE or NMHC) in grams per brake horsepower-hour;

M_{ij}=the mass emission rate pollutant i for mode j;

F_j=the applicable weighting factor listed in Table B132–1 for mode j;

BHP_j=the measured brake horsepower for mode j.

(ii) Table B132–1 follows:

TABLE B132–1.—WEIGHTING FACTORS FOR CALCULATING EMISSION RATES

Throttle notch setting	Test mode	Locomotive not equipped with multiple idle notches		Locomotive equipped with multiple idle notches	
		Line-haul	Switch	Line-haul	Switch
Low Idle	1a	NA	NA	0.190	0.299
Normal Idle	1	0.380	0.598	0.190	0.299
Dynamic Brake	2	0.125	0.000	0.125	0.000
Notch 1	3	0.065	0.124	0.065	0.124
Notch 2	4	0.065	0.123	0.065	0.123
Notch 3	5	0.052	0.058	0.052	0.058
Notch 4	6	0.044	0.036	0.044	0.036
Notch 5	7	0.038	0.036	0.038	0.036
Notch 6	8	0.039	0.015	0.039	0.015
Notch 7	9	0.030	0.002	0.030	0.002
Notch 8	10	0.162	0.008	0.162	0.008

(2) Example: for the line-haul cycle, for locomotives equipped with normal and low idle, and with dynamic brake, the brake-specific emission rate for HC would be calculated as:

E_{HCdc}=[(M_{HCla}) (0.190)+(M_{HC1}) (0.190)+(M_{HC2}) (0.125)+(M_{HC3}) (0.065)+(M_{HC4}) (0.065)+(M_{HC5}) (0.052)+(M_{HC6}) (0.044)+(M_{HC7}) (0.038)+(M_{HC8}) (0.039)+(M_{HC9}) (0.030)+(M_{HC10}) (0.162)]/[(BHP_{1a}) (0.190)+(BHP_1) (0.190)+(BHP_2) (0.125)+(BHP_3) (0.065)+(BHP_4) (0.065)+(BHP_5) (0.052)+(BHP_6) (0.044)+(BHP_7) (0.038)+(BHP_8) (0.039)+(BHP_9) (0.030)+(BHP_{10}) (0.162)]

(3) In each mode, brake horsepower output is the power that the engine delivers as output (normally at the flywheel), as defined in § 92.2.

(i) For locomotive testing (or engine testing using a locomotive alternator/generator instead of a dynamometer), brake horsepower is calculated as:

$BHP=HP_{out}/A_{eff}+HP_{acc}$

Where:

HP_{out}=Measured horsepower output of the alternator/generator.

A_{eff}=Efficiency of the alternator/generator.

HP_{acc}=Accessory horsepower.

(ii) For engine dynamometer testing, brake horsepower is determined from the engine speed and torque.

(4) For locomotive equipped with features that shut the engine off after prolonged periods of idle, the measured mass emission rate M_{i1} (and M_{i1a} as applicable) shall be multiplied by a factor equal to one minus the estimated fraction reduction in idling time that will result in use from the shutdown feature. Application of this adjustment is subject to the Administrator's approval.

(b) *Throttle notch emissions.* This paragraph (b) describes the calculation of throttle notch emissions for all operating modes, including: idle (normal and low, as applicable); dynamic brake; and traction power points. The throttle notch (operating mode) emission test results, final reported values and values used in paragraph (a)(1) of this section are calculated as follows:

(1) Brake specific emissions (E_{ij}) in grams per brake horsepower-hour of each species i (i.e., HC, CO, NO_X or PM and, if appropriate, THCE or NMHC) for each mode j:

(i) $E_{HC\ mode}$=HC grams/BHP-hr=$M_{HC\ mode}$/Measured BHP in mode.

Where:

$M_{HC\ mode}$=Mass HC emissions (grams per hour) for each test mode.

(ii) $E_{THCE\ mode}$=THCE grams/BHP-hr=$M_{THCE\ mode}$/Measured BHP in mode.

Where:

$M_{THCE\ mode}$ (Total hydrocarbon equivalent mass emissions (grams per hour) for each test mode):

$=M_{HCj}+\Sigma\ (M_{ij})\ (MWC_p)/MWC_i$

M_{ij}=the mass emission rate oxygenated pollutant i for mode j.

MWC_i=the molecular weight of pollutant i divided by the number of carbon atoms per molecule of pollutant i.

MWC_p=the molecular weight of a typical petroleum fuel component divided by the number of carbon atoms per molecule of a typical petroleum fuel component=13.8756.

(iii) $E_{NMHC\ mode}$=NMHC grams/BHP-hr=$M_{NMHC\ mode}$/Measured BHP in mode.

Where:

$M_{NMHC\ mode}$=Mass NMHC emissions (grams per hour) for each test mode.

(iv) $E_{CO\ mode}$=CO grams/BHP-hr=$M_{CO\ mode}$/Measured BHP in mode.

Where:

$M_{CO\ mode}$=Mass CO emissions (grams per hour) for each test mode.

(v) $E_{NOx\ mode}$=NO_X grams/BHP–hr=$M_{NOx\ mode}$/Measured BHP in mode.

Where:

$M_{NOx\ mode}$=Mass NO_X emissions (grams per hour) for each test mode.

(vi) $E_{PM\ mode}$=PM grams/BHP–hr=$M_{PM\ mode}$/Measured BHP in mode.

Where:

$M_{PM\ mode}$=Mass PM emissions (grams per hour) for each test mode.

(vii) $E_{AL\ mode}$=Aldehydes grams/BHP–hr=$M_{AL\ mode}$/Measured BHP in mode.

(vii) $E_{AL\ mode}$=Aldehydes grams/BHP–hr=$M_{AL\ mode}$/Measured BHP in mode.

Where:

$M_{AL\ mode}$=Total aldehyde mass emissions (grams per hour) for each test mode.

(2) Mass Emissions—Raw exhaust measurements. For raw exhaust measurements mass emissions (grams per hour) of each species for each mode:

(i) General equations. (A) The mass emission rate, $M_{X\ mode}$ (g/hr), of each pollutant (HC, NO_X, CO_2, CO, CH_4 CH_3OH, CH_3CH_2OH, CH_2O, CH_3CH_2O) for each operating mode for raw measurements is determined based on one of the following equations:

$M_{X\ mode}=(DX/10^6)(DVol)(MW_X/V_m)$

$M_{X\ mode}=(WX/10^6)(WVol)(MW_X/V_m)$

Where:

X designates the pollutant (e.g., HC), DX is the concentration of pollutant X (ppm or ppmC) on a dry basis, MW_X is the molecular weight of the pollutant (g/mol), DVol is the total exhaust flow rate (ft^3/hr) on a dry basis, WX is the concentration of pollutant X (ppm or ppmC) on a wet basis, WVol is the total exhaust flow rate (ft^3/hr) on a wet basis, V_m is the volume of one mole of gas at standard temperature and pressure (ft^3/mol).

(B) All measured volumes and volumetric flow rates must be corrected to standard temperature and pressure prior to calculations.

(ii) The following abbreviations and equations apply to this paragraph (b)(2):

α=Atomic hydrogen/carbon ratio of the fuel.

β=Atomic oxygen/carbon ratio of the fuel.

CMW_f=Molecular weight of the fuel per carbon atom, or carbon molecular weight (g/moleC)=$(12.011+1.008\alpha+16.000\beta)$.

DCO=CO concentration in exhaust, ppm (dry).

DCO_2=CO_2 concentration in exhaust, percent (dry).

DHC=HC carbon concentration in exhaust, ppm C (dry).

DNOX=NO_X concentration in exhaust, in ppm (dry).

DVol=Total exhaust flow rate (ft^3/hr) on a dry basis; or

$=(V_m)(W_f)/((CMW_f)\ (DHC/10^6+DCO/10^6+DCO2/100))$.

K=Water gas equilibrium constant=3.5.

K_w=Wet to dry correction factor.

M_F=Mass flow-rate of fuel used in the engine in lb/hr=W_f/453.59.

MW_C=Atomic weight of carbon=12.011.

MW_{CO}=Molecular weight of CO=28.011.

MW_H=Atomic weight of hydrogen=1.008.

MW_{NO2}=Molecular weight of nitrogen dioxide (NO_2)=46.008.

MW_O=Molecular weight of atomic oxygen=16.000.

T=Temperature of inlet air (°F).

V_m=Volume of one mole of gas at standard temperature and pressure (ft^3/mole).

W_f=Mass flow-rate of fuel used in the engine, in grams/hr=(453.59)×(M_f lbs/hr).

WCO_2=CO_2 concentration in exhaust, percent (wet).

WHC=HC concentration in exhaust, ppm C (wet).

WVol=Total exhaust flow rate (ft^3/hr) on a wet basis; or

$=(V_m)(W_f)/((CMW_f)(WHC/10^6+WCO/10^6\ WCO2/100))$.

(iii) Calculation of individual pollutant masses. Calculations for mass emission are shown here in multiple forms. One set of equations is used when sample is analyzed dry (equations where the concentrations are expressed as DX), and the other set is used when the sample is analyzed wet (equations where the concentrations are expressed as WX). When samples are analyzed for some constituents dry and for some constituents wet, the wet concentrations must be converted to dry concentrations, and the equations for dry concentrations used. Also, the equations for HC, NMHC, CO, and NO_X have multiple forms that are algebraically equivalent: An explicit form that requires intermediate calculation of V_m and DVol or WVol; and an implicit form that uses only the concentrations (e.g., DCO) and the mass flow rate of the fuel. For these calculations, either form may be used.

(A) Hydrocarbons and nonmethane hydrocarbons.

(*1*) Hydrocarbons. (*i*) *For petroleum-fueled engines:*

$M_{HC\ mode}$
$=(DHC)CMW_f(DVol)(10^6)/V_m$
$=((DHC/10^6)(W_f)/((DCO/10^6)+(DCO_2/100)+ (DHC/10^6)+(\Sigma DX/10^6)))$

$M_{HC\ mode}$
$=(WHC)CMW_f(WVol)(10^6)/V_m$
$=((WHC/10^6)(W_f)/((WCO/10^6)+(WCO_2/100)+ (WHC/10^6)+(\Sigma(WX/10^6)))$

(*ii*) *For alcohol-fueled engines:*

$DHC=FID\ HC-\Sigma(r_x)(DX)$
$WHC=FID\ HC-\Sigma(r_x)(WX)$

Where:

FID HC=Concentration of ''hydrocarbon'' plus other organics such as methanol in exhaust as measured by the FID, ppm carbon equivalent.

r_x=FID response to oxygenated species×(methanol, ethanol, or acetaldehyde).

DX=Concentration of oxygenated species×(methanol, ethanol, or acetaldehyde) in exhaust as determined from the dry exhaust sample, ppm carbon (e.g., DCH3OH, 2(DCH3CH2OH)).

WX=Concentration of oxygenated species×(methanol, ethanol, or acetaldehyde) in exhaust as determined from the wet exhaust sample, ppm carbon.

ΣDX=The sum of concentrations DX for all oxygenated species.

ΣWX=The sum of concentrations WX for all oxygenated species.

(*2*) Nonmethane hydrocarbons:

$M_{NMHC\ mode}=(DNMHC)CMW_f(DVol)\ (10^6)/V_m$
$=((DNMHC/10^6)(W_f)/((DCO/10^6)+(DCO_2/100)+(DHC/10^6)))$

$M_{NMHC\ mode}=(WNMHC)CMW_f(WVol)\ (10^6)/V_m$

$=((WNMHC/10^6)(W_f)/((WCO/10^6)+(WCO_2/100)+(WHC/10^6)))$

Where:

DNMHC=FID HC − (r_{CH4})(DCH4)
WNMHC=FID HC − (r_{CH4})(WCH4)
FID HC=Concentration of ''hydrocarbon'' plus other organics such as methane in exhaust as measured by the FID, ppm carbon equivalent.
r_{CH4}=FID response to methane.
DCH4=Concentration of methane in exhaust as determined from the dry exhaust sample, ppm.
WCH4=Concentration of methane in exhaust as determined from the wet exhaust sample, ppm.

(B) Carbon monoxide:

$M_{CO\ mode}=(DCO)MW_{CO}(DVol)/10^6/V_m$
$=((MW_{CO}(DCO/10^6)(W_f)/((CMW_f)(DCO/10^6)+(DCO_2/100)+DHC/10^6)+(\Sigma DX/10^6)))$
$M_{CO\ mode}=(WCO)MW_{CO}(DVol)(10^6)/V_m$
$=((MW_{CO}(WCO/10^6)(W_f)/((CMW_f)(WCO/10^6)+(WCO_2/100)+WHC/10^6)+(\Sigma WX/10^6)))$

(C) Oxides of nitrogen:

$M_{NOx\ mode}=(DNOX)MW_{NO2}(DVol)(10^6)/V_m$
$=((MW_{NO2}(DNOX/10^6)(W_f)/((CMW_f)(DCO/10^6)+(DCO_2/100)+(DHC/10^6)+(\Sigma DX/10^6)))$
$M_{NOx\ mode}=(WNOX)MW_{NO2}(DVol)(10^6)/V_m$
$=((MW_{NO2}(WNOX/10^6)(W_f)/((CMW_f)(WCO/10^6)+(WCO_2/100)+(WHC/10^6)+(\Sigma WX/10^6)))$

(D) Methanol:

$M_{CH3OH\ mode}=(DCH3OH/10^6)32.042(DVol)/V_m$
$M_{CH3OH\ mode}=(WCH3OH/10^6)32.042(WVol)/V_m$

Where:

$DCH3OH=(V_m)(10^6)[(C_1\times AV_1)+(C_2\times AV_2)]/DVol_{MS}$.
$WCH3OH=(V_m)(10^6)[(C_1\times AV_1)+(C_2\times AV_2)]/WVol_{MS}$.
C_i=concentration of methanol in impinger i (1 or 2) in mol/ml.
AV_i=Volume of absorbing reagent in impinger i (1 or 2) in ml.
$DVol_{MS}$=Volume (standard ft^3) of exhaust sample drawn through methanol impingers (dry).
$WVol_{MS}$=Volume (standard ft^3) of exhaust sample drawn through methanol impingers (wet).

(E) Ethanol:

$M_{CH3CH2OH\ mode}=(DCH3CH2OH/10^6)23.035(DVol)/V_m$
$M_{CH3CH2OH\ mode}=(WCH3CH2OH/10^6)23.035(WVol)/V_m$

Where:

$DCH3CH2OH=(V_m)(10^6)[(C_1\times AV_1)+(C_2\times AV_2)]/DVol_{ES}$.
$WCH3CH2OH=(V_m)(10^6)[(C_1\times AV_1)+(C_2\times AV_2)]/WVol_{ES}$.
C_i=concentration of ethanol in impinger i (1 or 2) in mol/ml.
AV_i=Volume of absorbing reagent in impinger i (1 or 2) in ml.
$DVol_{ES}$=Volume (standard ft^3) of exhaust sample drawn through ethanol impingers (dry).
$WVol_{ES}$=Volume (standard ft^3) of exhaust sample drawn through ethanol impingers (wet).

(F) Formaldehyde:

$M_{CH2O\ mode}=(DCH2O/10^6)30.026(DVol)/V_m$
$M_{CH2O\ mode}=(WCH2O/10^6)30.026(WVol)/V_m$

(*1*) If aldehydes are measured using impingers:

$DCH2O=(V_m)(10^6)[(C_1\times AV_1)+(C_2\times AV_2)]/DVol_{FS}$
$WCH2O=(V_m)(10^6)[(C_1\times AV_1)+(C_2\times AV_2)]/WVol_{FS}$

(*2*) If aldehydes are measured using cartridges:

$DCH2O=(V_m)(10^6)(C_R\times AV_R)/DVol_{FS}$
$WCH2O=(V_m)(10^6)(C_R\times AV_R)/WVol_{FS}$

(*3*) The following definitions apply to this paragraph (b)(2)(iii)(F):

AV_i=Volume of absorbing reagent in impinger i (1 or 2) in ml.
AV_R=Volume of absorbing reagent use to rinse the cartridge in ml.
C_i=concentration of formaldehyde in impinger i (1 or 2) in mol/ml.
C_R=concentration of formaldehyde in solvent rinse in mol/ml.
$DVol_{FS}$=Volume (standard ft^3) of exhaust sample drawn through formaldehyde sampling system (dry).
$WVol_{FS}$=Volume (standard ft^3) of exhaust sample drawn through formaldehyde sampling system (wet).

(G) Acetaldehyde:

$M_{CH3CHO\ mode}=(DCH3CHO/10^6)27.027(DVol)/V_m$
$M_{CH3CHO\ mode}=(WCH3CHO/10^6)27.027(WVol)/V_m$

(*1*) If aldehydes are measured using impingers:

$DCH3CHO=(V_m)(10^6)[(C_1\times AV_1)+(C_2\times AV_2)]/DVol_{AS}$
$WCH3CHO=(V_m)(10^6)[(C_1\times AV_1)+C_2\times AV_2)]/WVol_{AS}$

(*2*) If aldehydes are measured using cartridges:

$DCH3CHO=(V_m)(10^6)(C_R\times AV_R)/DVol_{AS}$
$WCH3CHO=(V_m)(10^6)(C_R\times AV_R)/WVol_{AS}$

(*3*) The following definitions apply to this paragraph (b)(2)(iii)(G):

AV_i=Volume of absorbing reagent in impinger i (1 or 2) in ml.
AV_R=Volume of absorbing reagent use to rinse the cartridge in ml.
C_i=concentration of acetaldehyde in impinger i (1 or 2) in mol/ml.
C_R=concentration of acetaldehyde in solvent rinse in mol/ml.
$DVol_{AS}$=Volume (standard ft^3) of exhaust sample drawn through acetaldehyde sampling system (dry).
$WVol_{AS}$=Volume (standard ft^3) of exhaust sample drawn through acetaldehyde sampling system (wet).

(iv) Conversion of wet concentrations to dry concentrations. Wet concentrations are converted to dry concentrations using the following equation:

$DX=K_W\ WX$

Where:

WX is the concentration of species X on a wet basis.
DX is the concentration of species X on a dry basis.
K_W is a conversion factor=WVol/DVol=1+DH2O.

(A) Iterative calculation of conversion factor. The conversion factor K_W is calculated from the fractional volume of water in the exhaust on a dry basis (DH2O=volume of water in exhaust/dry volume of exhaust). Precise calculation of the conversion factor K_W must be done by iteration, since it requires the dry concentration of HC, but HC emissions are measured wet.

(*1*) The conversion factor is calculated by first assuming DHC=WHC to calculate DVol:

$DVol=(V_m)(W_f)/((CMW_f)(DHC/10^6+DCO/10^6+DCO2/100))$

(*2*) This estimate is then used in the following equations to calculate $DVol_{air}$, then DH2O, then K_W, which allows DHC to be determined more accurately from WHC:

$$DH2O=\left[\frac{\alpha\left(\frac{DCO2}{10^2}+\frac{DCO}{10^6}\right)}{2}+\frac{(Y)(DVol_{air})}{DVol}\right]\left[\frac{1}{1+\frac{DCO}{(DCO2)(K)(10^4)}}\right]$$

Where:

Y=Water volume concentration in intake air, volume fraction (dry).
$DVol_{air}$=Air intake flow rate (ft^3/hr) on a dry basis, measured, or calculated as:

$$DVol_{air} = DVol\left[1-\left(\frac{DCO2}{10^2}\right)\left(\frac{\alpha}{4}\right)-\frac{DCO}{10^6}\left(\frac{\alpha}{4}+0.5\right)\right]$$

(*3*) The calculations are repeated using this estimate of DHC. If the new estimate for K_W is not within one percent of the previous estimate, the iteration is repeated until the difference in K_W between iterations is less than one percent.

(B) Alternate calculation of DH2O (approximation). The following approximation may be used for DH2O instead of the calculation in paragraph (b)(2)(iv)(A) of this section:

$$DH2O = \left[\frac{\alpha\left(\frac{DCO2}{10^2}+\frac{DCO}{10^6}\right)}{2}+(Y)\left(DVol_{Ratio}\right)\right]\left[\frac{1}{1+\frac{DCO}{(DCO2)(K)(10^4)}}\right]$$

Where:

$$DVol_{ratio} = \frac{DVol_{air}}{DVol} = \left[1-\left(\frac{DCO2}{10^2}\right)\left(\frac{\alpha}{4}\right)-\frac{DCO}{10^6}\left(\frac{\alpha}{4}+0.5\right)\right]$$

Y=Water volume concentration in intake air, volume fraction (dry).

(3) *Mass Emissions—Dilute exhaust measurements.* For dilute exhaust measurements mass emissions (grams per hour) of each species for each mode:

(i) *General equations.* The mass emission rate, $M_{x\ mode}$ (g/hr) of each pollutant (HC, NO_X, CO2, CO, CH4 CH3OH, CH3CH2OH, CH2O, CH3CH2O) for each operating mode for bag measurements and diesel continuously heated sampling system measurements is determined from the following equation:

$M_{x\ mode}=(V_{mix})(Density_x)(X_{conc})/(V_f)$

Where:

x designates the pollutant (e.g., HC), V_{mix} is the total diluted exhaust volumetric flow rate (ft^3/hr), $Density_x$ is the specified density of the pollutant in the gas phase (g/ft^3), X_{conc} is the fractional concentration of pollutant x (i.e., ppm/10^6, ppmC/10^6, or %/100), and V_f is the fraction of the raw exhaust that is diluted for analysis.

(ii) The following abbreviations and equations apply to paragraphs (b)(3)(i) through (b)(3)(iii)(J) of this section:

(A) DF=Dilution factor, which is the volumetric ratio of the dilution air to the raw exhaust sample for total dilution, calculated as:

$$DF = \frac{WCO2 - WCO2_d}{WCO2_e - WCO2_d} - 1$$

Where:

WCO2=Carbon dioxide concentration of the raw exhaust sample, in percent (wet).
$WCO2_e$=Carbon dioxide concentration of the dilute exhaust sample, in percent (wet).
$WCO2_d$=Carbon dioxide concentration of the dilution air, in percent (wet).

(B) V_{mix}=Diluted exhaust volumetric flow rate in cubic feet per hour corrected to standard conditions (528°R, and 760 mm Hg).

(C) V_f=Fraction of the total raw exhaust that is diluted for analysis.

$=((CO2_{conc}/10^2)+(CO_{conc}/10^6) + (HC_{conc}/10^6))(V_{mix})(CMW_f)/V_m/M_f$

(iii) Calculation of individual pollutants.

(A) $M_{HC\ mode}$=Hydrocarbon emissions, in grams per hour by mode, are calculated using the following equations:

$M_{HC\ mode}=(V_{mix})(Density_{HC})(HC_{conc}/10^6)/V_f$

$HC_{conc}=HC_e-(HC_d)(1-(1/DF))$

HC_e=FID $HC_e-\Xi(r_x)(X_e)$

Where:

$Density_{HC}$=Density of hydrocarbons=16.42 g/ft^3 (0.5800 kg/m_3) for # l petroleum diesel fuel, 16.27 g/ft^3 (0.5746 kg/m_3) for #2 diesel, and 16.33 g/ft^3 (0.5767 kg/m^3) for other fuels, assuming an average carbon to hydrogen ratio of 1:1.93 for #1 petroleum diesel fuel, 1:1.80 for #2 petroleum diesel fuel, and 1:1.85 for hydrocarbons in other fuels at standard conditions.
HC_{conc}=Hydrocarbon concentration of the dilute exhaust sample corrected for background, in ppm carbon equivalent (i.e., equivalent propane×3).
HC_e=Hydrocarbon concentration of the dilute exhaust bag sample, or for diesel continuous heated sampling systems, average hydrocarbon concentration of the dilute exhaust sample as determined from the integrated HC traces, in ppm carbon equivalent. For petroleum-fueled engines, HC_e is the FID measurement. For methanol-fueled and ethanol-fueled engines:
FID HC_e=Concentration of hydrocarbon plus methanol, ethanol and acetaldehyde in dilute exhaust as measured by the FID, ppm carbon equivalent.
r_x=FID response to oxygenated species x (methanol, ethanol or acetaldehyde).
X_e=Concentration of species x (methanol, ethanol or acetaldehyde) in dilute exhaust as determined from the dilute exhaust sample, ppm carbon.
HC_d=Hydrocarbon concentration of the dilution air as measured, in ppm carbon equivalent.

(B) $M_{NOx\ mode}$ = Oxides of nitrogen emissions, in grams per hour by mode, are calculated using the following equations:

$M_{NOx\ mode}=(V_{mix})\ (Density_{NO2})\ (NOx_{conc}/10^6)\ /V_f$

$NOx_{conc}=(NOx_e\ -\ NOx_d\ (1-(1/DF)))$

Where:

$Density_{NO2}$=Density of oxides of nitrogen is 54.16 g/ft^3 (1.913 kg/m^3), assuming they are in the form of nitrogen dioxide, at standard conditions.
NOx_{conc}=Oxides of nitrogen concentration of the dilute exhaust sample corrected for background, in ppm.
NOx_e=Oxides of nitrogen concentration of the dilute exhaust bag sample as measured, in ppm.
NOx_d=Oxides of nitrogen concentration of the dilution air as measured, in ppm.

(C) $M_{CO2\ mode}$=Carbon dioxide emissions, in grams per hour by mode,

are calculated using the following equations:

$M_{CO2\ mode}=(V_{mix})\ (Density_{CO2})\ (CO_{2conc}/10^2)\ /V_f$

$CO_{2conc}=CO_{2e}-CO_{2d}\ (1-(1/DF))$

Where:

Density CO_2=Density of carbon dioxide is 51.81 g/ft^3 (1.830 kg/m^3), at standard conditions.

CO_{2conc}=Carbon dioxide concentration of the dilute exhaust sample corrected for background, in percent.

CO_{2e}=Carbon dioxide concentration of the dilute exhaust bag sample, in percent.

CO_{2d}=Carbon dioxide concentration of the dilution air as measured, in percent.

(D)(*1*) $M_{CO\ mode}$=Carbon monoxide emissions, in grams per hour by mode, are calculated using the following equations:

$M_{CO\ mode}=(V_{mix})\ (Density_{CO})\ (CO_{conc}/10^6)\ /V_f$

$CO_{conc}=CO_e-CO_d\ (1-(1/DF))$

$CO_d=(1-0.000323R)CO_{dm}$

Where:

$Density_{CO}$=Density of carbon monoxide is 32.97 g/ft^3 (1.164 kg/m^3), at standard conditions.

CO_{conc}=Carbon monoxide concentration of the dilute exhaust sample corrected for background, water vapor, and CO_2 extraction, ppm.

CO_e=Carbon monoxide concentration of the dilute exhaust sample volume corrected for water vapor and carbon dioxide extraction, in ppm.

$CO_e=(1-(0.01+0.005/\alpha)\ CO_{2e}-0.000323RH)CO_{em}$, where α is the hydrogen to carbon ratio as measured for the fuel used.

CO_{em}=Carbon monoxide concentration of the dilute exhaust sample as measured, in ppm.

RH = Relative humidity of the dilution air, percent.

CO_d=Carbon monoxide concentration of the dilution air corrected for water vapor extraction, in ppm.

CO_{dm}=Carbon monoxide concentration of the dilution air sample as measured, in ppm.

(*2*) If a CO instrument which meets the criteria specified in § 86.1311 of this chapter is used and the conditioning column has been deleted, CO_{em} must be substituted directly for CO_e, and CO_{dm} must be substituted directly for CO_d.

(E) $M_{CH4\ mode}$=Methane emissions corrected for background, in gram per hour by mode, are calculated using the following equations:

$M_{CH4\ mode}=(V_{mix})\ (Density_{CH4})\ (CH_{4conc}/10^6)\ /V_f$

$CH_{4conc}=C_{CH4e}-C_{CH4d}\ (1-(1/DF))$

Where:

$Density_{CH4}$=Density of methane is 18.89 g/ft^3 at 68°F (20°C) and 760 mm Hg (101.3kPa) pressure.

CH_{4conc}=Methane concentration of the dilute exhaust corrected for background, in ppm.

C_{CH4e}=Methane concentration in the dilute exhaust, in ppm.

C_{CH4d}=Methane concentration in the dilution air, in ppm.

(F) $M_{CH3OH\ mode}$=Methanol emissions corrected for background, in gram per hour by mode, are calculated using the following equations:

$M_{CH3OH\ mode}=(V_{mix})(Density_{CH3OH})\ (CH_3OH_{conc}/10^6)/V_f$

$CH3OH_{conc}=C_{CH3OHe}-C_{CH3OHd}(1-(1/DF))$

$C_{CH3OHe}=((3.817)\ (10^{-2})\ (T_{EM})(((C_{S1})(AV_{S1}))+(C_{S2})(AV_{S2})))/((P_B)(V_{EM}))$

$C_{CH3OHd}=((3.817)(10^{-2})(T_{DM})(((C_{D1})\ (AV_{D1}))+(C_{D2})(AV_{D2})))/((P_B)(V_{DM}))$

Where:

$Density_{CH3OH}$=Density of methanol is 37.71 g/ft^3 (1.332 kg/m^3), at 68°F (20°C) and 760 mm Hg (101.3kPa) pressure.

$CH3OH_{conc}$=Methanol concentration of the dilute exhaust corrected for background, in ppm.

C_{CH3OHe}=Methanol concentration in the dilute exhaust, in ppm.

C^{CH3OHd}=Methanol concentration in the dilution air, in ppm.

T_{EM}=Temperature of methanol sample withdrawn from dilute exhaust, °R.

T_{DM}=Temperature of methanol sample withdrawn from dilution air, °R.

P_B=Barometric pressure during test, mm Hg.

V_{EM}=Volume of methanol sample withdrawn from dilute exhaust, ft^3.

V_{DM}=Volume of methanol sample withdrawn from dilution air, ft^3.

C_S=GC concentration of aqueous sample drawn from dilute exhaust, µg/ml.

C_D=GC concentration of aqueous sample drawn from dilution air, µg/ml.

A_{VS}=Volume of absorbing reagent (deionized water) in impinger through which methanol sample from dilute exhaust is drawn, ml.

A_{VD}=Volume of absorbing reagent (deionized water) in impinger through which methanol sample from dilution air is drawn, ml.

$_1$=first impinger.

$_2$=second impinger.

(G) $M_{C2H5OH\ mode}$=Ethanol emissions corrected for background, in gram per hour by mode, are calculated using the following equations:

$M_{CH3CH2OH\ mode}=(V_{mix})(Density_{CH3CH2OH})\ ((CH_3CH_2OH_{conc}/10^6))/V_f$

$CH_3CH_2OH_{conc}=C_{CH3CH2OHe}-C_{CH3CH2OHd}(1-(1/DF))$

$C_{CH3CH2OHd}=((2.654)(10^{-2})(T_{DM})(((C_{D1})\ (AV_{D1}))+(C_{D2})(AV_{D2})))/((P_B)(V_{DM}))$

$C_{CH3CH2OHe}=((2.654)(10^{-2})(T_{EM})(((C_{S1})\ (AV_{S1}))+(C_{S2})(AV_{S2})))/((P_B)(V_{EM}))$

Where:

$Density_{C2H5OH}$=Density of ethanol is 54.23 g/ft^3 (1.915 kg/m^3), at 68°F (20°C) and 760 mm Hg (101.3kPa) pressure.

$CH_3CH_2OH_{conc}$=Ethanol concentration of the dilute exhaust corrected for background, in ppm.

$C_{CH3CH2OHe}$=Ethanol concentration in the dilute exhaust, in ppm.

$C_{CH3CH2OHd}$=Ethanol concentration in the dilution air, in ppm.

T_{EM}= Temperature of ethanol sample withdrawn from dilute exhaust, °R.

T_{DM}=Temperature of ethanol sample withdrawn from dilution air, °R.

P_B=Barometric pressure during test, mm Hg.

V_{EM}=Volume of ethanol sample withdrawn from dilute exhaust, ft^3.

V_{DM}=Volume of ethanol sample withdrawn from dilution air, ft^3.

C_S=GC concentration of aqueous sample drawn from dilute exhaust, µg/ml.

C_D=GC concentration of aqueous sample drawn from dilution air, µg/ml.

A_{VS}= Volume of absorbing reagent (deionized water) in impinger through which ethanol sample from dilute exhaust is drawn, ml.

A_{VD}=Volume of absorbing reagent (deionized water) in impinger through which ethanol sample from dilution air is drawn, ml.

$_1$=first impinger.

$_2$=second impinger.

(H) $M_{CH2O\ mode}$=Formaldehyde emissions corrected for background, in gram per hour by mode, are calculated using the following equations:

$M_{CH2O\ mode}=(V_{mix})(Density_{CH2O})\ ((CH_2O_{conc}/10^6)/V_f$

$CH2O_{conc}=C_{CH2Oe}-C_{CH2Od}(1-(1/DF))$

$C_{CH2Oe}=((4.069)(10^{-2})(C_{FDE})(V_{AE})(Q)\ (T_{EF}))/((V_{SE})(P_B)$

$C_{CH2Od}=((4.069)(10^{-2})(C_{FDA})(V_{AA})\ (Q)(T_{DF}))/(V_{SA})(P_B)$

Where:

$Density_{CH2O}$=Density of formaldehyde is 35.36 g/ft^3 (1.249 kg/m^3), at 68 °F (20 °C) and 760 mmHg (101.3 kPa) pressure.

$CH2O_{conc}$=Formaldehyde concentration of the dilute exhaust corrected for background, ppm.

C_{CH2Oe}=Formaldehyde concentration in dilute exhaust, ppm.

C_{CH2Od}=Formaldehyde concentration in dilution air, ppm.

C_{FDE}=Concentration of DNPH derivative of formaldehyde from dilute exhaust sample in sampling solution, µg/ml.

V_{AE}=Volume of sampling solution for dilute exhaust formaldehyde sample, ml.

Q = Ratio of molecular weights of formaldehyde to its DNPH derivative = 0.1429.

T_{EF}=Temperature of formaldehyde sample withdrawn from dilute exhaust, °R.

V_{SE}=Volume of formaldehyde sample withdrawn from dilute exhaust, ft^3.

P_B=Barometric pressure during test, mm Hg.

C_{FDA}=Concentration of DNPH derivative of formaldehyde from dilution air sample in sampling solution, µg/ml.

V_{AA}=Volume of sampling solution for dilution air formaldehyde sample, ml.

T_{DF}=Temperature of formaldehyde sample withdrawn from dilution air, °R.

V_{SA}=Volume of formaldehyde sample withdrawn from dilution air, ft^3.

(I) $M_{CH3CHO\ mode}$=Acetaldehyde emissions corrected for background, in

grams per hour by mode, are calculated using the following equations:

$M_{CH3CHO\ mode}=(V_{mix})(Density_{CH3CHO})((CH_3CHO_{conc}/10^6)/V_f$

$CH3CHO_{conc}=C_{CH3CHOe}-C_{CH3CHOd}(1—(1/DF))$

$C_{CH3CHOe}=((2.774)(10^{-2})(C_{ADE})(V_{AE})(Q)(T_{EF}))/((V_{SE})(P_B)$

$C_{CH3CHOd}=((2.774)(10^{-2})(C_{ADA})(V_{AA})(Q)(T_{DF}))/(V_{SA})(P_B)$

Where:

$Density_{CH3CHO}$=Density of acetaldehyde is 51.88 g/ft³ (1.833 kg/m³), at 68 °F (20 °C) and 760 mmHg (101.3 kPa) pressure.

$CH3CHO_{conc}$=Acetaldehyde concentration of the dilute exhaust corrected for background, ppm.

$C_{CH3CHOe}$=Acetaldehyde concentration in dilute exhaust, ppm.

$C_{CH3CHOd}$=Acetaldehyde concentration in dilution air, ppm.

C_{ADE}=Concentration of DNPH derivative of acetaldehyde from dilute exhaust sample in sampling solution, µg/ml.

V_{AE}=Volume of sampling solution for dilute exhaust acetaldehyde sample, ml.

Q=Ratio of molecular weights of acetaldehyde to its DNPH derivative =0.182

T_{EF}=Temperature of acetaldehyde sample withdrawn from dilute exhaust, °R.

V_{SE}=Volume of acetaldehyde sample withdrawn from dilute exhaust, ft³.

P_B=Barometric pressure during test, mm Hg.

C_{ADA}Concentration of DNPH derivative of acetaldehyde from dilution air sample in sampling solution, µg/ml.

V_{AA}=Volume of sampling solution for dilution air acetaldehyde sample, ml.

TDF=Temperature of acetaldehyde sample withdrawn from dilution air, °R.

V_{SA}=Volume of acetaldehyde sample withdrawn from dilution air, ft³.

(J) $M_{NMHC\ mode}$=Nonmethane hydrocarbon emissions, in grams per hour by mode.

$M_{NMHC\ mode}=(V_{mix})(Density_{NMHC})((NMHC_{conc}/10^6))/V_f$

$NMHC_{conc}=NMHCe—(NMHC_d)(1-(1/DF))$

$NMHC_e=FID\ HC_e-(r_m)(C_{CH4e})$

$NMHC_d=FID\ HC_d-(r_m)(C_{CH4d})$

Where:

$Density_{NMHC}$=Density of nonmethane hydrocarbons=16.42 g/ft³ (0.5800 kg/m³) for # 1 petroleum diesel fuel, 16.27 g/ft³ (0.5746 kg/m³) for #2 diesel, and 16.33 for other fuels, assuming an average carbon to hydrogen ratio of 1:1.93 for #1 petroleum diesel fuel, 1:1.80 for #2 petroleum diesel fuel, and 1:1.85 for nonmethane hydrocarbons in other fuels at standard conditions.

$NMHC_{conc}$=Nonmethane hydrocarbon concentration of the dilute exhaust sample corrected for background, in ppm carbon equivalent (i.e., equivalent propane × 3).

$NMHC_e$=Nonmethane hydrocarbon concentration of the dilute exhaust bag sample:

FID HC_e=Concentration of hydrocarbons in dilute exhaust as measured by the FID, ppm carbon equivalent.

rm=FID response to methane.

C_{CH4e}=Concentration of methane in dilute exhaust as determined from the dilute exhaust sample.

$NMHC_d$=Nonmethane hydrocarbon concentration of the dilution air:

FID HC_d=Concentration of hydrocarbons in dilute exhaust as measured by the FID, ppm carbon equivalent.

r_m=FID response to methane.

C_{CH4d}=Concentration of methane in dilute exhaust as determined from the dilute exhaust sample, ppm.

(4) Particulate exhaust emissions. The mass of particulate for a test mode determined from the following equations when a heat exchanger is used (i.e., no flow compensation), and when background filters are used to correct for background particulate levels:

$M_{PM\ mode}$=Particulate emissions, grams per hour by mode.

$M_{PM\ mode}=(WVol)\ (PM_{conc})\ (1+DF)=(V_{mix})\ (PM_{conc})/V_f$

$PM_{conc}=PM_e-PM_d\ (1-(1/DF))$

$PM_e=M_{PMe}/V_{sampe}/10^3$

$PM_d=M_{PMd}/V_{sampd}/10^3$

Where:

PM_{conc}=Particulate concentration of the diluted exhaust sample corrected for background, in g/ft³

M_{PMe}=Measured mass of particulate for the exhaust sample, in mg, which is the difference in filter mass before and after the test.

M_{PMd}=Measured mass of particulate for the dilution air sample, in mg, which is the difference in filter mass before and after the test.

V_{sampe}=Total wet volume of sample removed from the dilution tunnel for the exhaust particulate measurement, cubic feet at standard conditions.

V_{sampd}=Total wet volume of sample removed from the dilution tunnel for the dilution air particulate measurement, cubic feet at standard conditions.

DF=Dilution factor, which is the volumetric ratio of the dilution air to the raw exhaust sample, calculated as:

$$DF = \frac{WCO2 - WCO2_d}{WCO2_e - WCO2_d} - 1$$

(c) *Humidity calculations.* (1) The following abbreviations (and units) apply to paragraph (b) of this section:

BARO=barometric pressure (Pa).

H=specific humidity, (g H_2O/g of dry air).

K_H=conversion factor=0.6220 g H_2O/g dry air.

M_{air}=Molecular weight of air=28.9645.

M_{H2O}=Molecular weight of water=18.01534.

P_{DB}=Saturation vapor pressure of water at the dry bulb temperature (Pa).

P_{DP}=Saturation vapor pressure of water at the dewpoint temperature (Pa).

P_v=Partial pressure of water vapor (Pa).

P_{WB}=Saturation vapor pressure of water at the wet bulb temperature (Pa).

T_{DB}=Dry bulb temperature (Kelvin).

T_{WB}=Wet bulb temperature (Kelvin).

Y=Water-vapor volume concentration.

(2) The specific humidity on a dry basis of the intake air (H) is defined as:

$H=((K_H)\ (P_v)/(BARO-P_v))$

(3) The partial pressure of water vapor may be determined using a dew point device. In that case:

$P_v=P_{DP}$

(4) The percent of relative humidity (RH) is defined as:

$RH=(P_v/P_{DB})100$

(5) The water-vapor volume concentration on a dry basis of the engine intake air (Y) is defined as:

$Y=((H)(M_{air})/(M_{H2O})=P_v/(BARO-P_v)$

(d) *NO_X correction factor.* (1) NO_X emission rates ($M_{NOx\ mode}$) shall be adjusted to account for the effects of humidity and temperature by multiplying each emission rate by K_{NOx}, which is calculated from the following equations:

$K_{NOx}=(K)(1+(0.25(logK)^2)^{1/2})$

$K=(K_H)(K_T)$

$K_H=[C_1+C_2(exp((-0.0143)(10.714))]/[C_1+C_2(exp((-0.0143)(1000H))]$

$C_1=-8.7+164.5exp(-0.0218(A/F)_{wet})$

$C_2=130.7+3941exp(-0.0248(A/F)_{wet})$

Where:

$(A/F)_{wet}$=Mass of moist air intake divided by mass of fuel intake.

$K_T=1/[1–0.017(T_{30}-T_A)]$ for tests conducted at ambient temperatures below 30 °C.

K_T=1.00 for tests conducted at ambient temperatures at or above 30 °C.

T_{30}=The measured intake manifold air temperature in the locomotive when operated at 30°C (or 100°C, where intake manifold air temperature is not available).

T_A=The measured intake manifold air temperature in the locomotive as tested (or the ambient temperature (°C), where intake manifold air temperature is not available).

(e) *Other calculations.* Calculations other than those specified in this section may be used with the advance approval of the Administrator.

§ 92.133 Required information.

(a) The required test data shall be grouped into the following two general categories:

(1) *Pre-test data.* These data are general test data that must be recorded for each test. The data are of a more descriptive nature such as identification

of the test engine, test site number, etc. As such, these data can be recorded at any time within 24 hours of the test.

(2) *Test data.* These data are physical test data that must be recorded at the time of testing.

(b) When requested, data shall be supplied in the format specified by the Administrator.

(c) *Pre-test data.* The following shall be recorded, and reported to the Administrator for each test conducted for compliance with the provisions of this part:

(1) Engine family identification (including subfamily identification, such as for aftertreatment systems).

(2) Locomotive and engine identification, including model, manufacturer and/or remanufacturer, and identification number.

(3) Locomotive and engine parameters, including fuel type, recommended oil type, exhaust configuration and sizes, base injection (ignition) timing, operating temperature, advance/retard injection (ignition) timing controls, recommended start-up and warm-up procedures, alternator generator efficiency curve.

(4) Locomotive or engine and instrument operator(s).

(5) Number of hours of operation accumulated on the locomotive or engine prior to beginning the testing.

(6) Dates of most recent calibrations required by §§ 92.115–92.122.

(7) All pertinent instrument information such as tuning (as applicable), gain, serial numbers, detector number, calibration curve number, etc. As long as this information is traceable, it may be summarized by system or analyzer identification numbers.

(8) A description of the exhaust duct and sample probes, including dimensions and locations.

(d) Test data. The physical parameters necessary to compute the test results and ensure accuracy of the results shall be recorded for each test conducted for compliance with the provisions of this part. Additional test data may be recorded at the discretion of the manufacturer or remanufacturer. Extreme details of the test measurements such as analyzer chart deflections will generally not be required on a routine basis to be reported to the Administrator for each test, unless a dispute about the accuracy of the data arises. The following types of data shall be required to be reported to the Administrator. The applicable Application Format for Certification will specify the exact requirements which may change slightly from year to year with the addition or deletion of certain items.

(1) Date and time of day.

(2) Test number.

(3) Engine intake air and test cell (or ambient, as applicable) temperature.

(4) For each test point, the temperature of air entering the engine after compression and cooling in the charge air cooler(s). If testing is not performed on a locomotive, the corresponding temperatures when the engine is in operation in a locomotive at ambient conditions represented by the test.

(5) Barometric pressure. (A central laboratory barometer may be used: Provided, that individual test cell barometric pressures are shown to be within ±0.1 percent of the barometric pressure at the central barometer location.)

(6) Engine intake and test cell dilution air humidity.

(7) Measured horsepower and engine speed for each test mode.

(8) Identification and specifications of test fuel used.

(9) Measured fuel consumption rate at maximum power.

(10) Temperature set point of the heated continuous analysis system components (if applicable).

(11) All measured flow rates, dilution factor, and fraction of exhaust diluted for diluted exhaust measurements (as applicable) for each test mode.

(12) Temperature of the dilute exhaust mixture at the inlet to the respective gas meter(s) or flow instrumentation used for particulate sampling.

(13) The maximum temperature of the dilute exhaust mixture immediately ahead of the particulate filter.

(14) Sample concentrations (background corrected as applicable) for HC, CO, CO_2, and NO_X (and methane, NMHC, alcohols and aldehydes, as applicable) for each test mode. This includes the continuous trace and the steady-state value (or integrated value where required).

(15) The stabilized pre-test weight and post-test weight of each particulate sample and back-up filter or pair of filters.

(16) Brake specific emissions (g/BHP-hr) for HC, CO, NO_X, particulate and, if applicable, CH3, NMHC, THCE, CH_3OH, CH3CH2OH, CH2O and CH3CHO for each test mode.

(17) The weighted brake specific emissions for HC, CO, NO_X and particulate (g/BHP-hr) for the total test for the duty-cycle(s) applicable to the locomotive.

(18) The smoke opacity for each test mode. This includes the continuous trace, the peak values and the steady-state value.

Subpart C—Certification Provisions

§ 92.201 Applicability.

The requirements of this subpart are applicable to manufacturers and remanufacturers of any locomotives and locomotive engines subject to the provisions of subpart A of this part.

§ 92.202 Definitions.

The definitions of subpart A of this part apply to this subpart.

§ 92.203 Application for certification.

(a) For each engine family that complies with all applicable standards and requirements, the manufacturer or remanufacturer must submit to the Administrator a completed application for a certificate of conformity.

(b) The application must be approved and signed by the authorized representative of the manufacturer or remanufacturer.

(c) The application will be updated and corrected by amendment as provided for in § 92.210 to accurately reflect the manufacturer's or remanufacturer's production.

(d) *Required content.* Each application must include the following information:

(1)(i) A description of the basic engine design including, but not limited to, the engine family specifications, the provisions of which are contained in § 92.208;

(ii)(A) For freshly manufactured locomotives, a description of the basic locomotive design;

(B) For freshly manufactured engines for use in remanufactured locomotives, a description of the locomotive designs in which the engines are to be used;

(C) For remanufactured locomotives, a description of the basic locomotive designs to which the remanufacture system will be applied;

(iii) A list of distinguishable configurations to be included in the engine family;

(2) An explanation of how the emission control system operates, including detailed descriptions of:

(i) All emission control system components;

(ii) Injection or ignition timing for each notch (i.e., degrees before or after top-dead-center), and any functional dependence of such timing on other operational parameters (e.g., engine coolant temperature);

(iii) Each auxiliary emission control device (AECD); and

(iv) All fuel system components to be installed on any production or test locomotive(s) or engine(s);

(3) A description of the test locomotive or engine;

(4) Special or alternate test procedures, if applicable;

(5) A description of the operating cycle and the period of operation necessary to accumulate service hours on the test locomotive or engine and stabilize emission levels;

(6) A description of all adjustable operating parameters (including, but not limited to, injection timing and fuel rate), including the following:

(i) The nominal or recommended setting and the associated production tolerances;

(ii) The intended adjustable range, and the physically adjustable range;

(iii) The limits or stops used to limit adjustable ranges;

(iv) Production tolerances of the limits or stops used to establish each physically adjustable range; and

(v) Information relating to why the physical limits or stops used to establish the physically adjustable range of each parameter, or any other means used to inhibit adjustment, are the most effective means possible of preventing adjustment of parameters to settings outside the manufacturer's or remanufacturer's specified adjustable ranges on in-use engines;

(7) For families participating in the averaging, banking, and trading program, the information specified in subpart D of this part;

(8) Projected U.S. production information for each configuration;

(9) A description of the test equipment and fuel proposed to be used;

(10) All test data obtained by the manufacturer or remanufacturer on each test engine or locomotive;

(11) The intended useful life period for the engine family, in accordance with § 92.9(a);

(12) The intended deterioration factors for the engine family, in accordance with § 92.9(b)(2);

(13) An unconditional statement certifying that all locomotives and engines included the engine family comply with all requirements of this part and the Clean Air Act.

(e) At the Administrator's request, the manufacturer or remanufacturer must supply such additional information as may be required to evaluate the application.

(f)(1) If the manufacturer or remanufacturer, submits some or all of the information specified in paragraph (d) of this section in advance of its full application for certification, the Administrator shall review the information and make the determinations required in § 92.208(d) within 90 days of the manufacturer's or remanufacturer's submittal.

(2) The 90-day decision period is exclusive of any elapsed time during which EPA is waiting for additional information requested from a manufacturer or remanufacturer regarding an adjustable parameter (the 90-day period resumes upon receipt of the manufacturer's or remanufacturer's response). For example, if EPA requests additional information 30 days after the manufacturer or remanufacturer submits information under paragraph (f)(1) of this section, then the Administrator would make a determination within 60 days of the receipt of the requested information from the manufacturer or remanufacturer.

(g)(1) The Administrator may modify the information submission requirements of paragraph (d) of this section, provided that all of the information specified therein is maintained by the manufacturer or remanufacturer as required by § 92.215, and amended, updated, or corrected as necessary.

(2) For the purposes of this paragraph (g), § 92.215 includes all information specified in paragraph (d) of this section whether or not such information is actually submitted to the Administrator for any particular model year.

(3) The Administrator may review a manufacturer's or remanufacturer's records at any time. At the Administrator's discretion, this review may take place either at the manufacturer's or remanufacturer's facility or at another facility designated by the Administrator.

§ 92.204 Designation of engine families.

This section specifies the procedure and requirements for grouping of engines into engine families.

(a) Manufacturers and remanufacturers shall divide their locomotives and locomotive engines into groupings of locomotives and locomotive engines which are expected to have similar emission characteristics throughout their useful life. Each group shall be defined as a separate engine family.

(b) For Tier 1 and Tier 2 locomotives and locomotive engines, the following characteristics distinguish engine families:

(1) The combustion cycle (e.g., diesel cycle);

(2) The type of engine cooling employed (air-cooled or water-cooled), and procedure(s) employed to maintain engine temperature within desired limits (thermostat, on-off radiator fan(s), radiator shutters, etc.);

(3) The bore and stroke dimensions;

(4) The approximate intake and exhaust event timing and duration (valve or port);

(5) The location of the intake and exhaust valves (or ports);

(6) The size of the intake and exhaust valves (or ports);

(7) The overall injection, or as appropriate ignition, timing characteristics (i.e., the deviation of the timing curves from the optimal fuel economy timing curve must be similar in degree);

(8) The combustion chamber configuration and the surface-to-volume ratio of the combustion chamber when the piston is at top dead center position, using nominal combustion chamber dimensions;

(9) The location of the piston rings on the piston;

(10) The method of air aspiration (turbocharged, supercharged, naturally aspirated, Roots blown);

(11) The turbocharger or supercharger general performance characteristics (e.g., approximate boost pressure, approximate response time, approximate size relative to engine displacement);

(12) The type of air inlet cooler (air-to-air, air-to-liquid, approximate degree to which inlet air is cooled);

(13) The intake manifold induction port size and configuration;

(14) The type of fuel and fuel system configuration;

(15) The configuration of the fuel injectors and approximate injection pressure;

(16) The type of fuel injection system controls (i.e., mechanical or electronic);

(17) The type of smoke control system;

(18) The exhaust manifold port size and configuration; and

(19) The type of exhaust aftertreatment system (oxidation catalyst, particulate trap), and characteristics of the aftertreatment system (catalyst loading, converter size vs engine size).

(c) For Tier 0 locomotives and locomotive engines, the following characteristics distinguish engine families:

(1) The combustion cycle (e.g., diesel cycle);

(2) The type of engine cooling employed (air-cooled or water-cooled), and procedure(s) employed to maintain engine temperature within desired limits (thermostat, on-off radiator fan(s), radiator shutters, etc.);

(3) The approximate bore and stroke dimensions;

(4) The approximate location of the intake and exhaust valves (or ports);

(5) The combustion chamber general configuration and the approximate

surface-to-volume ratio of the combustion chamber when the piston is at top dead center position, using nominal combustion chamber dimensions;

(6) The method of air aspiration (turbocharged, supercharged, naturally aspirated, Roots blown);

(7) The type of air inlet cooler (air-to-air, air-to-liquid, approximate degree to which inlet air is cooled);

(8) The type of fuel and general fuel system configuration;

(9) The general configuration of the fuel injectors and approximate injection pressure; and

(10) The fuel injection system control type (electronic or mechanical).

(d) Upon request by the manufacturer or remanufacturer, locomotives or locomotive engines that are eligible to be included in the same engine family based on the criteria in paragraph (b) or (c) of this section may be divided into different engine families. This request must be accompanied by information the manufacturer or remanufacturer believes supports the addition of these different engine families. For the purposes of determining whether an engine family is a small engine family in § 92.603(a)(2), EPA will consider the number of locomotives or locomotive engines that could have been classed together under paragraph (b) or (c) of this section, instead of the number of locomotives or locomotive engines that are included in a subdivision allowed by this paragraph (d).

(e) Upon request by the manufacturer or remanufacturer, the Administrator may allow locomotives or locomotive engines that would be required to be grouped into separate engine families based on the criteria in paragraph (b) or (c) of this section to be grouped into a single engine family if the manufacturer or remanufacturer demonstrates that similar emission characteristics will occur. This request must be accompanied by emission information supporting the appropriateness of such combined engine families.

§ 92.205 Prohibited controls, adjustable parameters.

(a) Any system installed on, or incorporated in, a new locomotive or new locomotive engine to enable such locomotive or locomotive engine to conform to standards contained in this subpart:

(1) Shall not in its operation or function cause significant (as determined by the Administrator) emission into the ambient air of any noxious or toxic substance that would not be emitted in the operation of such locomotive, or locomotive engine, without such system, except as specifically permitted by regulation;

(2) Shall not in its operation, function or malfunction result in any unsafe condition endangering the locomotive, its operators, riders or property on a train, or persons or property in close proximity to the locomotive; and

(3) Shall function during all in-use operation except as otherwise allowed by this part.

(b) In specifying the adjustable range of each adjustable parameter on a new locomotive or new locomotive engine, the manufacturer or remanufacturer, shall:

(1) Ensure that safe locomotive operating characteristics are available within that range, as required by section 202(a)(4) of the Clean Air Act, taking into consideration the production tolerances; and

(2) To the maximum extent practicable, limit the physical range of adjustability to that which is necessary for proper operation of the locomotive or locomotive engine.

§ 92.206 Required information.

(a) The manufacturer or remanufacturer shall perform the tests required by the applicable test procedures, and submit to the Administrator the information required by this section: Provided, however, that if requested by the manufacturer or remanufacturer, the Administrator may waive any requirement of this section for testing of locomotives, or locomotive engines, for which the required emission data are otherwise available.

(b) Exhaust emission deterioration factors, with supporting data. The determination of the deterioration factors shall be conducted in accordance with good engineering practice to assure that the locomotives or locomotive engines covered by a certificate issued under § 92.208 will meet the emission standards in § 92.8, in actual use for the useful life of the locomotive or locomotive engine.

(c) Emission data, including exhaust methane data in the case of locomotives or locomotive engines subject to a non-methane hydrocarbon standard, on such locomotives or locomotive engines tested in accordance with applicable test procedures of subpart B of this part. These data shall include zero hour data, if generated. In lieu of providing the emission data required by paragraph (a) of this section, the Administrator may, upon request of the manufacturer or remanufacturer, allow the manufacturer or remanufacturer to demonstrate (on the basis of previous emission tests, development tests, or other testing information) that the engine or locomotive will conform with the applicable emission standards of § 92.8.

(d) A statement that the locomotives and locomotive engines, for which certification is requested conform to the requirements in § 92.7, and that the descriptions of tests performed to ascertain compliance with the general standards in § 92.7, and the data derived from such tests, are available to the Administrator upon request.

(e) A statement that the locomotive, or locomotive engine, with respect to which data are submitted to demonstrate compliance with the applicable standards of this subpart, is in all material respects as described in the manufacturer's or remanufacturer's application for certification; that it has been tested in accordance with the applicable test procedures utilizing the fuels and equipment described in the application for certification; and that on the basis of such tests, the engine family conforms to the requirements of this part. If, on the basis of the data supplied and any additional data as required by the Administrator, the Administrator determines that the test locomotive, or test engine, was not as described in the application for certification or was not tested in accordance with the applicable test procedures utilizing the fuels and equipment as described in the application for certification, the Administrator may make the determination that the locomotive, or engine, does not meet the applicable standards. If the Administrator makes such a determination, he/she may withhold, suspend, or revoke the certificate of conformity under § 92.208(c)(3)(i).

§ 92.207 Special test procedures.

(a) *Establishment of special test procedures by EPA.* The Administrator may, on the basis of written application by a manufacturer or remanufacturer, establish special test procedures other than those set forth in this part, for any locomotive or locomotive engine that the Administrator determines is not susceptible to satisfactory testing under the specified test procedures set forth in subpart B of this part.

(b) *Use of alternate test procedures by manufacturer or remanufacturer.* (1) A manufacturer or remanufacturer may elect to use an alternate test procedure provided that it is equivalent to the specified procedures with respect to the demonstration of compliance, its use is approved in advance by the Administrator, and the basis for the equivalence with the specified test procedures is fully described in the manufacturer's or remanufacturer's application.

(2) The Administrator may reject data generated under alternate test procedures which do not correlate with data generated under the specified procedures.

§ 92.208 Certification.

(a) Paragraph (a) of this section applies to manufacturers of new locomotives and new locomotive engines. If, after a review of the application for certification, test reports and data acquired from a freshly manufactured locomotive or locomotive engine or from a development data engine, and any other information required or obtained by EPA, the Administrator determines that the application is complete and that the engine family meets the requirements of the Act and this part, he/she will issue a certificate of conformity with respect to such engine family except as provided by paragraph (c)(3) of this section. The certificate of conformity is valid for each engine family from the date of issuance by EPA until 31 December of the model year or calendar year in which it is issued and upon such terms and conditions as the Administrator deems necessary or appropriate to assure that the production locomotives or engines covered by the certificate will meet the requirements of the Act and of this part.

(b) This paragraph (b) applies to remanufacturers of locomotives and locomotive engines. If, after a review of the application for certification, test reports and data acquired from a remanufactured locomotive or locomotive engine or from a development data engine, and any other information required or obtained by EPA, the Administrator determines that the engine family meets the requirements of the Act and of this subpart, he/she will issue a certificate of conformity with respect to such engine family except as provided by paragraph (c)(3) of this section. The certificate of conformity is valid for each engine family from the date of issuance by EPA until 31 December of the model year or calendar year in which it is issued and upon such terms and conditions as the Administrator deems necessary or appropriate to assure that the production locomotives or engines covered by the certificate will meet the requirements of the Act and of this part.

(c) This paragraph (c) applies to manufacturers and remanufacturers of locomotives and locomotive engines.

(1) The manufacturer or remanufacturer shall bear the burden of establishing to the satisfaction of the Administrator that the conditions upon which the certificates were issued were satisfied or excused.

(2) The Administrator will determine whether the test data included in the application represents all locomotives or locomotive engines of the engine family.

(3) Notwithstanding the fact that any locomotive(s) or locomotive engine(s) may comply with other provisions of this subpart, the Administrator may withhold or deny the issuance of any certificate of conformity, or suspend or revoke any such certificate(s) which has (have) been issued with respect to any such locomotive(s) or locomotive engine(s) if:

(i) The manufacturer or remanufacturer submits false or incomplete information in its application for certification thereof;

(ii) The manufacturer or remanufacturer renders inaccurate any test data which it submits pertaining thereto or otherwise circumvents the intent of the Act, or of this part with respect to such locomotive or locomotive engine;

(iii) Any EPA Enforcement Officer is denied access on the terms specified in § 92.215 to any facility or portion thereof which contains any of the following:

(A) A locomotive or locomotive engine which is scheduled to undergo emissions testing, or which is undergoing emissions testing, or which has undergone emissions testing; or

(B) Any components used or considered for use in the construction, modification or buildup of any locomotive or locomotive engine which is scheduled to undergo emissions testing, or which is undergoing emissions testing, or which has undergone emissions testing for purposes of emissions certification; or

(C) Any production locomotive or production locomotive engine which is or will be claimed by the manufacturer or remanufacturer to be covered by the certificate; or

(D) Any step in the construction of a locomotive or locomotive engine, where such step may reasonably be expected to have an effect on emissions; or

(E) Any records, documents, reports or histories required by this part to be kept concerning any of the items listed in paragraphs (c)(3)(iii)(A) through (D).

(iv) Any EPA Enforcement Officer is denied ''reasonable assistance'' (as defined in § 92.215).

(4) In any case in which a manufacturer or remanufacturer knowingly submits false or inaccurate information or knowingly renders inaccurate or invalid any test data or commits any other fraudulent acts and such acts contribute substantially to the Administrator's decision to issue a certificate of conformity, the Administrator may deem such certificate void *ab initio.*

(5) In any case in which certification of a locomotive or locomotive engine is to be withheld, denied, revoked or suspended under paragraph (c)(3) of this section, and in which the Administrator has presented to the manufacturer or remanufacturer involved reasonable evidence that a violation of § 92.215 in fact occurred, the manufacturer or remanufacturer, if it wishes to contend that, even though the violation occurred, the locomotive or locomotive engine in question was not involved in the violation to a degree that would warrant withholding, denial, revocation or suspension of certification under paragraph (c)(3) of this section, shall have the burden of establishing that contention to the satisfaction of the Administrator.

(6) Any revocation, suspension, or voiding of certification under paragraph (c)(3) of this section shall:

(i) Be made only after the manufacturer or remanufacturer concerned has been offered an opportunity for a hearing conducted in accordance with § 92.216; and

(ii) Extend no further than to forbid the introduction into commerce of locomotives or locomotive engines previously covered by the certification which are still in the hands of the manufacturer or remanufacturer, except in cases of such fraud or other misconduct that makes the certification invalid *ab initio.*

(7) The manufacturer or remanufacturer may request, within 30 days of receiving notification, that any determination made by the Administrator under paragraph (c)(3) of this section to withhold or deny certification be reviewed in a hearing conducted in accordance with § 92.216. The request shall be in writing, signed by an authorized representative of the manufacturer or remanufacturer as applicable, and shall include a statement specifying the manufacturer's or remanufacturer's objections to the Administrator's determinations, and data in support of such objections. If the Administrator finds, after a review of the request and supporting data, that the request raises a substantial factual issue, he/she will grant the request with respect to such issue.

(d) In approving an application for certification, the Administrator may specify:

(1) A broader range of adjustability than recommended by the manufacturer or remanufacturer for those locomotive

or engine parameters which are to be subject to adjustment, if the Administrator determines that it will not be practical to keep the parameter adjusted within the recommended range in use;

(2) A longer useful life period, if the Administrator determines that the useful life of the locomotives and locomotive engines in the engine family, as defined in § 92.2, is longer than the period specified by the manufacturer or remanufacturer; and/or

(3) Larger deterioration factors, if the Administrator determines that the deterioration factors specified by the manufacturer or remanufacturer do not meet the requirements of § 92.9(b)(2)(iv).

(e) Within 30 days following receipt of notification of the Administrator's determinations made under paragraph (d) of this section, the manufacturer or remanufacturer may request a hearing on the Administrator's determinations. The request shall be in writing, signed by an authorized representative of the manufacturer or remanufacturer as applicable, and shall include a statement specifying the manufacturer's or remanufacturer's objections to the Administrator's determinations, and data in support of such objections. If, after review of the request and supporting data, the Administrator finds that the request raises a substantial factual issue, the manufacturer or remanufacturer shall be provided with a hearing in accordance with § 92.216 with respect to such issue.

§ 92.209 Certification with multiple manufacturers or remanufacturers.

(a) Where there are multiple persons meeting the definition of manufacturer or remanufacturer, each such person must comply with the requirements of this part that apply to manufacturers or remanufacturers. However, if one person complies with a requirement, then all such persons will be deemed to have complied with that specific requirement.

(b) Where more than one entity meets the definition of manufacturer or remanufacturer for a particular locomotive or locomotive engine, and any one of the manufacturers or remanufacturers obtains a certificate of conformity covering such locomotive or locomotive engine, the requirements of subparts C, D, F, and G of this part shall apply to the manufacturer or remanufacturer that obtains the certificate of conformity. Other manufacturers or remanufacturers are required to comply with the requirements of subparts C, D, F, and G of this part only when notified by the Administrator. Such notification by the Administrator shall specify a reasonable time period in which the manufacturer or remanufacturer shall comply with the requirements identified in the notice.

§ 92.210 Amending the application and certificate of conformity.

(a) The manufacturer or remanufacturer of locomotives or locomotive engines must notify the Administrator when changes to information required to be described in the application for certification are to be made to a product line covered by a certificate of conformity. This notification must include a request to amend the application or the existing certificate of conformity. Except as provided in paragraph (e) of this section, no manufacturer or remanufacturer shall make said changes or produce said locomotives or engines prior to receiving approval from EPA.

(b) A manufacturer's or remanufacturer's request to amend the application or the existing certificate of conformity shall include the following information:

(1) A full description of the change to be made in production, or of the locomotive or engine to be added;

(2) Engineering evaluations or data showing that locomotives or engines as modified or added will comply with all applicable emission standards; and

(3) A determination whether the manufacturer's or remanufacturer's original test fleet selection is still appropriate, and if the original test fleet selection is determined not to be appropriate, test fleet selection(s) representing the locomotives or engines changed or added which would have been required if the locomotives or engines had been included in the original application for certification.

(c) The Administrator may require the manufacturer or remanufacturer to perform tests on the locomotive or engine representing the locomotive or engine to be added or changed.

(d) *Decision by Administrator.* (1) Based on the description of the amendment and data derived from such testing as the Administrator may require or conduct, the Administrator will determine whether the change or addition would still be covered by the certificate of conformity then in effect.

(2) If the Administrator determines that the change or new locomotive(s) or engine(s) meets the requirements of this subpart and the Act, the appropriate certificate of conformity shall be amended.

(3) If the Administrator determines that the changed or new locomotive(s) or engine(s) does not meet the requirements of this subpart and the Act, the certificate of conformity will not be amended. The Administrator shall provide a written explanation to the manufacturer or remanufacturer of the decision not to amend the certificate. The manufacturer or remanufacturer may request a hearing on a denial.

(e) A manufacturer or remanufacturer may make changes in or additions to production locomotives or engines concurrently with the notification to the Administrator as required by paragraph (a) of this section, if the manufacturer or remanufacturer complies with the following requirements:

(1) In addition to the information required in paragraph (b) of this section, the manufacturer or remanufacturer must supply supporting documentation, test data, and engineering evaluations as appropriate to demonstrate that all affected locomotives and engines will still meet applicable emission standards.

(2) If, after a review, the Administrator determines additional testing is required, the manufacturer or remanufacturer must provide required test data within 30 days or cease production of the affected locomotives or engines.

(3) If the Administrator determines that the affected locomotives or engines do not meet applicable requirements, the Administrator will notify the manufacturer or remanufacturer to cease production of the affected locomotives or engines and to recall and correct at no expense to the owner all affected locomotives or engines previously produced.

(4) Election to produce locomotives or engines under this paragraph will be deemed to be a consent to recall all locomotives or engines which the Administrator determines do not meet applicable standards and to cause such nonconformity to be remedied at no expense to the owner.

§ 92.211 Emission-related maintenance instructions for purchasers.

(a) The manufacturer or remanufacturer shall furnish or cause to be furnished to the ultimate purchaser or owner of each new locomotive, or new locomotive engine, subject to the standards prescribed in § 92.8, written instructions for the proper maintenance and use of the locomotive, or locomotive engine, as are reasonable and necessary to assure the proper functioning of the emissions control system, consistent with the applicable provisions of paragraph (b) of this section.

(1) The maintenance and use instructions required by this section shall be clear and easily understandable.

(2) The maintenance instructions required by this section shall contain a general description of the documentation which would demonstrate that the ultimate purchaser or any subsequent owner had complied with the instructions.

(b)(1) The manufacturer or remanufacturer must provide in boldface type on the first page of the written maintenance instructions notice that maintenance, replacement, or repair of the emission control devices and systems may be performed by any locomotive or locomotive engine repair establishment or individual.

(2) The instructions under paragraph (b)(1) of this section will not include any condition on the ultimate purchaser's or owner's using, in connection with such locomotive or locomotive engine, any component or service (other than a component or service provided without charge under the terms of the purchase agreement) which is identified by brand, trade, or corporate name. Such instructions also will not directly or indirectly distinguish between service performed by any other service establishments with which such manufacturer or remanufacturer has a commercial relationship and service performed by independent locomotive or locomotive engine repair facilities which such manufacturer or remanufacturer has no commercial relationship.

(3) The prohibition of paragraph (b)(2) of this section may be waived by the Administrator if:

(i) The manufacturer or remanufacturer satisfies the Administrator that the locomotive or locomotive engine will function properly only if the component or service so identified is used in connection with such locomotive or locomotive engine; and

(ii) The Administrator finds that such a waiver is in the public interest.

(c) The manufacturer or remanufacturer shall provide to the Administrator, no later than the time of the submission required by § 92.203, a copy of the emission-related maintenance instructions which the manufacturer or remanufacturer proposes to supply to the ultimate purchaser or owner in accordance with this section. The Administrator will review such instructions to determine whether they are reasonable and necessary to assure the proper functioning of the locomotive's, or locomotive engine's emission control systems. If the Administrator determines that such instructions are not reasonable and necessary to assure the proper functioning of the emission control systems, he/she may disapprove the application for certification, or may require that the manufacturer or remanufacturer modify the instructions.

(d) Any revision to the maintenance instructions which will affect emissions shall be supplied to the Administrator at least 30 days before being supplied to the ultimate purchaser or owner unless the Administrator consents to a lesser period of time, and is subject to the provisions of § 92.210.

§ 92.212 Labeling.

(a) *General requirements.* Each new locomotive and new locomotive engine, subject to the emission standards of this part and covered by a certificate of conformity under § 92.208, shall be labeled by the manufacturer or remanufacturer in the manner described in this section at the time of manufacture or remanufacture.

(b) *Locomotive labels.* (1) Locomotive labels meeting the specifications of paragraph (b)(2) of this section shall be applied by:

(i) The manufacturer at the point of original manufacture; and

(ii) The remanufacturer at the point of original remanufacture; and

(iii) Any remanufacturer certifying a locomotive or locomotive engine to an FEL different from the last FEL or standard to which the locomotive was previously certified.

(2)(i) Locomotive labels shall be permanent and legible and shall be affixed to the locomotive in a position in which it will remain readily visible.

(ii) The label shall be attached to a locomotive part necessary for normal operation and not normally requiring replacement during the service life of the locomotive.

(iii) The label shall be affixed by the manufacturer or remanufacturer, in such manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such locomotive.

(iv) The label may be made up of more than one piece, provided that all pieces are permanently attached to the same locomotive part.

(v) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(A) The label heading: Original Locomotive Emission Control Information.

(B) Full corporate name and trademark of the manufacturer or remanufacturer.

(C) Engine family and configuration identification.

(D) A prominent unconditional statement of compliance with U.S. Environmental Protection Agency regulations which apply to locomotives and locomotive engines, as applicable:

(*1*) This locomotive conforms to U.S. EPA regulations applicable to locomotives originally manufactured prior to January 1, 2002; or

(*2*) This locomotive conforms to U.S. EPA regulations applicable to locomotives originally manufactured on or after January 1, 2002, but before January 1, 2005; or

(*3*) This locomotive conforms to U.S. EPA regulations applicable to locomotives originally manufactured on or after January 1, 2005.

(E) Date of locomotive original manufacture.

(F) The useful life of the locomotive.

(G) The standards and/or FELS to which the locomotive was certified.

(c) *Engine labels.* (1) Engine labels meeting the specifications of paragraph (c)(2) of this section shall be applied by:

(i) Every manufacturer at the point of original manufacture; and

(ii) Every remanufacturer at the point of remanufacture.

(2)(i) Engine labels shall be permanent and legible and shall be affixed to the engine in a position in which it will be readily visible after installation of the engine in the locomotive.

(ii) The label shall be attached to an engine part necessary for normal operation and not normally requiring replacement during the useful life of the locomotive.

(iii) The label shall be affixed by the manufacturer or remanufacturer, in such manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such engine.

(iv) The label may be made up of more than one piece, provided that all pieces are permanently attached to the same engine part.

(v) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(A) The label heading: Locomotive Emission Control Information.

(B) Full corporate name and trademark of the manufacturer or remanufacturer.

(C) Engine family and configuration identification.

(D) A prominent unconditional statement of compliance with U.S. Environmental Protection Agency regulations which apply to locomotives and locomotive engines, as applicable:

(*1*) This locomotive and locomotive engine conform to U.S. EPA regulations applicable to locomotives and locomotive engines originally manufactured prior to January 1, 2002; or

(*2*) This locomotive and locomotive engine conform to U.S. EPA regulations applicable to locomotives and locomotive engines originally manufactured on or after January 1, 2002, and remanufactured after January 1, 2005; or

(*3*) This locomotive and locomotive engine conform to U.S. EPA regulations applicable to locomotives and locomotive engines originally manufactured on or after January 1, 2005.

(E) The useful life of the locomotive or locomotive engine.

(F) The standards and/or FELS to which the locomotive or locomotive engine was certified.

(G) Engine tune-up specifications and adjustments, as recommended by the manufacturer or remanufacturer, in accordance with the applicable emission standards, including but not limited to idle speed(s), injection timing or ignition timing (as applicable), valve lash (as applicable), as well as other parameters deemed necessary by the manufacturer or remanufacturer.

(d) The provisions of this section shall not prevent a manufacturer or remanufacturer from also providing on the label any other information that such manufacturer or remanufacturer deems necessary for, or useful to, the proper operation and satisfactory maintenance of the locomotive or engine.

§ 92.213 Submission of locomotive and engine identification numbers.

(a) Upon request of the Administrator, the manufacturer or remanufacturer of any locomotive or locomotive engine covered by a certificate of conformity shall, within 30 days of receipt of such request, identify by locomotive and/or engine identification number, the locomotives or engines covered by the certificate of conformity.

(b) The manufacturer or remanufacturer of any locomotives or locomotive engines covered by a certificate of conformity shall provide to the Administrator, within 60 days of the issuance of a certificate of conformity, an explanation of the elements in any locomotive or engine identification coding system in sufficient detail to enable the Administrator to identify those locomotives or engines which are covered by a certificate of conformity.

§ 92.214 Production locomotives and engines.

Any manufacturer or remanufacturer obtaining certification under this part shall supply to the Administrator, upon his/her request, a reasonable number of production locomotives or locomotive engines, as specified by the Administrator. The maximum number of locomotives or locomotive engines that may be supplied to the Administrator is five per model year. The locomotives or locomotive engines shall be representative of the engines, emission control systems, and fuel systems offered and typical of production locomotives or engines available for sale, or use by railroads, under the certificate. These locomotives or engines shall be supplied for testing at such time and place and for such reasonable periods as the Administrator may require.

§ 92.215 Maintenance of records; submittal of information; right of entry.

(a) Any manufacturer or remanufacturer subject to any of the standards or procedures prescribed in this subpart shall establish, maintain and retain the following adequately organized and indexed records:

(1) *General records.* The records required to be maintained by this paragraph (a) shall consist of:

(i) Identification and description of all certification locomotives or certification locomotive engines for which testing is required under this subpart.

(ii) A description of all emission control systems which are installed on or incorporated in each certification locomotive or certification locomotive engine.

(iii) A description of all procedures used to test each such certification locomotive or certification locomotive engine.

(iv) A copy of all applications for certification, filed with the Administrator.

(2) *Individual records.* (i) A brief history of each locomotive or locomotive engine used for certification under this subpart including:

(A) In the case where a current production engine is modified for use as a certification engine or in a certification locomotive, a description of the process by which the engine was selected and of the modifications made. In the case where the certification locomotive or the engine for a certification locomotive is not derived from a current production engine, a general description of the buildup of the engine (e.g., whether experimental heads were cast and machined according to supplied drawings). In the cases in the previous two sentences, a description of the origin and selection process for fuel system components (carburetor, fuel injection components), ignition system components, intake air pressurization and cooling system components, cylinders, pistons and piston rings, exhaust smoke control system components, and exhaust aftertreatment devices as applicable, shall be included. The required descriptions shall specify the steps taken to assure that the certification locomotive or certification locomotive engine, with respect to its engine, drivetrain, fuel system, emission control system components, exhaust aftertreatment devices, exhaust smoke control system components or any other devices or components as applicable, that can reasonably be expected to influence exhaust emissions will be representative of production locomotives or locomotive engines and that either: all components and/or locomotive or engine, construction processes, component inspection and selection techniques, and assembly techniques employed in constructing such locomotives or engines are reasonably likely to be implemented for production locomotives or engines; or that they are as close as practicable to planned construction and assembly processed.

(B) A complete record of all emission tests performed (except tests performed by EPA directly), including test results, the date and purpose of each test, and the number of miles or megawatt-hours accumulated on the locomotive or the number of megawatt-hours accumulated on the engine.

(C) A record and description of all maintenance and other servicing performed, giving the date of the maintenance or service and the reason for it.

(D) A record and description of each test performed to diagnose engine or emission control system performance, giving the date and time of the test and the reason for it.

(E) A brief description of any significant events affecting the locomotive or engine during the period covered by the history and not described by an entry under one of the previous headings, including such extraordinary events as locomotive accidents or accidents involving the engine or dynamometer runaway.

(ii) Each such history shall be started on the date that the first of any of the selection or buildup activities in

paragraph (a)(2)(i)(A) of this section occurred with respect to the certification locomotive or engine and shall be kept in a designated location.

(3) All records, other than routine emission test records, required to be maintained under this subpart shall be retained by the manufacturer or remanufacturer for a period of 8 years after issuance of all certificates of conformity to which they relate. Routine emission test records shall be retained by the manufacturer or remanufacturer for a period of one (1) year after issuance of all certificates of conformity to which they relate. Records may be retained as hard copy or reduced to computer disks, etc., depending on the record retention procedures of the manufacturer or remanufacturer: *Provided*, that in every case all the information contained in the hard copy shall be retained.

(4) Nothing in this section limits the Administrator's discretion in requiring the manufacturer or remanufacturer to retain additional records or submit information not specifically required by this section.

(5) Pursuant to a request made by the Administrator, the manufacturer or remanufacturer shall submit to him/her the information that is required to be retained.

(6) EPA may void a certificate of conformity *ab initio* for a locomotive or engine family for which the manufacturer or remanufacturer fails to retain the records required in this section or to provide such information to the Administrator upon request.

(b) The manufacturer or remanufacturer of any locomotive or locomotive engine subject to any of the standards prescribed in this subpart shall submit to the Administrator, at the time of issuance by the manufacturer or remanufacturer, copies of all instructions or explanations regarding the use, repair, adjustment, maintenance, or testing of such locomotive or engine, relevant to the control of crankcase, or exhaust emissions issued by the manufacturer or remanufacturer, for use by other manufacturers or remanufacturers, assembly plants, distributors, dealers, owners and operators. Any material not translated into the English language need not be submitted unless specifically requested by the Administrator.

(c) Any manufacturer or remanufacturer participating in averaging, banking and trading program of subpart D of this part must comply with the maintenance of records requirements of § 92.308.

(d)(1) Any manufacturer or remanufacturer who has applied for certification of a new locomotive or new locomotive engine subject to certification test under this subpart shall admit or cause to be admitted any EPA Enforcement Officer during operating hours on presentation of credentials to any of the following:

(i) Any facility where any such tests or any procedures or activities connected with such test are or were performed;

(ii) Any facility where any locomotive or locomotive engine which is being tested (or was tested, or is to be tested) is present;

(iii) Any facility where any construction process or assembly process used in the modification or buildup of such a locomotive or engine into a certification locomotive or certification engine is taking place or has taken place; or

(iv) Any facility where any record or other document relating to any of the above is located.

(2) Upon admission to any facility referred to in paragraph (d)(1) of this section, any EPA Enforcement Officer shall be allowed:

(i) To inspect and monitor any part or aspect of such procedures, activities and testing facilities including, but not limited to, monitoring locomotive or engine preconditioning, emissions tests, mileage (or service) accumulation, maintenance, and locomotive or engine storage procedures, and to verify correlation or calibration of test equipment;

(ii) To inspect and make copies of any such records, designs, or other documents, including those records specified in Subpart D of this part; and

(iii) To inspect and/or photograph any part or aspect of any such certification locomotive, or certification locomotive engine and any components to be used in the construction thereof.

(3) In order to allow the Administrator to determine whether or not production locomotives, or production locomotive engines, conform to the conditions upon which a certificate of conformity has been issued, or conform in all material respects to the design specifications applicable to those locomotives, or engines, as described in the application for certification for which a certificate of conformity has been issued, any manufacturer or remanufacturer shall admit any EPA Enforcement Officer on presentation of credentials to:

(i) Any facility where any document, design or procedure relating to the translation of the design and construction of engines and emission related components described in the application for certification or used for certification testing into production locomotives or production engines is located or carried on;

(ii) Any facility where any locomotives or locomotive engines, to be introduced into commerce are manufactured or remanufactured; and

(iii) Any facility where records specified this section are located.

(4) On admission to any such facility referred to in paragraph (d)(3) of this section, any EPA Enforcement Officer shall be allowed:

(i) To inspect and monitor any aspects of such manufacture or remanufacture and other procedures;

(ii) To inspect and make copies of any such records, documents or designs;

(iii) To inspect and photograph any part or aspect of any such locomotive(s) or locomotive engine(s) and any component used in the assembly thereof that are reasonably related to the purpose of his/her entry; and

(iv) To inspect and make copies of any records and documents specified this section.

(5) Any EPA Enforcement Officer shall be furnished by those in charge of a facility being inspected with such reasonable assistance as he/she may request to help him/her discharge any function listed in this part. Each applicant for or recipient of certification is required to cause those in charge of a facility operated for its benefit to furnish such reasonable assistance without charge to EPA whether or not the applicant controls the facility.

(6) The duty to admit or cause to be admitted any EPA Enforcement Officer applies to any facility involved in the manufacturing or assembling of locomotives, remanufacturing systems, or locomotive engines, or the installation of locomotive engines or remanufacturing systems, whether or not the manufacturer or remanufactuer owns or controls the facility in question and applies both to domestic and to foreign manufacturers or remanufacturers and facilities. EPA will not attempt to make any inspections which it has been informed that local law forbids. However, if local law makes it impossible to do what is necessary to insure the accuracy of data generated at a facility, no informed judgment that a locomotive or locomotive engine is certifiable or is covered by a certificate can properly be based on those data. It is the responsibility of the manufacturer or remanufacturer to locate its testing and manufacturing and/or remanufacturing facilities in jurisdictions where this situation will not arise.

(7) For purposes of this section:

(i) ''Presentation of credentials'' shall mean display of the document designating a person as an EPA Enforcement Officer.

(ii) Where locomotive, component or engine storage areas or facilities are concerned, ''operating hours'' shall mean all times during which personnel other than custodial personnel are at work in the vicinity of the area or facility and have access to it.

(iii) Where facilities or areas other than those covered by paragraph (d)(7)(ii) of this section are concerned, ''operating hours'' shall mean all times during which an assembly line is in operation or all times during which testing, maintenance, mileage (or service) accumulation, production or compilation of records, or any other procedure or activity related to certification testing, to translation of designs from the test stage to the production stage, or to locomotive (or engine) manufacture, remanufacture, or assembly is being carried out in a facility.

(iv) ''Reasonable assistance'' includes, but is not limited to, clerical, copying, interpretation and translation services, the making available on request of personnel of the facility being inspected during their working hours to inform the EPA Enforcement Officer of how the facility operates and to answer his questions, and the performance on request of emissions tests on any locomotive (or engine) which is being, has been, or will be used for certification testing. Such tests shall be nondestructive, but may require appropriate mileage (or service) accumulation. A manufacturer or remanufacturer may be compelled to cause the personal appearance of any employee at such a facility before an EPA Enforcement Officer by written request for his appearance, signed by the Assistant Administrator for Air and Radiation or the Assistant Administrator for Enforcement and Compliance Assurance, served on the manufacturer or remanufacturer. Any such employee who has been instructed by the manufacturer or remanufacturer to appear will be entitled to be accompanied, represented and advised by counsel.

(v) Any entry without 24 hour prior written or oral notification to the affected manufacturer or remanufacturer shall be authorized in writing by the Assistant Administrator for Air and Radiation or the Assistant Administrator for Enforcement and Compliance Assurance.

(8) EPA may void a certificate of conformity ab initio for locomotives or locomotive engines introduced into commerce if the manufacturer or remanufacturer (or contractor for the manufacturer or remanufacturer, if applicable) fails to comply with any provision of this section.

§ 92.216 Hearing procedures.

(a)(1) After granting a request for a hearing under § 92.210 or § 92.208, the Administrator shall designate a Presiding Officer for the hearing.

(2) The General Counsel will represent the Environmental Protection Agency in any hearing under this section.

(3) The hearing shall be held as soon as practicable at a time and place fixed by the Administrator or by the Presiding Officer.

(4) In the case of any hearing requested pursuant to § 92.208, the Administrator may in his/her discretion direct that all argument and presentation of evidence be concluded within such fixed period not less than 30 days as he/she may establish from the date that the first written offer of a hearing is made to the manufacturer. To expedite proceedings, the Administrator may direct that the decision of the Presiding Officer (who may, but need not be, the Administrator) shall be the final EPA decision.

(b)(1) Upon his/her appointment pursuant to paragraph (a) of this section, the Presiding Officer will establish a hearing file. The file shall consist of the notice issued by the Administrator under § 92.210 or § 92.208 together with any accompanying material, the request for a hearing and the supporting data submitted therewith, and all documents relating to the request for certification and all documents submitted therewith, and correspondence and other data material to the hearing.

(2) The hearing file will be available for inspection by the applicant at the office of the Presiding Officer.

(c) An applicant may appear in person, or may be represented by counsel or by any other duly authorized representative.

(d)(1) The Presiding Officer, upon the request of any party, or in his/her discretion, may arrange for a prehearing conference at a time and place specified by him/her to consider the following:

(i) Simplification of the issues;

(ii) Stipulations, admissions of fact, and the introduction of documents;

(iii) Limitation of the number of expert witnesses;

(iv) Possibility of agreement disposing of all or any of the issues in dispute;

(v) Such other matters as may aid in the disposition of the hearing, including such additional tests as may be agreed upon by the parties.

(2) The results of the conference shall be reduced to writing by the Presiding Officer and made part of the record.

(e)(1) Hearings shall be conducted by the Presiding Officer in an informal but orderly and expeditious manner. The parties may offer oral or written evidence, subject to the exclusion by the Presiding Officer of irrelevant, immaterial and repetitious evidence.

(2) Witnesses will not be required to testify under oath. However, the Presiding Officer shall call to the attention of witnesses that their statements may be subject to the provisions of 18 U.S.C. 1001 which imposes penalties for knowingly making false statements or representations, or using false documents in any matter within the jurisdiction of any department or agency of the United States.

(3) Any witness may be examined or cross-examined by the Presiding Officer, the parties, or their representatives.

(4) Hearings shall be reported verbatim. Copies of transcripts of proceedings may be purchased by the applicant from the reporter.

(5) All written statements, charts, tabulations, and similar data offered in evidence at the hearings shall, upon a showing satisfactory to the Presiding Officer of their authenticity, relevancy, and materiality, be received in evidence and shall constitute a part of the record.

(6) Oral argument may be permitted in the discretion of the Presiding Officer and shall be reported as part of the record unless otherwise ordered by him/her.

(f)(1) The Presiding Officer shall make an initial decision which shall include written findings and conclusions and the reasons or basis therefor on all the material issues of fact, law, or discretion presented on the record. The findings, conclusions, and written decision shall be provided to the parties and made a part of the record. The initial decision shall become the decision of the Administrator without further proceedings unless there is an appeal to the Administrator or motion for review by the Administrator within 30 days of the date the initial decision was filed.

(2) On appeal from or review of the initial decision the Administrator shall have all the powers which he/she would have in making the initial decision including the discretion to require or allow briefs, oral argument, the taking of additional evidence or the remanding to the Presiding Officer for additional proceedings. The decision by the Administrator shall include written findings and conclusions and the reasons or basis therefor on all the material issues of fact, law, or discretion

presented on the appeal or considered in the review.

Subpart D—Certification Averaging, Banking, and Trading Provisions

§ 92.301 Applicability.

Locomotive engine families subject to the provisions of subpart A of this part are eligible to participate in the certification averaging, banking, and trading program described in this subpart. The provisions of this subpart apply to manufacturers and remanufacturers of new locomotives and new locomotive engines manufactured or remanufactured in the 1999 model year or later.

§ 92.302 Definitions.

The definitions of subpart A of this part apply to this subpart. The following definitions also apply.

Applicable standard means a standard that would have otherwise been applicable had the locomotive or locomotive engine not been certified under this subpart to an FEL different than that standard.

Broker means any entity that facilitates a trade between a buyer and seller.

Buyer means the entity that receives credits as a result of trade or transfer.

Reserved credits means credits that have been generated but have not yet been reviewed by EPA or used to demonstrate compliance under the averaging provisions of this subpart.

Seller means the entity that provides credits during a trade or transfer.

Transfer means to convey control of credits generated from an individual locomotive to the purchaser, owner or operator of the locomotive at the time of manufacture or remanufacture; or to convey control of previously generated credits from the purchaser, owner or operator of an individual locomotive to the manufacturer or remanufacturer at the time of manufacture or remanufacture.

§ 92.303 General provisions.

(a) Participation in the averaging, banking and trading program is voluntary. A manufacturer or remanufacturer may choose to involve some or all of its families in any or all aspects of the program.

(b) An engine family is eligible to participate in the certification averaging, banking, and trading program for NO_X and PM emissions if it is subject to regulation under this part with certain exceptions specified in paragraph (c) of this section. No averaging, banking and trading program is available for meeting the HC, CO, or smoke emission standards of this part.

(c) Locomotives and locomotive engines may not participate in the certification averaging, banking, and trading program if they are exported. Only locomotive and locomotive engines certified under this part are eligible for inclusion in this certification averaging, banking, and trading program.

(d) Averaging involves the generation of credits by a manufacturer or remanufacturer for use by that same manufacturer or remanufacturer in the same calendar year. A manufacturer or remanufacturer may use averaging during certification to offset an emission exceedance of an engine family caused by an FEL above the applicable emission standard, subject to the provisions of this subpart.

(e) Banking involves the generation of credits by a manufacturer or remanufacturer in a given calendar year for use in a subsequent model year. A manufacturer or remanufacturer may bank actual credits only after the end of the calendar year and after EPA has reviewed the manufacturer's or remanufacturer's end-of-year reports. During the calendar year and before submittal of the end-of-year report, credits originally designated in the certification process for banking will be considered reserved and may be redesignated for trading or averaging in the end-of-year report. Credits declared for banking from the previous calendar year that have not been reviewed by EPA may be used in averaging or trading transactions. However, such credits may be revoked at a later time following EPA review of the end-of-year report or any subsequent audit actions.

(f) Trading involves the sale of banked credits for use in certification of new locomotives and new locomotive engines under this part. Only banked credits may be traded; reserved credits may not be traded.

(g) Credit transfer involves the conveying of control over credits, as defined in § 92.302. Transferred credits can be used in averaging or in subsequent transfers. Transferred credits may also be reserved for later banking. Transferred credits may not be traded unless they have been previously banked.

§ 92.304 Compliance requirements.

(a) Manufacturers or remanufacturers wishing to participate in certification averaging, banking and trading programs shall select a FEL for each engine family they wish to include. The level of the FEL shall be selected by the manufacturer or remanufacturer, subject to the upper limits described in paragraph (k) of this section. An engine family certified to an FEL is subject to all provisions specified in this part, except that the applicable FEL replaces the applicable NO_X and PM emission standard for the family participating in the averaging, banking, and trading program.

(b) A manufacturer or remanufacturer may certify one or more engine families at FELs above or below the applicable emission standard, provided the summation of the manufacturer's or remanufacturer's projected balance of all credit transactions in a given calendar year is greater than or equal to zero, as calculated for each family under § 92.305 and reported under § 92.309.

(c) Manufacturers and remanufacturers certifying engine families with FELs exceeding the applicable emission standard shall obtain emission credits in amounts sufficient to address the shortfall. Credits may be obtained from averaging, banking, trading or transfer, subject to the restrictions described in this subpart.

(d) Manufacturers and remanufacturers certifying engine families with FELs below the applicable emission standard may generate emission credits to average, bank, trade, or transfer, or a combination thereof.

(e) Credits may only be used for certification; they may not be used to remedy a violation of the FEL determined by production line or in-use testing. Credits may be used to allow subsequent production of engines for an engine family failing production line testing if the manufacturer elects to recertify to a higher FEL

(f) If an FEL is changed after initial certification in any given model year, the manufacturer/remanufacturer must conduct production line testing to verify that the emission levels are achieved.

(g) Manufacturers and remanufacturers participating in the averaging, banking and trading program must demonstrate compliance with the applicable emission standards at the end of the model year. Manufacturers and remanufacturers that have certified engine families to FELs above the applicable emission standards and do not have sufficient emission credits to offset the difference between the emission standard and the FEL for such engine family(ies) will be in violation of the conditions of the certificate of conformity for such engine family(ies). The certificates of conformity may be voided *ab initio* for those engine families.

(h) In the event of a negative credit balance resulting from a credit trade or transfer, both the buyer(s) and the seller(s) are liable, except in cases

involving fraud. Certificates of all engine families participating in a negative trade may be voided *ab initio.*

(1) Where a buyer of credits is not responsible for causing the negative credit balance, it is only liable to supply additional credits equivalent to any amount of invalid credits that it used.

(2) Credit holders responsible for the credit shortfall may be subject to the requirements of § 92.309(g)(3).

(i) Averaging sets. This subpart includes separate programs for compliance with each type of cycle-weighted standards in § 92.8 (i.e., line-haul and switch). Credits generated over the line-haul duty-cycle may not be used for compliance with the switch duty-cycle, and credits generated over the switch duty-cycle may not be used for compliance with the line-haul duty-cycle.

(j) Cross tier credit exchanges. Cross tier credit exchanges for NO_X and PM emission credits may be exchanged between and among Tier 0, Tier 1, and Tier 2 engine families with the following exceptions:

(1) For 2005 and 2006 model year freshly manufactured locomotives, manufacturers may use PM credits for all of their freshly manufactured engine families. Manufacturers may use NO_X credits only for engine families that are projected to represent 75 percent or less of their total projected annual production of freshly manufactured locomotives. The remainder must comply with the Tier 2 NO_X emission standards without the use of credits.

(2) For 2007 and later model year freshly manufactured locomotives, manufacturers may use PM credits for all of their freshly manufactured engine families. Manufacturers may use NO_X credits only for engine families that are projected to represent 50 percent or less of their total projected annual production of freshly manufactured locomotives. The remainder must comply with the Tier 2 NO_X emission standards without the use of credits.

(3) Credits generated from remanufactured locomotives prior to January 1, 2002 and which are banked may only be used for compliance with the Tier 1 or later emission standards.

(k) Upper limits. The FELs for NO_X and PM for new locomotives and new locomotive engines certified to the Tier 1 and Tier 2 standards may not exceed the following values:

(1) Tier 1: the Tier 0 standards.

(2) Tier 2: the Tier 1 standards, except as noted in paragraph (j) of this section.

(l) Credit life shall be unlimited.

(m) Credits may be generated by any certifying manufacturer or remanufacturer and may be held by any of the following entities:

(1) Locomotive or locomotive engine manufacturers;

(2) Locomotive or locomotive engine remanufacturers;

(3) Locomotive or locomotive engine owners;

(4) Locomotive or locomotive engine operators; or

(5) Other entities after notification to EPA.

(n)(1) All locomotives that are certified to an FEL that is different from the emission standard that would otherwise apply to the locomotive or locomotive engine are required to comply with that FEL for the remainder of their service lives, except as allowed by § 92.9(a)(4)(iii) and this subpart.

(2) Manufacturers shall notify the purchaser of any locomotive engine that is certified to an FEL that is different from the emission standard that would otherwise apply that the locomotive or locomotive engine is required to comply with that FEL for the remainder of its service life.

(3) Remanufacturers shall notify the owner of any locomotive or locomotive engine that is certified to an FEL that is different from the emission standard that would otherwise apply that the locomotive (or the locomotive in which the engine is used) is required to comply with that FEL for the remainder of its service life.

§ 92.305 Credit generation and use calculation.

(a) For each participating engine family, NO_X and PM emission credits (positive or negative) are to be calculated according to the following equation and rounded in accordance with ASTM E29–93a, to the nearest Megagram (Mg). Consistent units are to be used throughout the calculation.

(1) When useful life is expressed in terms of megawatt-hrs:

Credits for each engine family are calculated as: Emission credits=(Std − FEL) × (UL) × (Production) × (Fp) × (10^{-3} kW-Mg/MW-g).

(2) Where:

(i) Std=the applicable locomotive and locomotive engine NO_X and/or PM emission standard in grams per kilowatt-hour (exceptions: Std=0.43 g/kW-hr, for Tier 0 and Tier 1 PM line-haul credits; Std=0.59 g/kW-hr, for Tier 0 and Tier 1 PM switch credits; and Std=previous FEL in g/kW-hr, for locomotives that were certified to an FEL other than the standard during the previous useful life).

(ii) FEL=the family emission limit for the engine family in grams per kilowatt-hour. For Tier 1 and Tier 2 engine families, the FEL may not exceed the limit established in § 92.304(k) for each pollutant.

(iii) UL=the sales weighted average useful life in megawatt-hours, based on the sales weighted average horsepower of the engine family (or the subset of the engine family for which credits are being calculated), as specified in the application for certification.

(iv) Production=the number of locomotives or locomotive engines participating in the averaging, banking, and trading program within the given engine family during the calendar year (or the number of locomotives or locomotive engines in the subset of the engine family for which credits are being calculated). Quarterly production projections are used for initial certification. Actual applicable production/sales volumes are used for end-of-year compliance determination.

(v) F_p=the proration factor as determined in paragraph (c) of this section.

(b) When useful life is expressed in terms of miles or years, the useful life in terms of megawatt hours (UL) shall be calculated by dividing the useful life in miles by 100,000, and multiplying by the sales weighted average horsepower of the engine family. Credits are calculated using this UL value in the equations of paragraph (a) of this section.

(c) The proration factor is an estimate of the fraction of a locomotive's service life that remains as a function of age.

(1) The locomotive's age is the length of time in years from the date of original manufacture to the date at which the remanufacture (for which credits are being calculated) is completed, rounded to the next higher year.

(2) The proration factors for ages 1 through 32 are specified in Table D305–1 of this section. For locomotives or locomotive engines more than 32 years old, the proration factor for 32 year old locomotives shall be used.

(3) For replacement or repower engines, the proration factor is based on the age of the locomotive chassis, not the age of the engine.

Table to § 92.305

TABLE D305–1.—PRORATION FACTOR

Age	F_p	Age	F_p
1	0.964	17	0.452
2	0.929	18	0.429
3	0.893	19	0.405
4	0.857	20	0.381
5	0.821	21	0.357
6	0.786	22	0.333
7	0.750	23	0.310
8	0.714	24	0.286

TABLE D305–1.—PRORATION FACTOR—Continued

Age	F_p	Age	F_p
9	0.679	25	0.268
10	0.643	26	0.250
11	0.607	27	0.232
12	0.571	28	0.214
13	0.548	29	0.196
14	0.524	30	0.179
15	0.500	31	0.161
16	0.476	32	0.143

§ 92.306 Certification.

(a) In the application for certification a manufacturer or remanufacturer must:

(1) Declare its intent to include specific engine families in the averaging, banking, and/or trading programs. Separate declarations are required for each program (line-haul and switch) and for each pollutant (NO_X and PM).

(2) Declare duty-cycle FELs for each engine family participating in certification averaging, banking, and/or trading.

(i) The FELs must be to the same number of significant digits as the emission standard.

(ii) In no case may the FEL exceed the upper limit prescribed in § 92.304(k).

(3) Conduct and submit detailed calculations of projected emission credits (positive or negative) based on quarterly production projections for each participating family and for each pollutant, using the applicable equation in § 92.305 and the applicable values of the terms in the equation for the specific family.

(i) If the engine family is projected to have negative emission credits, state specifically the source (manufacturer/engine family, remanufacturer/engine family, or transfer) of the credits necessary to offset the credit deficit according to quarterly projected production.

(ii) If the engine family is projected to generate credits, state specifically where the quarterly projected credits will be applied (manufacturer/engine family or remanufacturer/engine family, reserved or transfer).

(4) Submit a statement that the locomotives or locomotive engines for which certification is requested will not, to the best of the manufacturer's or remanufacturer's belief, cause the manufacturer or remanufacturer to have a negative credit balance when all credits are calculated for all the manufacturer's or remanufacturer's engine families participating in the averaging, banking, and trading program.

(b) Based on this information, each manufacturer's certification application must demonstrate:

(1) That at the end of model year production, each engine family has a net emissions balance equal to or greater than zero for any pollutant and program for which participation in certification under averaging, banking, and/or trading is being sought. The equation in section § 92.305 shall be used in this calculation for each engine family.

(2) That the manufacturer or remanufacturer will obtain sufficient credits to be used to comply with the emission standard for any engine family with an FEL that exceeds the applicable emission standard, or where credits will be applied if the FEL is less than the emission standard. In cases where credits are being obtained, for each engine family involved the manufacturer or remanufacturer must identify specifically the source of the credits being used (manufacturer/engine family, or remanufacturer/engine family, or transfer). All such reports shall include all credits involved in certification averaging, banking, or trading.

(3) In cases where credits are being generated/supplied, each engine family must indicate specifically the designated use of the credits involved (manufacturer/remanufacturer and engine family, reserved or transfer). All such reports shall include all credits involved in certification averaging, banking, or trading.

(c) Manufacturers and remanufacturers must monitor projected versus actual production throughout the model year to ensure that compliance with emission standards is achieved at the end of the model year.

(d) At the end of the model year, the manufacturer or remanufacturer must provide the end-of-year reports required under § 92.309.

(1) Projected credits based on the information supplied in the certification application may be used to obtain a certificate of conformity. However, any such projected credits must be validated based on review of the end of model year reports and may be revoked at a later time based on follow-up audits or any other verification measure deemed appropriate by the Administrator.

(2) Compliance for engine families using averaging, banking, or trading will be determined at the end of the model year. Manufacturers and remanufacturers that have certified engine families with credit balances for NO_X and/or PM that do not equal or exceed zero shall be in violation of the conditions of the certificate of conformity for such engine families. The certificate of conformity may be voided *ab initio* for those engine families.

(e) Other conditions of certification.

(1) All certificates issued are conditional upon compliance by the manufacturer or remanufacturer with the provisions of this subpart both during and after the calendar year of production.

(2) Failure to comply with all provisions of this subpart will be considered to be a failure to satisfy the conditions upon which the certificate was issued, and the certificate may be deemed void *ab initio.*

(3) The manufacturer or remanufacturer (as applicable) bears the burden of establishing to the satisfaction of the Administrator that the conditions upon which the certificate was issued were satisfied or waived.

§ 92.307 Labeling.

For all locomotives and locomotive engines included in the certification averaging, banking, and trading program, the FEL to which the locomotive or locomotive engine is certified must be included on the label required in § 92.212. This label must include the notification specified in § 92.304(n).

§ 92.308 Maintenance of records.

(a) The manufacturer or remanufacturer of any locomotive or locomotive engine that is certified under the averaging, banking, and trading program must establish, maintain, and retain the following adequately organized and indexed records for each such locomotive or locomotive engine produced:

(1) EPA engine family and configuration;

(2) Engine identification number;

(3) Engine calendar year and build date;

(4) Rated horsepower;

(5) Purchaser and destination or owner; and

(6) Assembly plant.

(b) The manufacturer or remanufacturer of any engine family that is certified under the averaging, banking, and trading program must establish, maintain, and retain the following adequately organized and indexed records for each such family:

(1) Model year and EPA engine family;

(2) Family Emission Limit (FEL);

(3) Rated horsepower for each configuration;

(4) Projected applicable production/sales volume for the calendar year;

(5) Actual applicable production/sales volume for the calendar year; and

(6) Useful life.

(c) Any manufacturer or remanufacturer producing an engine family participating in trading or transfer of credits must maintain the following records on a quarterly basis for each engine family in the trading program:

(1) The model year and engine family;

(2) The actual quarterly and cumulative applicable production/sales volume;

(3) The values required to calculate credits as given in § 92.305;

(4) The resulting type and number of credits generated/required;

(5) How and where credit surpluses are dispersed; and

(6) How and through what means credit deficits are met.

(d) The manufacturer or remanufacturer must retain all records required to be maintained under this section for a period of 8 years from the due date for the end-of-calendar year report. Records may be retained as hard copy or reduced to microfilm, ADP diskettes, and so forth, depending on the manufacturer's or remanufacturer's record retention procedure; provided, that in every case all information contained in the hard copy is retained.

(e) Nothing in this section limits the Administrator's discretion in requiring the manufacturer or remanufacturer to retain additional records or submit information not specifically required by this section.

(f) Pursuant to a request made by the Administrator, the manufacturer or remanufacturer must submit to the Administrator the information that the manufacturer or remanufacturer is required to retain.

(g) EPA may void *ab initio* a certificate of conformity for an engine family for which the manufacturer or remanufacturer fails to retain the records required in this section or to provide such information to the Administrator upon request.

§ 92.309 Reports.

(a) Manufacturer or remanufacturers must submit the certification information as required under § 92.306, and end-of-year reports each year as part of their participation in certification averaging, banking, and trading programs. All entities involved in credit trades or transfers must submit quarterly reports as specified in paragraph (b) of this section.

(b) Quarterly reports. (1) Those holding or receiving transferred credits as allowed in § 92.303(m) must submit quarterly reports of their holdings or receipts when credits are gained or lost.

(2) The reports shall include the source or recipient of the credits the amount of credits involved plus remaining balances, details regarding the pollutant, duty-cycle, and model year/Tier as well as the information prescribed in § 92.308(c). Copies of contracts related to credit trading or transfer must be included or supplied by the buyer, seller, and broker, as applicable.

(c) End-of-year reports must include the information prescribed in § 92.308(b). The report shall include a calculation of credit balances for each family to show that the summation of the manufacturer's or remanufacturer's use of credits results in a credit balance equal to or greater than zero. The report shall be consistent in detail with the information submitted under § 92.306 and show how credit surpluses were dispersed and how credit shortfalls were met on a family specific basis. The end-of-year report shall incorporate any information reflected in previous quarterly reports.

(d) The applicable production/sales volume for quarterly and end-of-year reports must be based on the location of either the point of first retail sale by the manufacturer or remanufacturer or the point at which the locomotive is placed into service, whichever occurs first. This is called the final product purchase location.

(e) Each quarterly and end-of-year report submitted shall include a statement certifying to the accuracy and authenticity of the material reported therein.

(f) Requirements for submission. (1) Quarterly reports must be submitted within 90 days of the end of the calendar quarter to: Group Manager, Engine Compliance Programs Group, Engine Programs and Compliance Division U.S. Environmental Protection Agency, 6403–J, 401 M St., SW, Washington, D.C. 20460.

(2) End-of-year reports must be submitted within 120 days of the end of the calendar year to: Group Manager, Engine Compliance Programs Group, Engine Programs and Compliance Division, U.S. Environmental Protection Agency, 6403–J, 401 M St., SW, Washington, D.C. 20460.

(3) Failure by a manufacturer or a remanufacturer participating in the averaging, banking, or trading program to submit any quarterly or end-of-year reports in the specified time for all engines is a violation of sections 203(a)(1) and 213 of the Clean Air Act for each locomotive or locomotive engine.

(4) A manufacturer or remanufacturer generating credits for banking only who fails to submit end-of-year reports in the applicable specified time period (120 days after the end of the calendar year) may not use or trade the credits until such reports are received and reviewed by EPA. Use of projected credits pending EPA review is not permitted in these circumstances.

(g) Reporting errors. (1) Errors discovered by EPA or the manufacturer or the remanufacturer as applicable in the end-of-year report, including errors in credit calculation, may be corrected 180-days subsequent to submission of the end-of-year report. Errors discovered by EPA after 180-days shall be correctable if, as a result of the correction, the manufacturer's or remanufacturer's credits are reduced. Errors in the manufacturer's or remanufacturer's favor are not corrected if discovered after the 180-day correction period allowed.

(2) If EPA or the manufacturer or remanufacturer determines that a reporting error occurred on an end of year report previously submitted to EPA under this section, the manufacturer's or remanufacturer's credits and credit calculations will be recalculated. Erroneous positive credits will be void. Erroneous negative credit balances may be corrected by EPA.

(3) If EPA review of a manufacturer's or remanufacturers end-of-year report indicates a credit shortfall, the manufacturer or remanufacturer will be permitted to purchase the necessary credits to bring the credit balance to zero. These credits must be supplied at the ratio of 1.1 credits for each 1.0 credit needed. If sufficient credits are not available to bring the credit balance to zero for the family(ies) involved, EPA may void the certificate(s) for that family(ies) *ab initio*. In addition, all locomotives and locomotive engines within an engine family for which there are insufficient credits will be considered to have violated the conditions of the certificate of conformity and therefore not covered by that certificate.

(4) If within 180 days of receipt of the manufacturer's or remanufacturer's end-of-year report, EPA review determines a reporting error in the manufacturer's or remanufacturer's favor (that is, resulting in an increased credit balance) or if the manufacturer or remanufacturer discovers such an error within 180 days of EPA receipt of the end-of-year report, the credits are restored for use by the manufacturer or remanufacturer.

§ 92.310 Notice of opportunity for hearing.

Any voiding of the certificate under this subpart will be made only after the manufacturer or remanufacturer concerned has been offered an opportunity for a hearing conducted in

accordance with § 92.216 and, if a manufacturer or remanufacturer requests such a hearing, will be made only after an initial decision by the Presiding Officer.

Subpart E—Emission-Related Defect Reporting Requirements, Voluntary Emission Recall Program

§ 92.401 Applicability.

The requirements of this subpart are applicable to manufacturers and remanufacturers of locomotives and locomotive engines subject to the provisions of subpart A of this part. The requirement to report emission-related defects affecting a given class or category of locomotives or locomotive engines applies for eight years from the end of the year in which such locomotives or locomotive engines were manufactured, or remanufactured, as applicable.

§ 92.402 Definitions.

The definitions of subpart A of this part apply to this subpart.

§ 92.403 Emission defect information report.

(a) A manufacturer or remanufacturer must file a defect information report whenever it determines, in accordance with procedures it established to identify either safety-related or performance defects, (or based on other information) that a specific emission-related defect exists in ten or more locomotives or locomotive engines. No report must be filed under this paragraph for any emission-related defect corrected prior to the sale, or reintroduction into service of a remanufactured locomotive or locomotive engine, of the affected locomotives or locomotive engines to an ultimate purchaser.

(b) Defect information reports required under paragraph (a) of this section must be submitted not more than 15 working days after the same emission-related defect is found to effect 10 or more locomotives or locomotive engines. Information required by paragraph (c) of this section that is either not available within 15 working days or is significantly revised must be submitted as it becomes available.

(c) Except as provided in paragraph (b) of this section, each defect report must contain the following information in substantially the format outlined as follows:

(1) The manufacturer's or remanufacturer's corporate name.

(2) A description of the defect.

(3) A description of each class or category of locomotives or locomotive engines potentially affected by the defect including make, model, calendar year produced, purchaser (or owner) and any other information as may be required to identify the locomotives or locomotive engines affected.

(4) For each class or category of locomotives and locomotive engines described in response to paragraph (c)(3) of this section, the following shall also be provided:

(i) The number of locomotives and/or locomotive engines known or estimated to have the defect and an explanation of the means by which this number was determined.

(ii) The address of the plant(s) at which the potentially defective locomotives or locomotive engines were produced.

(5) An evaluation of the emissions impact of the defect and a description of any operational or performance problems which a defective locomotive or locomotive engine might exhibit.

(6) Available emissions data which relate to the defect.

(7) An indication of any anticipated follow-up by the manufacturer or remanufacturer.

§ 92.404 Voluntary emissions recall reporting.

(a) When any manufacturer or remanufacturer initiates a voluntary emissions recall campaign involving a locomotive or locomotive engine, the manufacturer or remanufacturer shall submit to EPA a report describing the manufacturer's or remanufacturer's voluntary emissions recall plan as prescribed by this section within 15 working days of the date owner notification was begun. The report shall contain the following:

(1) A description of each class or category of locomotives or locomotive engines recalled including the number of locomotives or locomotive engines to be recalled, the calendar year if applicable, the make, the model, and such other information as may be required to identify the locomotives or locomotive engines recalled.

(2) A description of the specific modifications, alterations, repairs, corrections, adjustments, or other changes to be made to correct the locomotives or locomotive engines affected by the emission-related defect.

(3) A description of the method by which the manufacturer or remanufacturer will notify locomotive or locomotive engine owners.

(4) A description of the proper maintenance or use, if any, upon which the manufacturer or remanufacturer conditions eligibility for repair under the remedial plan, an explanation of the manufacturer's or remanufacturer's reasons for imposing any such condition, and a description of the proof to be required of a locomotive or locomotive-engine owner to demonstrate compliance with any such condition.

(5) A description of the procedure to be followed by locomotive or locomotive-engine owners to obtain correction of the nonconformity. This shall include designation of the date on or after which the owner can have the nonconformity remedied, the time reasonably necessary to perform the labor to remedy the defect, and the designation of facilities at which the defect can be remedied.

(6) If some or all the nonconforming locomotives or locomotive engines are to be remedied by persons other than authorized warranty agents of the manufacturer or remanufacturer, a description of the class of persons other than authorized warranty agents of the manufacturer or remanufacturer who will remedy the defect.

(7) A copy of any written notification sent to locomotive or locomotive-engine owners.

(8) A description of the system by which the manufacturer or remanufacturer will assure that an adequate supply of parts will be available to perform the repair under the remedial plan including the date by which an adequate supply of parts will be available to initiate the repair campaign, the percentage of the total parts requirement of each person who is to perform the repair under the remedial plan to be shipped to initiate the campaign, and the method to be used to assure the supply remains both adequate and responsive to owner demand.

(9) Three copies of all necessary instructions to be sent to those persons who are to perform the repair under the remedial plan.

(10) A description of the impact of the changes on fuel consumption, operation or performance, and safety of each class or category of locomotives or locomotive engines to be recalled.

(11) A sample of any label to be applied to locomotives or locomotive engines which participate in the voluntary recall campaign.

(b) Unless otherwise specified by the Administrator, the manufacturer or remanufacturer shall report on the progress of the recall campaign by submitting subsequent reports for six consecutive quarters, or until proven that remedial action has been adequately taken on all affected locomotives or locomotive engines, whichever occurs first, commencing with the quarter after the voluntary

emissions recall campaign actually begins. Such reports shall be submitted no later than 25 working days after the close of each calendar quarter. For each class or category of locomotive or locomotive engine subject to the voluntary emissions recall campaign, the quarterly report shall contain the:

(1) Emission recall campaign number, if any, designated by the manufacturer or remanufacturer.

(2) Date owner notification was begun, and date completed.

(3) Number of locomotives or locomotive engines involved in the voluntary emissions recall campaign.

(4) Number of locomotives or locomotive engines known or estimated to be affected by the emission-related defect and an explanation of the means by which this number was determined.

(5) Number of locomotives or locomotive engines inspected pursuant to voluntary emission recall plan.

(6) Number of inspected locomotives or locomotive engines found to be affected by the emissions-related defect.

(7) Number of locomotives or locomotive engines actually receiving repair under the remedial plan.

(8) Number of locomotives or locomotive engines determined to be unavailable for inspection or repair under the remedial plan due to exportation, scrappage, or for other reasons (specify).

(9) Number of locomotives or locomotive engines determined to be ineligible for remedial action due to a failure to properly maintain or use such locomotives or locomotive engines.

(10) Three copies of any service bulletins which relate to the defect to be corrected and which have not previously been reported.

(11) Three copies of all communications transmitted to locomotive or locomotive-engine owners which relate to the defect to be corrected and which have not previously been submitted.

(c) If the manufacturer or remanufacturer determines that any of the information requested in paragraph (b) of this section has changed or was incorrect, revised information and an explanatory note shall be submitted. Answers to paragraphs (b)(5), (6), (7), (8), and (9) of this section shall be cumulative totals.

(d) The manufacturer or remanufacturer shall maintain in a form suitable for inspection, such as computer information storage devices or card files, the names and addresses of locomotive and locomotive-engine owners:

(1) To whom notification was given;

(2) Who received remedial repair or inspection under the remedial plan; and

(3) Who were determined not to qualify for such remedial action when eligibility is conditioned on proper maintenance or use.

(e) The records described in paragraph (d) of this section shall be made available to the Administrator upon request.

§ 92.405 Alternative report formats.

(a) Any manufacturer or remanufacturer may submit a plan for making either of the reports required by §§ 92.403 and 92.404 on computer diskettes, magnetic tape or other machine readable format. The plan shall be accompanied by sufficient technical detail to allow a determination that data requirements of these sections will be met and that the data in such format will be usable by EPA.

(b) Upon approval by the Administrator of the reporting system, the manufacturer or remanufacturer may use such system until otherwise notified by the Administrator.

§ 92.406 Reports filing: record retention.

(a) The reports required by §§ 92.403 and 92.404 shall be sent to: Group Manager, Engine Compliance Programs Group, Engine Programs and Compliance Division, U.S. Environmental Protection Agency, 6403–J, 401 M St., S.W., Washington, D.C. 20460.

(b) The information gathered by the manufacturer or remanufacturer to compile the reports required by §§ 92.403 and 92.404 shall be retained for not less than 8 years from the date of the manufacture of the locomotives or locomotive engines and shall be made available to duly authorized officials of the EPA upon request.

§ 92.407 Responsibility under other legal provisions preserved.

The filing of any report under the provisions of this subpart shall not affect a manufacturer's or a remanufacturer's responsibility to file reports or applications, obtain approval, or give notice under any provision of law.

§ 92.408 Disclaimer of production warranty applicability.

(a) The act of filing an Emission Defect Information Report pursuant to § 92.403 is inconclusive as to the existence of a defect subject to the warranty provided by section 207(a) of the Act.

(b) A manufacturer or remanufacturer may include on each page of its Emission Defect Information Report a disclaimer stating that the filing of a Defect Information Report pursuant to these regulations is not conclusive as to the applicability of the Production Warranty provided by section 207(a) of the Act.

Subpart F—Manufacturer and Remanufacturer Production Line Testing and Audit Programs

§ 92.501 Applicability.

The requirements of this subpart are applicable to manufacturers and remanufacturers of locomotives and locomotive engines subject to the provisions of subpart A of this part, except as follows:

(a) The requirements of §§ 92.503, 92.505, 92.506, 92.507, 92.508, and 92.510 only apply to manufacturers of freshly manufactured locomotives or locomotive engines (including those used for repowering). The Administrator may also apply these requirements to remanufacturers of any locomotives or locomotive engines for which there is reason to believe production problems exist that could affect emissions performance. EPA will notify such remanufacturers when it makes a determination that production problems may exist that could affect emissions performance, and the requirements of these sections shall apply as specified in the notice.

(b) The requirements of § 92.511 only apply to remanufacturers of locomotives and locomotive engines.

§ 92.502 Definitions.

The definitions in subpart A of this part apply to this subpart.

§ 92.503 General Requirements.

(a) Manufacturers (and remanufacturers, where applicable) shall test production line locomotives or locomotive engines using the test procedures specified in § 92.506. The Administrator may require manufacturers and remanufacturers to conduct production line testing on locomotives. If the Administrator determines that locomotive testing is required, he/she shall notify the manufacturer or remanufacturer, and shall specify in such notice the time period in which the manufacturer or remanufacturer shall complete such testing.

(b) Remanufacturers of locomotives and locomotive engines shall conduct audits pursuant to the requirements of § 92.511 to ensure that remanufactured locomotives and locomotive engines comply with the requirements of this part.

§ 92.504 Right of entry and access.

(a) To allow the Administrator to determine whether a manufacturer or remanufacturer is complying with the provisions of this part, one or more EPA enforcement officers may enter during operating hours and upon presentation of credentials any of the following places:

(1) Any facility, including ports of entry, where any locomotive or locomotive engine is to be introduced into commerce or any emission-related component is manufactured, remanufactured, assembled, or stored;

(2) Any facility where any test or audit conducted pursuant to a manufacturer's or remanufacturer's production line testing or auditing program or any procedure or activity connected with such test or audit is or was performed;

(3) Any facility where any test locomotive or locomotive engine is present; and

(4) Any facility where any record required under § 92.509 or other document relating to this subpart is located.

(b) Upon admission to any facility referred to in paragraph (a) of this section, EPA enforcement officers are authorized to perform the following inspection-related activities:

(1) To inspect and monitor any aspect of locomotive or locomotive engine manufacture, remanufacture, assembly, storage, testing and other procedures, and to inspect and monitor the facilities in which these procedures are conducted;

(2) To inspect and monitor any aspect of locomotive or locomotive engine test procedures or activities, including test locomotive or engine selection, preparation and service accumulation, emission test cycles, and maintenance and verification of test equipment calibration;

(3) To inspect and make copies of any records or documents related to the assembly, storage, selection, and testing of a locomotive or locomotive engine; and

(4) To inspect and photograph any part or aspect of any locomotive or locomotive engine and any component used in the assembly thereof that is reasonably related to the purpose of the entry.

(c) EPA enforcement officers are authorized to obtain reasonable assistance without cost from those in charge of a facility to help the officers perform any function listed in this subpart and they are authorized to request the manufacturer or remanufacturer to make arrangements with those in charge of a facility operated for the manufacturer or remanufacturer's benefit to furnish reasonable assistance without cost to EPA.

(1) Reasonable assistance includes, but is not limited to, clerical, copying, interpretation and translation services; the making available on an EPA enforcement officer's request of personnel of the facility being inspected during their working hours to inform the EPA enforcement officer of how the facility operates and to answer the officer's questions; and the performance on request of emission tests on any locomotive or engine which is being, has been, or will be used for production line testing or auditing.

(2) By written request, signed by the Assistant Administrator for Air and Radiation or the Assistant Administrator for Enforcement and Compliance Assurance, and served on the manufacturer or remanufacturer, a manufacturer or remanufacturer may be compelled to cause the personal appearance of any employee at such a facility before an EPA enforcement officer. Any such employee who has been instructed by the manufacturer or remanufacturer to appear will be entitled to be accompanied, represented, and advised by counsel.

(d) EPA enforcement officers are authorized to seek a warrant or court order authorizing the EPA enforcement officers to conduct the activities authorized in this section, as appropriate, to execute the functions specified in this section. EPA enforcement officers may proceed ex parte to obtain a warrant or court order whether or not the EPA enforcement officers first attempted to seek permission from the manufacturer or remanufacturer or the party in charge of the facility(ies) in question to conduct the activities authorized in this section.

(e) A manufacturer or remanufacturer is responsible for locating its foreign testing, manufacturing, and remanufacturing facilities in jurisdictions where local law does not prohibit an EPA enforcement officer(s) from conducting the activities specified in this section. EPA will not attempt to make any inspections which it has been informed local foreign law prohibits.

§ 92.505 Sample selection for testing.

(a) At the start of each model year, the manufacturer or remanufacturer will begin to randomly select locomotives or locomotive engines from each engine family for production line testing at a rate of one percent. Each locomotive or locomotive engine will be selected from the end of the production line. Testing shall be performed throughout the entire model year to the extent possible.

(1) The required sample size for an engine family is the lesser of five tests per model year or one percent of projected annual production, with a minimum sample size for an engine family of one test per model year provided that no engine tested fails to meet applicable emission standards.

(2) Manufacturers and remanufacturers may elect to test additional locomotives or locomotive engines. All additional locomotives or locomotive engines must be tested in accordance with the applicable test procedures of this part.

(b) The manufacturer or remanufacturer must assemble the test locomotives or locomotive engines using the same mass production process that will be used for locomotives or locomotive engines to be introduced into commerce.

(c) No quality control, testing, or assembly procedures will be used on any test locomotive or locomotive engine or any portion thereof, including parts and subassemblies, that have not been or will not be used during the production and assembly of all other locomotives or locomotive engines of that family, except with the approval of the Administrator.

§ 92.506 Test procedures.

(a)(1) For locomotives and locomotive engines subject to the provisions of this subpart, the prescribed test procedures are those procedures described in subpart B of this part, except as provided in this section.

(2) The Administrator may, on the basis of a written application by a manufacturer or remanufacturer, prescribe test procedures other than those specified in paragraph (a)(1) of this section for any locomotive or locomotive engine he/she determines is not susceptible to satisfactory testing using procedures specified in paragraph (a)(1) of this section.

(3) If test procedures other than those in subpart B were used in certification of the engine family being tested under this subpart (other than alternate test procedures necessary for testing of a development engine instead of a low mileage locomotive or a low hour engine under § 92.9), the manufacturer or remanufacturer shall use the test procedures used in certification for production line testing.

(b)(1) The manufacturer or remanufacturer may not adjust, repair, prepare, modify, or perform any emission test on, any test locomotive or locomotive engine unless this adjustment, repair, preparation,

modification and/or test is documented in the manufacturer's or remanufacturer's locomotive or engine assembly and inspection procedures and is actually performed by the manufacturer or remanufacturer or unless this adjustment, repair, preparation, modification and/or test is required or permitted under this subpart or is approved in advance by the Administrator.

(2) Any adjustable locomotive or locomotive engine parameter must be set to values or positions that are within the range recommended to the ultimate purchaser.

(3) The Administrator may adjust or require to be adjusted any engine parameter which the Administrator has determined to be subject to adjustment for certification and production line testing, to any setting within the specified adjustable range of that parameter, as determined by the Administrator, prior to the performance of any test.

(c) Service Accumulation/Green Engine factor. The manufacturer or remanufacturer shall accumulate service on the locomotives and locomotive engines to be tested equivalent to 300 hours of operation. In lieu of conducting such service accumulation, the manufacturer or remanufacturer may establish a Green Engine factor for each regulated pollutant for each engine family to be used in calculating emissions test results. The manufacturer or remanufacturer shall obtain the approval of the Administrator prior to using a Green Engine factor.

(d) The manufacturer or remanufacturer may not perform any maintenance on test locomotives or locomotive engines after selection for testing.

(e) If a locomotive or locomotive engine is shipped to a facility other than the production facility for production line testing, and an adjustment or repair is necessary because of such shipment, the locomotive or locomotive engine manufacturer or remanufacturer must perform the necessary adjustment or repair only after the initial test of the locomotive or locomotive engine, except where the Administrator has determined that the test would be impossible to perform or would permanently damage the locomotive engine.

(f) If a locomotive or locomotive engine cannot complete the service accumulation, if applicable, or an emission test, because of a malfunction, the manufacturer or remanufacturer may request that the Administrator authorize either the repair of that locomotive or locomotive engine or its deletion from the test sequence.

(g) Retesting. (1) If a locomotive or locomotive engine manufacturer or remanufacturer determines that any production line emission test of a locomotive or locomotive engine is invalid, the locomotive or locomotive engine must be retested in accordance with the requirements of this subpart. Emission results from all tests must be reported to EPA, including test results the manufacturer or remanufacturer determines are invalid. The locomotive or locomotive engine manufacturer or remanufacturer must also include a detailed explanation of the reasons for invalidating any test in the quarterly report required in § 92.508(e). In the event a retest is performed, a request may be made to the Administrator, within ten days of the end of the production quarter, for permission to substitute the after-repair test results for the original test results. The Administrator will either affirm or deny the request by the locomotive or locomotive engine manufacturer or remanufacturer within ten working days from receipt of the request.

§ 92.507 Sequence of testing.

If one or more locomotives or locomotive engines fail a production line test, then the manufacturer or remanufacturer must test two additional locomotives or locomotive engines from the next fifteen produced in that engine family, for each locomotive or locomotive engine that fails.

§ 92.508 Calculation and reporting of test results.

(a) Manufacturers and remanufacturers shall calculate initial test results using the applicable test procedure specified in § 92.506(a). These results must also include the green engine factor, if applicable. The manufacturer or remanufacturer shall round these results, in accordance with ASTM E29–93a (incorporated by reference at § 92.5), to the number of decimal places contained in the applicable emission standard expressed to one additional significant figure.

(b) Final test results shall be calculated by summing the initial test results derived in paragraph (a) of this section for each test locomotive or locomotive engine, dividing by the number of tests conducted on the locomotive or locomotive engine, and rounding in accordance with ASTM E29–93a (incorporated by reference at § 92.5) to the same number of decimal places contained in the applicable standard expressed to one additional significant figure.

(c) Manufacturers and remanufacturers shall calculate the final test results for each test locomotive or locomotive engine by applying the appropriate deterioration factors, derived in the certification process for the engine family, to the final test results, and rounding in accordance with ASTM E 29–93a (incorporated by reference at § 92.5) to the same number of decimal places contained in the applicable standard expressed to one additional significant figure.

(d) If, subsequent to an initial failure of a production line test, the average of the test results for the failed locomotive or locomotive engine and the two additional locomotives or locomotive engines tested, is greater than any applicable emission standard or FEL, the engine family is deemed to be in non-compliance with applicable emission standards, and the manufacturer or remanufacturer must notify EPA within 2 working days of such noncompliance.

(e) Within 30 calendar days of the end of each quarter, each manufacturer or remanufacturer must submit to the Administrator a report which includes the following information:

(1) The location and description of the manufacturer's or remanufacturer's emission test facilities which were utilized to conduct testing reported pursuant to this section;

(2) Total production and sample size for each engine family;

(3) The applicable standards and/or FELs against which each engine family was tested;

(4) A description of the test locomotives or locomotive engines;

(5) For each test conducted:

(i) A description of the test locomotive or locomotive engine, including:

(A) Configuration and engine family identification;

(B) Year, make, and build date;

(C) Engine identification number;

(D) Number of megawatt-hours (or miles if applicable) of service accumulated on locomotive or locomotive engine prior to testing; and

(E) Description of green engine factor; how it is determined and how it is applied;

(ii) Location(s) where service accumulation was conducted and description of accumulation procedure and schedule, if applicable;

(iii) Test number, date, test procedure used, initial test results before and after rounding, and final test results for all production line emission tests conducted, whether valid or invalid, and the reason for invalidation of any test results, if applicable;

(iv) A complete description of any adjustment, modification, repair, preparation, maintenance, and testing which was performed on the test locomotive or locomotive engine, has not been reported pursuant to any other paragraph of this subpart, and will not be performed on other production locomotive or locomotive engines;

(v) Any other information the Administrator may request relevant to the determination whether the new locomotives or locomotive engines being manufactured or remanufactured by the manufacturer or remanufacturer do in fact conform with the regulations with respect to which the certificate of conformity was issued;

(6) For each failed locomotive or locomotive engine as defined in § 92.510(a), a description of the remedy and test results for all retests as required by § 92.512(g);

(7) The date of the end of the locomotive or locomotive engine manufacturer's model year production for each engine family tested; and

(8) The following signed statement and endorsement by an authorized representative of the manufacturer or remanufacturer:

This report is submitted pursuant to Sections 213 and 208 of the Clean Air Act. This production line testing program was conducted in complete conformance with all applicable regulations under 40 CFR part 92. No emission-related changes to production processes or quality control procedures for the engine family tested have been made during this production line testing program that affect locomotives or locomotive engines from the production line. All data and information reported herein is, to the best of (Company Name) knowledge, true and accurate. I am aware of the penalties associated with violations of the Clean Air Act and the regulations thereunder. (Authorized Company Representative.)

§ 92.509 Maintenance of records; submittal of information.

(a) The manufacturer or remanufacturer for any new locomotive or locomotive engine subject to any of the provisions of this subpart must establish, maintain, and retain the following adequately organized and indexed records:

(1) General records. A description of all equipment used to test engines in accordance with § 92.503. The equipment requirements in subpart B of this part apply to tests performed under this subpart.

(2) Individual records. These records pertain to each production line test or audit conducted pursuant to this subpart and include:

(i) The date, time, and location of each test or audit;

(ii) The method by which the green engine factor was calculated or the number of hours of service accumulated on the test locomotive or locomotive engine when the test began and ended;

(iii) The names of all supervisory personnel involved in the conduct of the production line test or audit;

(iv) A record and description of any adjustment, repair, preparation or modification performed on test locomotives or locomotive engines, giving the date, associated time, justification, name(s) of the authorizing personnel, and names of all supervisory personnel responsible for the conduct of the action;

(v) If applicable, the date the locomotive or locomotive engine was shipped from the assembly plant, associated storage facility or port facility, and the date the locomotive or locomotive engine was received at the testing facility;

(vi) A complete record of all emission tests or audits performed pursuant to this subpart (except tests performed directly by EPA), including all individual worksheets and/or other documentation relating to each test, or exact copies thereof, in accordance with the record requirements specified in subpart B of this part;

(vii) A brief description of any significant events during testing not otherwise described under this paragraph (a)(2) of this section , commencing with the test locomotive or locomotive engine selection process and including such extraordinary events as engine damage during shipment.

(3) The manufacturer or remanufacturer must establish, maintain and retain general records, pursuant to paragraph (a)(1) of this section, for each test cell that can be used to perform emission testing under this subpart.

(b) The manufacturer or remanufacturer must retain all records required to be maintained under this subpart for a period of eight (8) years after completion of all testing. Records may be retained as hard copy (i.e., on paper) or reduced to microfilm, floppy disk, or some other method of data storage, depending upon the manufacturer's or remanufacturer's record retention procedure; provided, that in every case, all the information contained in the hard copy is retained.

(c) The manufacturer or remanufacturer must, upon request by the Administrator, submit the following information with regard to locomotive or locomotive engine production:

(1) Projected production for each configuration within each engine family for which certification has been requested and/or approved.

(2) Number of locomotives or engines, by configuration and assembly plant, scheduled for production.

(d) Nothing in this section limits the Administrator's discretion to require a manufacturer or remanufacturer to establish, maintain, retain or submit to EPA information not specified by this section.

(e) All reports, submissions, notifications, and requests for approval made under this subpart must be addressed to: Group Manager, Engine Compliance Programs Group, Engine Programs and Compliance Division 6403-J, U.S. Environmental Protection Agency, 401 M Street SW, Washington, DC 20460.

(f) The manufacturer or remanufacturer must electronically submit the results of its production line testing or auditing using an EPA information format.

§ 92.510 Compliance with criteria for production line testing.

(a) A failed locomotive or locomotive engine is one whose final test results pursuant to § 92.508(c), for one or more of the applicable pollutants, exceed the applicable emission standard or FEL.

(b) An engine family is deemed to be in noncompliance, for purposes of this subpart, if at any time throughout the model year, the average of an initial failed locomotive or locomotive engine and the two additional locomotives or locomotive engines tested, is greater than any applicable emission standard or FEL.

§ 92.511 Remanufactured locomotives: installation audit requirements.

(a) Remanufacturers of locomotives or locomotive engines shall audit the remanufacture of locomotives covered by its certificate(s) of conformity for proper components, component settings and component installations on randomly chosen locomotives in an engine family. Such audits shall be conducted in compliance with the requirements of this section.

(1) The remanufacturer must ensure that all emission related components are properly installed on the locomotive or locomotive engine.

(2) The remanufacturer must ensure that all emission related components are set to the proper specification as indicated in the remanufacture instructions.

(3) Remanufacturers are allowed to submit audits performed by the owners or operators of the locomotives, provided the audits are performed in accordance with the provisions of this section.

(b)(1) The required initial sample size (i.e., the sample size if no failures occur)

for each remanufacturer is five percent of the remanufacturer's annual sales per model year per installer, with a maximum number of ten per engine family per installer.

(2) The locomotives audited shall be randomly selected after the remanufacture is complete. The Administrator may allow the locomotives to be selected prior to the completion of the remanufacture, where such preselection would not have the potential to affect the manner in which the locomotive was remanufactured (e.g., where the installer is not aware of the selection prior to the completion of the remanufacture).

(c) The remanufactured locomotive or locomotive engine may accumulate no more than 10,000 miles prior to an audit.

(d) A failed remanufactured locomotive or locomotive engine is one on which any remanufacture components are found to be improperly installed, improperly adjusted or incorrectly used.

(e) If a remanufactured locomotive or locomotive engine fails an audit, then the remanufacturer must audit two additional locomotives or locomotive engines from the next ten remanufactured in that engine family by that installer.

(f) An engine family is determined to have failed an audit, if at any time during the model year, the remanufacturer determines that the three locomotives audited are found to have had any improperly installed, improperly adjusted or incorrectly used components. The remanufacturer must notify EPA within 2 working days of a determination of an engine family audit failure.

(g) Within 30 calendar days of the end of each quarter, each remanufacturer must submit to the Administrator a report which includes the following information:

(1) The location and description of the remanufacturer's audit facilities which were utilized to conduct auditing reported pursuant to this section;

(2) Total production and sample size for each engine family;

(3) The applicable standards and/or FELs against which each engine family was audited;

(4) For each audit conducted:

(i) A description of the audit locomotive or locomotive engine, including:

(A) Configuration and engine family identification;

(B) Year, make, build date, and remanufacturer date; and

(C) Engine identification number;

(ii) Any other information the Administrator may request relevant to the determination whether the new locomotives or locomotive engines being manufactured or remanufactured by the remanufacturer do in fact conform with the regulations in this part with respect to which the certificate of conformity was issued;

(5) For each failed locomotive or locomotive engine as defined in paragraph (d) of this section, a description of the remedy as required by § 92.512(g);

(6) The following signed statement and endorsement by an authorized representative of the remanufacturer:

This report is submitted pursuant to Sections 213 and 208 of the Clean Air Act. This production line auditing program was conducted in complete conformance with all applicable regulations under 40 CFR part 92. No emission-related changes to production processes or quality control procedures for the engine family audited have been made during this production line auditing program that affect locomotives or locomotive engines from the production line. All data and information reported herein is, to the best of (Company Name) knowledge, true and accurate. I am aware of the penalties associated with violations of the Clean Air Act and the regulations thereunder. (Authorized Company Representative.)

§ 92.512 Suspension and revocation of certificates of conformity.

(a)(1) The certificate of conformity is suspended with respect to any locomotive or locomotive engine that fails a production line test pursuant to § 92.510(a), effective from the time the testing of that locomotive or locomotive engine is completed.

(2) The certificate of conformity is suspended with respect to any locomotive or locomotive engine that fails an audit pursuant to § 92.511(d), effective from the time that auditing of that locomotive or locomotive engine is completed.

(b)(1) The Administrator may suspend the certificate of conformity for an engine family which is in noncompliance pursuant to § 92.510(b), thirty days after the engine family is deemed to be in noncompliance.

(2) The Administrator may suspend the certificate of conformity for an engine family which is determined to have failed an audit pursuant to § 92.511(f). This suspension will not occur before thirty days after the engine family is deemed to be in noncompliance.

(c) If the results of testing or auditing pursuant to these regulations indicate that locomotives or engines of a particular family produced at one plant of a manufacturer or remanufacturer do not conform to the regulations with respect to which the certificate of conformity was issued, the Administrator may suspend the certificate of conformity with respect to that family for locomotives or locomotive engines manufactured or remanufactured by the manufacturer or remanufacturer at all other plants.

(d) The Administrator may suspend a certificate of conformity for any locomotive or locomotive engine family in whole or in part if:

(1) The manufacturer or remanufacturer fails to comply with any of the requirements of this subpart.

(2) The manufacturer or remanufacturer submits false or incomplete information in any report or information provided to the Administrator under this subpart.

(3) The manufacturer or remanufacturer renders inaccurate any test data submitted under this subpart.

(4) An EPA enforcement officer is denied the opportunity to conduct activities authorized in this subpart.

(5) An EPA enforcement officer is unable to conduct activities authorized in § 92.504 for any reason.

(e) The Administrator shall notify the manufacturer or remanufacturer in writing of any suspension or revocation of a certificate of conformity in whole or in part; a suspension or revocation is effective upon receipt of such notification or thirty days from the time an engine family is deemed to be in noncompliance under §§ 92.508(d), 92.510(a), 92.510(b) or 92.511(f) is made, whichever is earlier, except that the certificate is immediately suspended with respect to any failed locomotives or locomotive engines as provided for in paragraph (a) of this section.

(f) The Administrator may revoke a certificate of conformity for an engine family when the certificate has been suspended pursuant to paragraph (b) or (c) of this section if the remedy is one requiring a design change or changes to the locomotive, engine and/or emission control system as described in the application for certification of the affected engine family.

(g) Once a certificate has been suspended for a failed locomotive or locomotive engine, as provided for in paragraph (a) of this section, the manufacturer or remanufacturer must take the following actions before the certificate is reinstated for that failed locomotive or locomotive engine:

(1) Remedy the nonconformity;

(2) Demonstrate that the locomotive or locomotive engine conforms to applicable standards or family emission limits by retesting, or reauditing if applicable, the locomotive or

locomotive engine in accordance with this part; and

(3) Submit a written report to the Administrator, after successful completion of testing, or auditing if applicable, on the failed locomotive or locomotive engine, which contains a description of the remedy and test (or audit) results for each locomotive or engine in addition to other information that may be required by this part.

(h) Once a certificate for a failed engine family has been suspended pursuant to paragraph (b) or (c) of this section, the manufacturer or remanufacturer must take the following actions before the Administrator will consider reinstating the certificate:

(1) Submit a written report to the Administrator which identifies the reason for the noncompliance of the locomotives or locomotive engines, describes the remedy, including a description of any quality control and/or quality assurance measures to be taken by the manufacturer or remanufacturer to prevent future occurrences of the problem, and states the date on which the remedies will be implemented.

(2) Demonstrate that the engine family for which the certificate of conformity has been suspended does in fact comply with the regulations of this part by testing, or auditing if applicable, locomotives or engines selected from normal production runs of that engine family. Such testing (or auditing) must comply with the provisions of this subpart. If the manufacturer or remanufacturer elects to continue testing, or auditing if applicable, individual locomotives or engines after suspension of a certificate, the certificate is reinstated for any locomotive or engine actually determined to be in conformance with the applicable standards or family emission limits through testing, or auditing if applicable, in accordance with the applicable test procedures, provided that the Administrator has not revoked the certificate pursuant to paragraph (f) of this section.

(i) Once the certificate has been revoked for an engine family, if the manufacturer or remanufacturer desires to continue introduction into commerce of a modified version of that family, the following actions must be taken before the Administrator may issue a certificate for that modified family:

(1) If the Administrator determines that the change(s) in locomotive or engine design may have an effect on emission performance deterioration, the Administrator shall notify the manufacturer or remanufacturer, within five working days after receipt of the report in paragraph (g) of this section, whether subsequent testing or auditing if applicable, under this subpart will be sufficient to evaluate the change or changes or whether additional testing or auditing will be required; and

(2) After implementing the change or changes intended to remedy the nonconformity, the manufacturer or remanufacturer must demonstrate that the modified engine family does in fact conform with the regulations of this part by testing, or auditing if applicable, locomotives or engines selected from normal production runs of that engine family. When both of these requirements are met, the Administrator shall reissue the certificate or issue a new certificate, as the case may be, to include that family. If this subsequent testing, or auditing if applicable, reveals failing data the revocation remains in effect.

(j) At any time subsequent to an initial suspension of a certificate of conformity for a test or audit locomotive or engine pursuant to paragraph (a) of this section, but not later than 30 days (or such other period as may be allowed by the Administrator) after notification of the Administrator's decision to suspend or revoke a certificate of conformity in whole or in part pursuant to paragraphs (b), (c), or (f) of this section, a manufacturer or remanufacturer may request a hearing as to whether the tests or audits have been properly conducted or any sampling methods have been properly applied.

(k) Any suspension of a certificate of conformity under paragraphs (a), (b), (c) and (d) of this section:

(1) Shall be made only after the manufacturer or remanufacturer concerned has been offered an opportunity for a hearing conducted in accordance with §§ 92.513, 92.514, and 92.515 and

(2) Need not apply to locomotives or engines no longer in the possession of the manufacturer or remanufacturer.

(l) After the Administrator suspends or revokes a certificate of conformity pursuant to this section or voids a certificate of conformity under § 92.215, and prior to the commencement of a hearing under § 92.513, if the manufacturer or remanufacturer demonstrates to the Administrator's satisfaction that the decision to suspend, revoke, or void the certificate was based on erroneous information, the Administrator shall reinstate the certificate.

(m) To permit a manufacturer or remanufacturer to avoid storing non-test locomotives or locomotive engines while conducting subsequent testing or auditing of the noncomplying family, a manufacturer or remanufacturer may request that the Administrator conditionally reinstate the certificate for that family. The Administrator may reinstate the certificate subject to the following condition: the manufacturer or remanufacturer must commit to recall all locomotives or locomotive engines of that family produced from the time the certificate is conditionally reinstated if the family fails subsequent testing, or auditing if applicable, and must commit to remedy any nonconformity at no expense to the owner.

§ 92.513 Request for public hearing.

(a) If the manufacturer or remanufacturer disagrees with the Administrator's decision to suspend or revoke a certificate or disputes the basis for an automatic suspension pursuant to § 92.512(a), the manufacturer or remanufacturer may request a public hearing.

(b) The manufacturer's or remanufacturer's request shall be filed with the Administrator not later than 30 days after the Administrator's notification of his or her decision to suspend or revoke, unless otherwise specified by the Administrator. The manufacturer or remanufacturer shall simultaneously serve two copies of this request upon the Director of the Engine Programs and Compliance Division, Office of Mobile Sources and file two copies with the Hearing Clerk of the Agency. Failure of the manufacturer or remanufacturer to request a hearing within the time provided constitutes a waiver of the right to a hearing. Subsequent to the expiration of the period for requesting a hearing as of right, the Administrator may, in his or her discretion and for good cause shown, grant the manufacturer or remanufacturer a hearing to contest the suspension or revocation.

(c) A manufacturer or remanufacturer shall include in the request for a public hearing:

(1) A statement as to which configuration(s) within a family is to be the subject of the hearing;

(2) A concise statement of the issues to be raised by the manufacturer or remanufacturer at the hearing, except that in the case of the hearing requested under § 92.512(j), the hearing is restricted to the following issues:

(i) Whether tests or audits have been properly conducted (specifically, whether the tests were conducted in accordance with applicable regulations under this part and whether test equipment was properly calibrated and functioning);

(ii) Whether there exists a basis for distinguishing locomotives or

locomotive engines produced at plants other than the one from which locomotives or locomotive engines were selected for testing or auditing which would invalidate the Administrator's decision under § 92.512(c));

(3) A statement specifying reasons why the manufacturer or remanufacturer believes it will prevail on the merits of each of the issues raised; and

(4) A summary of the evidence which supports the manufacturer's or remanufacturer's position on each of the issues raised.

(d) A copy of all requests for public hearings will be kept on file in the Office of the Hearing Clerk and will be made available to the public during Agency business hours.

§ 92.514 Administrative procedures for public hearing.

(a) The Presiding Officer shall be an Administrative Law Judge appointed pursuant to 5 U.S.C. 3105 (see also 5 CFR part 930).

(b) The Judicial Officer shall be an officer or employee of the Agency appointed as a Judicial Officer by the Administrator, pursuant to this section, who shall meet the qualifications and perform functions as follows:

(1) *Qualifications.* A Judicial Officer may be a permanent or temporary employee of the Agency who performs other duties for the Agency. The Judicial Officer shall not be employed by the Office of Enforcement or have any connection with the preparation or presentation of evidence for a hearing held pursuant to this subpart. The Judicial Officer shall be a graduate of an accredited law school and a member in good standing of a recognized Bar Association of any state or the District of Columbia.

(2) *Functions.* The Administrator may consult with the Judicial Officer or delegate all or part of the Administrator's authority to act in a given case under this section to a Judicial Officer, provided that this delegation does not preclude the Judicial Officer from referring any motion or case to the Administrator when the Judicial Officer determines such referral to be appropriate.

(c) For the purposes of this section, one or more Judicial Officers may be designated by the Administrator. As work requires, a Judicial Officer may be designated to act for the purposes of a particular case.

(d) *Summary decision.* (1) In the case of a hearing requested under § 92.512(j), when it clearly appears from the data and other information contained in the request for a hearing that no genuine and substantial question of fact or law exists with respect to the issues specified in § 92.513(c)(2), the Administrator may enter an order denying the request for a hearing and reaffirming the original decision to suspend or revoke a certificate of conformity.

(2) In the case of a hearing requested under § 92.513 to challenge a suspension of a certificate of conformity for the reason(s) specified in § 92.512(d), when it clearly appears from the data and other information contained in the request for the hearing that no genuine and substantial question of fact or law exists with respect to the issue of whether the refusal to comply with this subpart was caused by conditions and circumstances outside the control of the manufacturer or remanufacturer, the Administrator may enter an order denying the request for a hearing and suspending the certificate of conformity.

(3) Any order issued under paragraph (d)(1) or (d)(2) of this section has the force and effect of a final decision of the Administrator, as issued pursuant to § 92.516.

(4) If the Administrator determines that a genuine and substantial question of fact or law does exist with respect to any of the issues referred to in paragraphs (d)(1) and (d)(2) of this section, the Administrator shall grant the request for a hearing and publish a notice of public hearing in the **Federal Register** or by such other means as the Administrator finds appropriate to provide notice to the public.

(e) *Filing and service.* (1) An original and two copies of all documents or papers required or permitted to be filed pursuant to this section and § 92.513(c) must be filed with the Hearing Clerk of the Agency. Filing is considered timely if mailed, as determined by the postmark, to the Hearing Clerk within the time allowed by this section and § 92.513(b). If filing is to be accomplished by mailing, the documents must be sent to the address set forth in the notice of public hearing referred to in paragraph (d)(4) of this section.

(2) To the maximum extent possible, testimony will be presented in written form. Copies of written testimony will be served upon all parties as soon as practicable prior to the start of the hearing. A certificate of service will be provided on or accompany each document or paper filed with the Hearing Clerk. Documents to be served upon the Director of the Engine Programs and Compliance Division must be sent by registered mail to: Director, Engine Programs and Compliance Division 6403–J, U.S. Environmental Protection Agency, 401 M Street S.W., Washington, D.C. 20460. Service by registered mail is complete upon mailing.

(f) *Computation of time.* (1) In computing any period of time prescribed or allowed by this section, except as otherwise provided, the day of the act or event from which the designated period of time begins to run is not included. Saturdays, Sundays, and federal legal holidays are included in computing the period allowed for the filing of any document or paper, except that when the period expires on a Saturday, Sunday, or federal legal holiday, the period is extended to include the next following business day.

(2) A prescribed period of time within which a party is required or permitted to do an act is computed from the time of service, except that when service is accomplished by mail, three days will be added to the prescribed period.

(g) *Consolidation.* The Administrator or the Presiding Officer in his or her discretion may consolidate two or more proceedings to be held under this section for the purpose of resolving one or more issues whenever it appears that consolidation will expedite or simplify consideration of these issues. Consolidation does not affect the right of any party to raise issues that could have been raised if consolidation had not occurred.

(h) *Hearing date.* To the extent possible hearings under § 92.513 will be scheduled to commence within 14 days of receipt of the request for a hearing.

§ 92.515 Hearing procedures.

The procedures provided in § 86.1014–84(i) through (s) of this chapter apply for hearings requested pursuant to § 92.513 regarding suspension, revocation, or voiding of a certificate of conformity.

§ 92.516 Appeal of hearing decision.

The procedures provided in § 86.1014–84(t) through (aa) of this chapter apply for appeals filed with respect to hearings held pursuant to § 92.515.

§ 92.517 Treatment of confidential information.

Except for information required by § 92.508(e)(2) and quarterly emission test results described in § 92.508(e), information submitted pursuant to this subpart shall be made available to the public by EPA notwithstanding any claim of confidentiality made by the submitter. The provisions for treatment of confidential information described in § 92.4 apply to the information required by § 92.508(e)(2) and all other

information submitted pursuant to this subpart.

Subpart G—In-Use Testing Program

§ 92.601 Applicability.

The requirements of this subpart are applicable to all manufacturers and remanufacturers of locomotives subject to the provisions of subpart A of this part, including all locomotives powered by any locomotive engines subject to the provisions of subpart A of this part.

§ 92.602 Definitions.

Except as otherwise provided, the definitions in subpart A of this part apply to this subpart.

§ 92.603 General provisions.

(a) EPA shall annually identify engine families and configurations within families on which the manufacturer or remanufacturer must conduct in-use emissions testing pursuant to the requirements of this section.

(1) Manufacturers and remanufacturers shall test one locomotive engine family each year for which it has received a certificate of conformity from EPA. Where a manufacturer holds certificates of conformity for both freshly manufactured and remanufactured locomotive engine families, the Administrator may require the manufacturer to test one freshly manufactured engine family and one remanufactured engine family. The Administrator may require a manufacturer or remanufacturer to test additional engine families if he/she has reason to believe that locomotives in an engine family do not comply with emission standards in use.

(2) For engine families of less than 10 locomotives per year, no in-use testing will be required, unless the Administrator has reason to believe that those engine families are not complying with the applicable emission standards in use.

(b) Locomotive manufacturers or remanufacturers shall perform emission testing of a sample of in-use locomotives from an engine family, as specified in § 92.605. Manufacturers or remanufacturers shall submit data from this in-use testing to EPA. EPA will use these data, and any other data available to EPA, to determine the compliance status of classes of locomotives, including for purposes of subpart H of this part, and whether remedial action is appropriate.

§ 92.604 In-use test procedure.

(a) Testing conducted under this subpart shall be conducted on locomotives; testing under this subpart shall not be conducted using an engine that is not installed in a locomotive at the time of testing.

(b) Locomotives tested under this subpart shall be tested using the locomotive test procedures outlined in subpart B of this part, except as provided in this section.

(c) The test procedures used for in-use testing shall be consistent with the test procedures used for certification, except for cases in which certification testing was not conducted with locomotive, but with a development engine, or other engine. In such cases, the Administrator shall require deviations from the certification test procedures as appropriate, including requiring that the test be conducted on a locomotive. The Administrator may allow or require other alternate procedures, with advance approval. For all testing conducted under this subpart, emission rates shall be calculated in accordance with the provisions of subpart B of this part that apply to locomotive testing.

(d) Any adjustable locomotive or locomotive engine parameter must be set to values or positions that are within the range specified in the certificate of conformity. If so directed by the Administrator, the manufacturer or remanufacturer will set these parameters to values specified by the Administrator.

(e) The Administrator may waive portions or requirements of the applicable test procedure, if any, that are not necessary to determine in-use compliance.

§ 92.605 General testing requirements.

(a) *Number of locomotives to be tested.* The manufacturer or remanufacturer shall test in-use locomotives, from an engine family selected by EPA, which have accumulated between one-half and three-quarters of the engine family's useful life. The number of locomotives to be tested by a manufacturer or remanufacturer will be determined by the following method:

(1) A minimum of 2 locomotives per engine family per year for each engine family that reaches the minimum age specified above provided that no locomotive tested fails to meet any applicable standard. For each failing locomotive, two more locomotives shall be tested until the total number of locomotives tested equals 10, except as provided in paragraph (a)(2) of this section.

(2) If an engine family has not changed from one year to the next and has certified using carry over emission data and has been previously tested under paragraph (a)(1) of this section (and EPA has not ordered or begun to negotiate remedial action of that family), then only one locomotive per engine family per year must be tested. If such locomotive fails to meet applicable standards for any pollutant, testing for that engine family must be conducted as outlined under paragraph (a)(1) of this section.

(b) At the discretion of the Administrator, a locomotive or locomotive engine manufacturer or remanufacturer may test more locomotives than the minima described above or may concede failure before locomotive number 10.

(c) The Administrator will consider failure rates, average emission levels and the existence of any defects among other factors in determining whether to pursue remedial action. The Administrator may order a recall pursuant to subpart H of this part before testing reaches the tenth locomotive.

(d) *Collection of in-use locomotives.* The locomotive manufacturer or remanufacturer shall procure in-use locomotives which have been operated for between one-half and three-quarters of the locomotive's useful life for testing under this subpart. The manufacturer or remanufacturer shall complete testing required by this section for any engine family before useful life of the locomotives in the engine family passes.

§ 92.606 Maintenance, procurement and testing of in-use locomotives.

(a) A test locomotive must have a maintenance history that is representative of actual in-use conditions, and identical or equivalent to the manufacturer's or remanufacturer's recommended emission-related maintenance requirements.

(1) In procuring in-use locomotives for in-use testing, a manufacturer or remanufacturer shall question the end users regarding the accumulated usage, maintenance, operating conditions, and storage of the test locomotives.

(2) The selection of test locomotives is made by the manufacturer or remanufacturer, and is subject to EPA approval. Information used by the manufacturer or remanufacturer to procure locomotives for in-use testing shall be maintained as required in § 92.215.

(b) The manufacturer or remanufacturer may perform minimal set-to-spec maintenance on a test locomotive prior to conducting in-use testing. Maintenance may include only that which is listed in the owner's instructions for locomotives with the amount of service and age of the acquired test locomotive.

Documentation of all maintenance and adjustments shall be maintained and retained.

(c) Results of one valid emission test using the test procedure outlined in subpart B of this part is required for each in-use locomotive.

(d) If in-use testing results show that an in-use locomotive fails to comply with any applicable emission standards, the manufacturer or remanufacturer shall determine the reason for noncompliance. The manufacturer or remanufacturer must report all determinations for noncompliance in its quarterly in-use test result report pursuant to § 92.607(a)(11).

§ 92.607 In-use test program reporting requirements.

(a) The manufacturer or remanufacturer shall submit to the Administrator within three (3) months of completion of testing all emission testing results generated from the in-use testing program. The following information must be reported for each locomotive tested:

(1) Engine family, and configuration;

(2) Locomotive and engine models;

(3) Locomotive and engine serial numbers;

(4) Date of manufacture and/or remanufacture(s), as applicable;

(5) Megawatt-hours of use (or miles, as applicable);

(6) Date and time of each test attempt;

(7) Results (if any) of each test attempt;

(8) Results of all emission testing;

(9) Summary of all maintenance and/or adjustments performed;

(10) Summary of all modifications and/or repairs;

(11) Determinations of noncompliance; and

(12) The following signed statement and endorsement by an authorized representative of the manufacturer or remanufacturer:

This report is submitted pursuant to Sections 213 and 208 of the Clean Air Act. This in-use testing program was conducted in complete conformance with all applicable regulations under 40 CFR part 92. All data and information reported herein is, to the best of (Company Name) knowledge, true and accurate. I am aware of the penalties associated with violations of the Clean Air Act and the regulations thereunder. (Authorized Company Representative.)

(b) The manufacturer or remanufacturer shall report to the Administrator within three (3) months of completion of testing the following information for each engine family tested:

(1) The serial numbers of all locomotive that were excluded from the test sample because they did not meet the maintenance requirements of § 92.606;

(2) The owner of each locomotive identified in paragraph (b)(1) of this section (or other entity responsible for the maintenance of the locomotive); and

(3) The specific reasons why the locomotives were excluded from the test sample.

(c) The manufacturer or remanufacturer must submit, via floppy disk, the information outlined in paragraphs (a) and (b) of this section using a pre-approved information heading. The Administrator may exempt manufacturers or remanufacturers from this requirement upon written request with supporting justification.

(d) All testing reports and requests for approvals made under this subpart shall be addressed to: Group Manager, Engine Compliance Programs Group, Engine Programs and Compliance Division, U.S. Environmental Protection Agency, 6403–J, 401 M Street S.W., Washington, D.C. 20460.

Subpart H—Recall Regulations

§ 92.701 Applicability.

The requirements of subpart H of this part are applicable to all manufacturers and remanufacturers of locomotives and locomotive engines subject to the provisions of subpart A of this part.

§ 92.702 Definitions.

The definitions of subpart A of this part apply to this subpart.

§ 92.703 Voluntary emissions recall.

(a) Prior to an EPA ordered recall, a manufacturer or remanufacturer may perform (without petition) a voluntary emissions recall pursuant to regulations in subpart E of this part. Such manufacturer or remanufacturer is subject to the reporting requirements in subpart E of this part.

(b) If a determination of nonconformity with the requirements of section 213 of the Act is made (i.e. if EPA orders a recall under the provisions of section 207(c)), the manufacturer(s) or remanufacturer(s) will not have the option of an alternate remedial action and an actual recall would be required.

§ 92.704 Notice to manufacturer or remanufacturer of nonconformity; submission of remedial plan.

(a) The manufacturer or remanufacturer will be notified whenever the Administrator has determined that a substantial number of a class or category of locomotives or locomotive engines produced by that manufacturer or remanufacturer, although properly maintained and used, do not conform to the regulations prescribed under the Act in effect during, and applicable to the model year of such locomotives or locomotive engines. The notification will include a description of each class or category of locomotives or locomotive engines encompassed by the determination of nonconformity, will give the factual basis for the determination of nonconformity (except information previously provided the manufacturer or remanufacturer by the Agency), and will designate a date, no sooner than 45 days from the date of receipt of such notification, by which the manufacturer or remanufacturer shall have submitted a plan to remedy the nonconformity.

(b) Unless a hearing is requested pursuant to § 92.709, the remedial plan shall be submitted to the Administrator within the time limit specified in the Administrator's notification, provided that the Administrator may grant a manufacturer or remanufacturer an extension upon good cause shown.

(c) If a manufacturer or remanufacturer requests a public hearing pursuant to § 92.709, unless as a result of such hearing the Administrator withdraws his determination of nonconformity, the manufacturer or remanufacturer shall submit the remedial plan within 30 days of the end of such hearing.

§ 92.705 Remedial plan.

(a) When any manufacturer or remanufacturer is notified by the Administrator that a substantial number of any class or category of locomotives or locomotive engines, although properly maintained and used, do not conform to the applicable regulations of this part (including emission standards or family emission limits), the manufacturer or remanufacturer shall submit a plan to the Administrator to remedy such nonconformity. The plan shall contain the following:

(1) A description of each class or category of locomotive or locomotive engine to be recalled including the year(s) of manufacture or remanufacture, the make, the model, the calendar year and such other information as may be required to identify the locomotives or locomotive engines to be recalled.

(2) A description of the specific modifications, alterations, repairs, corrections, adjustments or other changes to be made to bring the locomotives or locomotive engines into conformity, including a brief summary of the data and technical studies which support the manufacturer's or remanufacturer's decision as to the

particular remedial changes to be used in correcting the nonconformity.

(3) A description of the method by which the manufacturer or remanufacturer will determine the names and addresses of locomotive or locomotive engine owners.

(4) A description of the proper maintenance or use, if any, upon which the manufacturer or remanufacturer conditions eligibility for repair under the remedial plan, an explanation of the manufacturer's or remanufacturer's reasons for imposing any such condition, and a description of the proof to be required of a locomotive or locomotive engine owner to demonstrate compliance with any such condition. Eligibility may not be denied solely on the basis that the locomotive or locomotive engine owner used parts not manufactured or remanufactured by the original locomotive or locomotive engine manufacturer or remanufacturer, or had repairs not performed by such manufacturer or remanufacturer. No maintenance or use condition may be imposed unless it is, in the judgement of the Administrator, demonstrably related to preventing the nonconformity.

(5) A description of the procedure to be followed by locomotive or locomotive engine owners to obtain correction of the nonconformity. This shall include designation of the date on or after which the owner can have the nonconformity remedied, the time reasonably necessary to perform the labor required to correct the nonconformity, and the designation of facilities at which the nonconformity can be remedied: *Provided,* That repair shall be completed within a reasonable time designated by the Administrator from the date the owner first tenders his locomotive or locomotive engine after the date designated by the manufacturer or remanufacturer as the date on or after which the owner can have the nonconformity remedied.

(6) If some or all of the nonconforming locomotives or locomotive engines are to be remedied by persons other than authorized warranty agents of the manufacturer or remanufacturer, a description of the class of persons other than authorized warranty agents of the manufacturer or remanufacturer who will remedy the nonconformity, and a statement indicating that the participating members of the class will be properly equipped to perform such remedial action.

(7) Three copies of the letters of notification to be sent to locomotive or locomotive engine owners.

(8) A description of the system by which the manufacturer or remanufacturer will assure that an adequate supply of parts will be available to perform the repair under the remedial plan including the date by which an adequate supply of parts will be available to initiate the repair campaign, the percentage of the total parts requirement of each person who is to perform the repair under the remedial plan to be shipped to initiate the campaign, and the method to be used to assure the supply remains both adequate and responsive to owner demand.

(9) Three copies of all necessary instructions to be sent to those persons who are to perform the repair under the remedial plan.

(10) A description of the impact of the changes on fuel consumption, operability, and safety of each class or category of locomotives or locomotive engines to be recalled and a brief summary of the data, technical studies, or engineering evaluations which support these conclusions.

(11) Any other information, reports or data which the Administrator may reasonably determine is necessary to evaluate the remedial plan.

(b)(1) Notification to locomotive or locomotive engine owners shall be made by first class mail or by such means as approved by the Administrator.

(2) The manufacturer or remanufacturer shall use all reasonable means necessary to locate locomotive or locomotive engine owners.

(3) The Administrator reserves the right to require the manufacturer or remanufacturer to send by certified mail or other reasonable means subsequent notification to locomotive or locomotive engine owners.

(c)(1) The manufacturer or remanufacturer shall require those who perform the repair under the remedial plan to affix a label to each locomotive or locomotive engine repaired or, when required, inspected under the remedial plan.

(2) The label shall be placed in such location as approved by the Administrator consistent with Federal Railroad Administration regulations and shall be fabricated of a material suitable for the location in which it is installed and which is not readily removable intact.

(3) The label shall contain:

(i) The recall campaign number; and

(ii) A code designating the campaign facility at which the repair, or inspection for repair was performed.

(4) The Administrator reserves the right to waive any or all of the requirements of this paragraph (c) if he/she determines that they constitute an unwarranted burden to the manufacturer or remanufacturer.

(d) The Administrator may require the manufacturer or remanufacturer to conduct tests on components and locomotives or locomotive engines incorporating a change, repair, or modification reasonably designed and necessary to demonstrate the effectiveness of the change, repair, or modification.

Note to § 92.705: An interpretive ruling regarding § 92.705 is published in Appendix II to this part.

§ 92.706 Approval of plan: implementation.

(a) If the Administrator finds that the remedial plan is designed and effective to correct the nonconformity, he/she will so notify the manufacturer or remanufacturer in writing. If the remedial plan is not approved, the Administrator will provide the manufacturer or remanufacturer notice of the disapproval and the reasons for the disapproval in writing.

(b) Upon receipt of notice from the Administrator that the remedial plan has been approved, the manufacturer or remanufacturer shall commence implementation of the approved plan. Notification of locomotive or locomotive engine owners shall be in accordance with requirements of this subpart and shall proceed as follows:

(1) When no public hearing as described in § 92.709 is requested by the manufacturer or remanufacturer, notification of locomotive or locomotive engine owners shall commence within 15 working days of the receipt by the manufacturer or remanufacturer of the Administrator's approval unless otherwise specified by the Administrator.

(2) When a public hearing as described in § 92.709 is held, unless as a result of such hearing the Administrator withdraws the determination of nonconformity, the Administrator shall, within 60 days after the completion of such hearing, order the manufacturer or remanufacturer to provide prompt notification of such nonconformity.

§ 92.707 Notification to locomotive or locomotive engine owners.

(a) The notification of locomotive or locomotive engine owners shall contain the following:

(1) The statement: ''The Administrator of the U.S. Environmental Protection Agency has determined that your locomotive or locomotive engine may be emitting pollutants in excess of the federal emission standards or family emission limits, as defined in 40 CFR Part 92. These standards or family

emission limits, as defined in 40 CFR Part 92 were established to protect the public health or welfare from the dangers of air pollution.''

(2) A statement that the nonconformity of any such locomotives or locomotive engines which have been, if required by the remedial plan, properly maintained and used, will be remedied at the expense of the manufacturer or remanufacturer.

(3) A description of the proper maintenance or use, if any, upon which the manufacturer or remanufacturer conditions eligibility for repair under the remedial plan and a description of the proof to be required of a locomotive or locomotive engine owner to demonstrate compliance with such condition. Eligibility may not be denied solely on the basis that the locomotive or locomotive engine owner used parts not manufactured or remanufactured by the manufacturer or remanufacturer, or had repairs not performed by the manufacturer or remanufacturer.

(4) A clear description of the components which will be affected by the remedy and a general statement of the measures to be taken to correct the nonconformity.

(5) A description of the adverse effects, if any, that an uncorrected nonconformity would have on the performance or operability of the locomotive or locomotive engine.

(6) A description of the adverse effects, if any, that such nonconformity would have on the performance or operability of the locomotive or locomotive engine.

(7) A description of the average effects, if any, that such nonconformity would have on the functions of other locomotive or locomotive engine components.

(8) A description of the procedure which the locomotive or locomotive engine owner should follow to obtain correction of the nonconformity. This shall include designation of the date on or after which the owner can have the nonconformity remedied, the time reasonably necessary to perform the labor required to correct the nonconformity, and the designation of facilities at which the nonconformity can be remedied.

(9) A telephone number provided by the manufacturer or remanufacturer, which may be used to report difficulty in obtaining recall repairs.

(10) The statement: ''In order to ensure your full protection under the emission warranty made applicable to your (locomotive or locomotive engine) by federal law, and your right to participate in future recalls, it is recommended that you have (locomotive or locomotive engine) serviced as soon as possible. Failure to do so could legally be determined to be a lack of proper maintenance of your (locomotive or locomotive engine).''

(b) No notice sent pursuant to paragraph (a) of this section nor any other contemporaneous communication sent to locomotive or locomotive engine owners or dealers shall contain any statement or implication that the nonconformity does not exist or that the nonconformity will not degrade air quality.

(c) The manufacturer or remanufacturer shall be informed of any other requirements pertaining to the notification under this section which the Administrator has determined are reasonable and necessary to ensure the effectiveness of the recall campaign.

§ 92.708 Records and reports.

(a) The manufacturer or remanufacturer shall provide to the Administrator a copy of all communications which relate to the remedial plan directed to persons who are to perform the repair under the remedial plan. Such copies shall be mailed to the Administrator contemporaneously with their transmission to persons who are to perform the repair under the remedial plan.

(b) The manufacturer or remanufacturer shall provide for the establishment and maintenance of records to enable the Administrator to conduct a continuing analysis of the adequacy of the recall campaign. The records shall include, for each class or category of locomotive or locomotive engine, but need not be limited to, the following:

(1) Recall campaign number as designated by the manufacturer or remanufacturer.

(2) Date owner notification was begun, and date completed.

(3) Number of locomotives or locomotive engines involved in the recall campaign.

(4) Number of locomotives or locomotive engines known or estimated to be affected by the nonconformity.

(5) Number of locomotives or locomotive engines inspected pursuant to the remedial plan.

(6) Number of inspected locomotives or locomotive engines found to be affected by the nonconformity.

(7) Number of locomotives or locomotive engines actually receiving repair under the remedial plan.

(8) Number of locomotives or locomotive engines determined to be unavailable for inspection or repair under the remedial plan due to exportation, scrapping or for other reasons (specify).

(9) Number of locomotives or locomotive engines determined to be ineligible for remedial action due to a failure to properly maintain or use such locomotives or locomotive engines.

(c) If the manufacturer or remanufacturer determines that the original answers for paragraphs (b)(3) and (b)(4) of this section are incorrect, revised figures and an explanatory note shall be submitted. Answers to paragraphs (b)(5), (b)(6), (b)(7), (b)(8), and (b)(9) of this section shall be cumulative totals.

(d) Unless otherwise directed by the Administrator, the information specified in paragraph (b) of this section shall be included in quarterly reports, with respect to each recall campaign, for six consecutive quarters beginning with the quarter in which the notification of owners was initiated, or until all nonconforming locomotives or locomotive engines involved in the campaign have been remedied, whichever occurs sooner. Such reports shall be submitted no later than 25 working days after the close of each calendar quarter.

(e) The manufacturer or remanufacturer shall maintain in a form suitable for inspection, such as computer information storage devices or card files, lists of the names and addresses of locomotive or locomotive engine owners:

(1) To whom notification was given;

(2) Who received remedial repair or inspection under the remedial plan; and

(3) When eligibility for repair is conditioned on proper maintenance or use, that were determined not to qualify for such remedial action.

(f) The records described in paragraph (e) of this section shall be made available to the Administrator upon request.

(g) The records and reports required by this section shall be retained for not less than eight (8) years.

§ 92.709 Public hearings.

(a) *Definitions.* The following definitions shall be applicable to this section:

(1) *Hearing Clerk* shall mean the Hearing Clerk of the Environmental Protection Agency.

(2) *Intervenor* shall mean a person who files a petition to be made an intervenor pursuant to paragraph (g) of this section and whose petition is approved.

(3) *Manufacturer or remanufacturer* refers to a manufacturer or remanufacturer contesting a recall order directed at that manufacturer or remanufacturer.

(4) *Party* shall include the Environmental Protection Agency, the manufacturer or remanufacturer, and any intervenors.

(5) *Presiding Officer* shall mean an Administrative Law Judge appointed pursuant to 5 U.S.C. 3105 (see also 5 CFR part 930).

(6) *Environmental Appeals Board* shall mean the Board within the Agency described in § 1.25 of this chapter. The Administrator delegates authority to the Environmental Appeals Board to issue final decisions in appeals filed under this subpart. Appeals directed to the Administrator, rather than to the Environmental Appeals Board, will not be considered. This delegation of authority to the Environmental Appeals Board does not preclude the Environmental Appeals Board from referring an appeal or a motion filed under this subpart to the Administrator for decision when the Environmental Appeals Board, in its discretion, deems it appropriate to do so. When an appeal or motion is referred to the Administrator, all parties shall be so notified and the rules in this part referring to the Environmental Appeals Board shall be interpreted as referring to the Administrator.

(b) *Request for public hearing.* (1)(i) If the manufacturer or remanufacturer disagrees with the Administrator's finding of nonconformity he may request a public hearing as described in this section. Requests for such a hearing shall be filed with the Administrator not later than 45 days after the receipt of the Administrator's notification of nonconformity unless otherwise specified by the Administrator. Two copies of such request shall simultaneously be served upon the Director of the Engine Programs and Compliance Division and two copies filed with the Hearing Clerk. Failure of the manufacturer or remanufacturer to request a hearing within the time provided shall constitute a waiver of his right to such a hearing. In such a case, the manufacturer or remanufacturer shall carry out the recall order as required by § 92.705.

(ii) Subsequent to the expiration of the period for requesting a hearing as of right, the Administrator may, in his discretion and for good cause shown, grant the manufacturer or remanufacturer a hearing to contest the nonconformity.

(2) The request for a public hearing shall contain:

(i) A statement as to which classes or categories of locomotives or locomotive engines are to be the subject of the hearing;

(ii) A concise statement of the issues to be raised by the manufacturer or remanufacturer at the hearing for each class or category of locomotive or locomotive engine for which the manufacturer or remanufacturer has requested the hearing; and

(iii) A statement as to reasons the manufacturer or remanufacturer believes it will prevail on the merits on each of the issues so raised.

(3) A copy of all requests for public hearings shall be kept on file in the Office of the Hearing Clerk and shall be made available to the public during Agency business hours.

(c) *Filing and service.* (1) An original and two copies of all documents or papers required or permitted to be filed pursuant to this section shall be filed with the Hearing Clerk. Filing shall be deemed timely if mailed, as determined by the postmark, to the Hearing Clerk within the time allowed by this section. If filing is to be accomplished by mailing, the documents shall be sent to the address set forth in the notice of public hearing as described in paragraph (f) of this section.

(2) Except for requests to commence a hearing, at the same time a party files with the Hearing Clerk any additional issues for consideration at the hearing or any written testimony, documents, papers, exhibits, or materials, to be introduced into evidence or papers filed in connection with any appeal, it shall serve upon all other parties copies thereof. A certificate of service shall be provided on or accompany each document or paper filed with the Hearing Clerk. Documents to be served upon the Director of the Engine Programs and Compliance Division shall be mailed to: Director, Engine Programs and Compliance Division 6403–J, U.S. Environmental Protection Agency, 401 M Street S.W., Washington, D.C. 20460. Service by mail is complete upon mailing.

(d) *Time.* (1) In computing any period of time prescribed or allowed by this section, except as otherwise provided, the day of the act or event from which the designated period of time begins to run shall not be included. Saturdays, Sundays, and Federal legal holidays shall be included in computing any such period allowed for the filing of any document or paper, except that when such period expires on a Saturday, Sunday, or Federal legal holiday, such period shall be extended to include the next following business day.

(2) A prescribed period of time within which a party is required or permitted to do an act shall be computed from the time of service, except that when service is accomplished by mail, three days shall be added to the prescribed period.

(e) *Consolidation.* The Administrator or the Presiding Officer in his discretion may consolidate two or more proceedings to be held under this section for the purpose of resolving one or more issues whenever it appears that such consolidation will expedite or simplify consideration of such issues. Consolidation shall not affect the right of any party to raise issues that could have been raised if consolidation had not occurred.

(f) *Notice of public hearings.* (1) Notice of a public hearing under this section shall be given by publication in the **Federal Register**. Notice will be given at least 30 days prior to the commencement of such hearings.

(2) The notice of a public hearing shall include the following information:

(i) The purpose of the hearing and the legal authority under which the hearing is to be held;

(ii) A brief summary of the Administrator's determination of nonconformity;

(iii) A brief summary of the manufacturer's or remanufacturer's basis for contesting the Administrator's determination of nonconformity;

(iv) Information regarding the time and location of the hearing and the address to which all documents required or permitted to be filed should be sent;

(v) The address of the Hearing Clerk to whom all inquiries should be directed and with whom documents are required to be filed;

(vi) A statement that all petitions to be made an intervenor must be filed with the Hearing Clerk within 25 days from the date of the notice of public hearing and must conform to the requirements of paragraph (g) of this section.

(3) The notice of public hearing shall be issued by the General Counsel.

(g) *Intervenors.* (1) Any person desiring to intervene in a hearing to be held under section 207(c)(1) of the Act shall file a petition setting forth the facts and reasons why he/she thinks he/she should be permitted to intervene.

(2) In passing upon a petition to intervene, the following factors, among other things, shall be considered by the Presiding Officer:

(i) The nature of the petitioner's interest including the nature and the extent of the property, financial, environmental protection, or other interest of the petitioner;

(ii) The effect of the order which may be entered in the proceeding on petitioner's interest;

(iii) The extent to which the petitioner's interest will be represented

by existing parties or may be protected by other means;

(iv) The extent to which petitioner's participation may reasonably be expected to assist materially in the development of a complete record;

(v) The effect of the intervention on the Agency's statutory mandate.

(3) A petition to intervene must be filed within 25 days following the notice of public hearing under section 207(c)(1) of the Act and shall be served on all parties. Any opposition to such petition must be filed within five days of such service.

(4) All petitions to be made an intervenor shall be reviewed by the Presiding Officer using the criteria set forth in paragraph (g)(2) of this section and considering any oppositions to such petition. Where the petition demonstrates that the petitioner's interest is limited to particular issues, the Presiding Officer may, in granting such petition, limit petitioner's participation to those particular issues only.

(5) If the Presiding Officer grants the petition with respect to any or all issues, he/she shall so notify, or direct the Hearing Clerk to notify, the petitioner and all parties. If the Presiding Officer denies the petition he/she shall so notify, or direct the Hearing Clerk to notify, the petitioner and all parties and shall briefly state the reasons why the petition was denied.

(6) All petitions to be made an intervenor shall include an agreement by the petitioner, and any person represented by the petitioner, to be subject to examination and cross-examination and to make any supporting and relevant records available at its own expense upon the request of the Presiding Officer, on his/her own motion or the motion of any party or other intervenor. If the intervenor fails to comply with any such request, the Presiding Officer may in his/her discretion, terminate his/her status as an intervenor.

(h) *Intervention by motion.* Following the expiration of the time prescribed in paragraph (g) of this section for the submission of petitions to intervene in a hearing, any person may file a motion with the Presiding Officer to intervene in a hearing. Such a motion must contain the information and commitments required by paragraphs (g)(2) and (g)(6) of this section, and, in addition, must show that there is good cause for granting the motion and must contain a statement that the intervenor shall be bound by agreements, arrangements, and other determinations which may have been made in the proceeding.

(i) *Amicus Curiae.* Persons not parties to the proceedings wishing to file briefs may do so by leave of the Presiding Officer granted on motion. A motion for leave shall identify the interest of the applicant and shall state the reasons why the amicus brief is desirable.

(j) *Presiding Officer.* The Presiding Officer shall have the duty to conduct a fair and impartial hearing in accordance with 5 U.S.C. 554, 556 and 557, to take all necessary action to avoid delay in the disposition of the proceedings and to maintain order. He/she shall have all power consistent with Agency rule and with the Administrative Procedure Act (5 U.S.C. 551 *et seq.*) necessary to this end, including the following:

(1) To administer oaths and affirmations;

(2) To rule upon offers of proof and receive relevant evidence;

(3) To regulate the course of the hearings and the conduct of the parties and their counsel therein;

(4) To hold conferences for simplification of the issues or any other proper purpose;

(5) To consider and rule upon all procedural and other motions appropriate in such proceedings;

(6) To require the submission of direct testimony in written form with or without affidavit whenever, in the opinion of the Presiding Officer, oral testimony is not necessary for full and true disclosure of the facts. Testimony concerning the conduct and results of tests and inspections may be submitted in written form;

(7) To enforce agreements and orders requiring access as authorized by law;

(8) To require the filing of briefs on any matter on which he/she is required to rule;

(9) To require any party or any witness, during the course of the hearing, to state his/her position on any issue;

(10) To take or cause depositions to be taken whenever the ends of justice would be served thereby;

(11) To make decisions or recommend decisions to resolve the disputed issues of the record of the hearing;

(12) To issue, upon good cause shown, protective orders as described in paragraph (n) of this section.

(k) *Conferences.* (1) At the discretion of the Presiding Officer, conferences may be held prior to or during any hearing. The Presiding Officer shall direct the Hearing Clerk to notify all parties and intervenors of the time and location of any such conference. At the discretion of the Presiding Officer, persons other than parties may attend. At a conference the Presiding Officer may:

(i) Obtain stipulations and admissions, receive requests and order depositions to be taken, identify disputed issues of fact and law, and require or allow the submission of written testimony from any witness or party;

(ii) Set a hearing schedule for as many of the following as are deemed necessary by the Presiding Officer:

(A) Oral and written statements;

(B) Submission of written direct testimony as required or authorized by the Presiding Officer;

(C) Oral direct and cross-examination of a witness where necessary as prescribed in paragraph (p) of this section;

(D) Oral argument, if appropriate;

(iii) Identify matters of which official notice may be taken;

(iv) Consider limitation of the number of expert and other witnesses;

(v) Consider the procedure to be followed at the hearing; and

(vi) Consider any other matter that may expedite the hearing or aid in the disposition of the issue.

(2) The results of any conference including all stipulations shall, if not transcribed, be summarized in writing by the Presiding Officer and made part of the record.

(l) *Primary discovery (exchange of witness lists and documents).* (1) At a prehearing conference or within some reasonable time set by the Presiding Officer prior to the hearing, each party shall make available to the other parties the names of the expert and other witnesses the party expects to call, together with a brief summary of their expected testimony and a list of all documents and exhibits which the party expects to introduce into evidence. Thereafter, witnesses, documents, or exhibits may be added and summaries of expected testimony amended upon motion by a party.

(2)(i) The Presiding Officer, may, upon motion by a party or other person, and for good cause shown, by order:

(A) Restrict or defer disclosure by a party of the name of a witness or a narrative summary of the expected testimony of a witness; and

(B) Prescribe other appropriate measures to protect a witness.

(ii) Any party affected by any such action shall have an adequate opportunity, once he learns the name of a witness and obtains the narrative summary of his expected testimony, to prepare for the presentation of his case.

(m) *Other discovery.* (1) Except as so provided by paragraph (l) of this section, further discovery, under this

paragraph (m), shall be permitted only upon determination by the Presiding Officer:

(i) That such discovery will not in any way unreasonably delay the proceeding;

(ii) That the information to be obtained is not obtainable voluntarily; and

(iii) That such information has significant probative value. The Presiding Officer shall be guided by the procedures set forth in the Federal Rules of Civil Procedure (28 U.S.C.), where practicable, and the precedents thereunder, except that no discovery shall be undertaken except upon order of the Presiding Officer or upon agreement of the parties.

(2) The Presiding Officer shall order depositions upon oral questions only upon a showing of good cause and upon a finding that:

(i) The information sought cannot be obtained by alternative methods; or

(ii) There is a substantial reason to believe that relevant and probative evidence may otherwise not be preserved for presentation by a witness at the hearing.

(3) Any party to the proceeding desiring an order of discovery shall make a motion or motions therefor. Such a motion shall set forth:

(i) The circumstances warranting the taking of the discovery;

(ii) The nature of the information expected to be discovered; and

(iii) The time and place where it will be taken. If the Presiding Officer determines the motion should be granted, he shall issue an order for the taking of such discovery together with the conditions and terms thereof.

(4) Failure to comply with an order issued pursuant to this paragraph (m) may lead to the inference that the information to be discovered would be adverse to the person or party from whom the information was sought.

(n) *Protective orders: in camera proceedings.* (1) Upon motion by a party or by the person from whom discovery is sought, and upon a showing by the movant that the disclosure of the information to be discovered, or a particular part thereof, (other than emission data) would result in methods or processes entitled to protection as trade secrets of such person being divulged, the Presiding Officer may enter a protective order with respect to such material. Any protective order shall contain such terms governing the treatment of the information as may be appropriate under the circumstances to prevent disclosure outside the hearing: *Provided,* That the order shall state that the material shall be filed separately from other evidence and exhibits in the hearing. Disclosure shall be limited to parties to the hearing, their counsel and relevant technical consultants, and authorized representatives of the United States concerned with carrying out the Act. Except in the case of the government, disclosure may be limited to counsel to parties who shall not disclose such information to the parties themselves. Except in the case of the government, disclosure to a party or his counsel shall be conditioned on execution of a sworn statement that no disclosure of the information will be made to persons not entitled to receive it under the terms of the protective order. (No such provision is necessary where government employees are concerned because disclosure by them is subject to the terms of 18 U.S.C. 1905.)

(2)(i) A party or person seeking a protective order may be permitted to make all or part of the required showing in camera. A record shall be made of such in camera proceedings. If the Presiding Officer enters a protective order following a showing in camera, the record of such showing shall be sealed and preserved and made available to the Agency or court in the event of appeal.

(ii) Attendance at any in camera proceeding may be limited to the Presiding Officer, the Agency, and the person or party seeking the protective order.

(3) Any party, subject to the terms and conditions of any protective order issued pursuant to paragraph (n)(1) of this section, desiring for the presentation of his/her case to make use of any in camera documents or testimony shall make application to the Presiding Officer by motion setting forth the justification therefor. The Presiding Officer, in granting any such motion, shall enter an order protecting the rights of the affected persons and parties and preventing unnecessary disclosure of such information, including the presentation of such information and oral testimony and cross-examination concerning it in executive session, as in his/her discretion is necessary and practicable.

(4) In the submittal of findings, briefs, or other papers, counsel for all parties shall make a good faith attempt to refrain from disclosing the specific details of in camera documents and testimony. This shall not preclude references in such findings, briefs, or other papers to such documents or testimony including generalized statements based on their contents. To the extent that counsel consider it necessary to include specific details in their presentations, such data shall be incorporated in separate findings, briefs, or other papers marked ''confidential'', which shall become part of the in camera record.

(o) *Motions.* (1) All motions, except those made orally during the course of the hearing, shall be in writing and shall state with particularity the grounds therefor, shall set forth the relief or order sought, and shall be filed with the Hearing Clerk and served upon all parties.

(2) Within ten days after service of any motion filed pursuant to this section, or within such other time as may be fixed by the Environmental Appeals Board or the Presiding Officer, as appropriate, any party may serve and file an answer to the motion. The movant shall, if requested by the Environmental Appeals Board or the Presiding Officer, as appropriate, serve and file reply papers within the time set by the request.

(3) The Presiding Officer shall rule upon all motions filed or made prior to the filing of his decision or accelerated decision, as appropriate. The Environmental Appeals Board shall rule upon all motions filed prior to the appointment of a Presiding Officer and all motions filed after the filing of the decision of the Presiding Officer or accelerated decision. Oral argument of motions will be permitted only if the Presiding Officer or the Environmental Appeals Board, as appropriate, deems it necessary.

(p) *Evidence.* (1) The official transcripts and exhibits, together with all papers and requests filed in the proceeding, shall constitute the record. Immaterial or irrelevant parts of an admissible document shall be segregated and excluded so far as practicable. Documents or parts thereof subject to a protective order under paragraph (n) of this section shall be segregated. Evidence may be received at the hearing even though inadmissible under the rules of evidence applicable to judicial proceedings. The weight to be given evidence shall be determined by its reliability and probative value.

(2) The Presiding Officer shall allow the parties to examine and to cross-examine a witness to the extent that such examination and cross-examination is necessary for a full and true disclosure of the facts.

(3) Rulings of the Presiding Officer on the admissibility of evidence, the propriety of examination and cross-examination and other procedural matters shall appear in the record.

(4) Parties shall automatically be presumed to have taken exception to an adverse ruling.

(q) *Interlocutory appeal.* (1) An interlocutory appeal may be taken to the Environmental Appeals Board either:

(i) With the consent of the Presiding Officer and where he certifies on the record or in writing that the allowance of an interlocutory appeal is clearly necessary to prevent exceptional delay, expense or prejudice to any party or substantial detriment to the public interest; or

(ii) Absent the consent of the Presiding Officer, by permission of the Environmental Appeals Board.

(2) Applications for interlocutory appeal of any ruling or order of the Presiding Officer may be filed with the Presiding Officer within 5 days of the issuance of the ruling or order being appealed. Answers thereto by other parties may be filed within 5 days of the service of such applications.

(3) The Presiding Officer shall rule on such applications within 5 days of the filing of such application or answers thereto.

(4) Applications to file such appeals absent consent of the Presiding Officer shall be filed with the Environmental Appeals Board within 5 days of the denial of any appeal by the Presiding Officer.

(5) The Environmental Appeals Board will consider the merits of the appeal on the application and any answers thereto. No oral argument will be heard nor other briefs filed unless the Environmental Appeals Board directs otherwise.

(6) Except under extraordinary circumstances as determined by the Presiding Officer, the taking of an interlocutory appeal will not stay the hearing.

(r) *Record.* (1) Hearings shall be stenographically reported and transcribed, and the original transcript shall be part of the record and the sole official transcript. Copies of the record shall be filed with the Hearing Clerk and made available during Agency business hours for public inspection. Any person desiring a copy of the record of the hearing or any part thereof shall be entitled to the same upon payment of the cost thereof.

(2) The official transcripts and exhibits, together with all papers and requests filed in the proceeding, shall constitute the record.

(s) *Findings, conclusions.* (1) Within 20 days of the close of the reception of evidence, or within such longer time as may be fixed by the Presiding Officer, any party may submit for the consideration of the Presiding Officer findings of fact, conclusions of law, and a rule or order, together with reasons therefor and briefs in support thereof. Such proposals shall be in writing, shall be served upon all parties, and shall contain adequate references to the record and authorities relied on.

(2) The record shall show the Presiding Officer's ruling on the findings and conclusions except when his/her order disposing of the proceeding otherwise informs the parties of the action taken by him/her thereon.

(t) *Decision of the Presiding Officer.* (1) Unless extended by the Environmental Appeals Board, the Presiding Officer shall issue and file with the Hearing Clerk his decision within 30 days after the period for filing findings as provided for in paragraph (s) of this section has expired.

(2) The Presiding Officer's decision shall become the opinion of the Environmental Appeals Board:

(i) When no notice of intention to appeal as described in paragraph (u) of this section is filed, 30 days after the issuance thereof, unless in the interim the Environmental Appeals Board shall have taken action to review or stay the effective date of the decision; or

(ii) When a notice of intention to appeal is filed but the appeal is not perfected as required by paragraph (u) of this section, 5 days after the period allowed for perfection of an appeal has expired unless within that 5 day period, the Environmental Appeals Board shall have taken action to review or stay the effective date of the decision.

(3) The Presiding Officer's decision shall include a statement of findings and conclusions, as well as the reasons or basis therefor, upon all the material issues of fact or law presented on the record and an appropriate rule or order. Such decision shall be supported by substantial evidence and based upon a consideration of the whole record.

(4) At any time prior to the issuance of his decision, the Presiding Officer may reopen the proceeding for the reception of further evidence. Except for the correction of clerical errors, the jurisdiction of the Presiding Officer is terminated upon the issuance of his/her decision.

(u) *Appeal from the decision of the Presiding Officer.* (1) Any party to a proceeding may appeal the Presiding Officer's decision to the Environmental Appeals Board, Provided, That within 10 days after issuance of the Presiding Officer's decision such party files a notice of intention to appeal and an appeal brief within 30 days of such decision.

(2) When an appeal is taken from the decision of the Presiding Officer, any party may file a brief with respect to such appeal. The brief shall be filed within 20 days of the date of the filing of the appellant's brief.

(3) Any brief filed pursuant to this paragraph (u) shall contain in the order indicated, the following:

(i) A subject index of the matter in the brief, with page references, and a table of cases (alphabetically arranged), textbooks, statutes, and other material cited, with page references thereto;

(ii) A specification of the issues intended to be urged;

(iii) The argument presenting clearly the points of fact and law relied upon in support of the position taken on each issue, with specific page references to the record and the legal or other material relied upon; and

(iv) A form of rule or order for the Environmental Appeals Board's consideration if different from the rule or order contained in the Presiding Officer's decision.

(4) No brief in excess of 40 pages shall be filed without leave of the Environmental Appeals Board.

(5) Oral argument will be allowed in the discretion of the Environmental Appeals Board.

(v) *Review of the Presiding Officer's decision in absence of appeal.* (1) If, after the expiration of the period for taking an appeal as provided for by paragraph (u) of this section, no notice of intention to appeal the decision of the Presiding Officer has been filed, or if filed, not perfected, the Hearing Clerk shall so notify the Environmental Appeals Board.

(2) The Environmental Appeals Board, upon receipt of notice from the Hearing Clerk that no notice of intention to appeal has been filed, or if filed, not perfected pursuant to paragraph (u) of this section, may, on its own motion, within the time limits specified in paragraph (t)(2) of this section, review the decision of the Presiding Officer. Notice of the intention of the Environmental Appeals Board to review the decision of the Presiding Officer shall be given to all parties and shall set forth the scope of such review and the issue which shall be considered and shall make provision for filing of briefs.

(w) *Decision on appeal or review.* (1) Upon appeal from or review of the Presiding Officer's decision, the Environmental Appeals Board shall consider such parts of the record as are cited or as may be necessary to resolve the issues presented and, in addition shall to the extent necessary or desirable exercise all the powers which it could have exercised if it had presided at the hearing.

(2) In rendering its decision, the Environmental Appeals Board shall adopt, modify, or set aside the findings,

conclusions, and rule or order contained in the decision of the Presiding Officer and shall set forth in its decision a statement of the reasons or bases for its action.

(3) In those cases where the Environmental Appeals Board determines that it should have further information or additional views of the parties as to the form and content of the rule or order to be issued, the Environmental Appeals Board, in its discretion, may withhold final action pending the receipt of such additional information or views, or may remand the case to the Presiding Officer.

(x) *Reconsideration.* Within twenty (20) days after issuance of the Environmental Appeals Board's decision, any party may file with the Environmental Appeals Board a petition for reconsideration of such decision, setting forth the relief desired and the grounds in support thereof. Any petition filed under this paragraph (x) must be confined to new questions raised by the decision or the final order and upon which the petitioner had no opportunity to argue before the Presiding Officer or the Environmental Appeals Board. Any party desiring to oppose such a petition shall file and answer thereto within ten (10) days after the filing of the petition. The filing of a petition for reconsideration shall not operate to stay the effective date of the decision or order or to toll the running of any statutory time period affecting such decision or order unless specifically so ordered by the Environmental Appeals Board.

(y) *Accelerated decision: Dismissal.* (1) The Presiding Officer, upon motion of any party or sua sponte, may at any time render an accelerated decision in favor of the Agency or the manufacturer or remanufacturer as to all or any part of the proceeding, without further hearing or upon such limited additional evidence such as affidavits as he/she may require, or dismiss any party with prejudice, under any of the following conditions:

(i) Failure to state a claim upon which relief can be granted, or direct or collateral estoppel;

(ii) There is no genuine issue of material fact and a party is entitled to judgment as a matter of law; or

(iii) Such other and further reasons as are just, including specifically failure to obey a procedural order of the Presiding Officer.

(2) If under this paragraph (y) an accelerated decision is issued as to all the issues and claims joined in the proceeding, the decision shall be treated for the purposes of these procedures as the decision of the Presiding Officer as provided in paragraph (p) of this section.

(3) If under this paragraph (y), judgment is rendered on less than all issues or claims in the proceeding, the Presiding Officer shall determine what material facts exist without substantial controversy and what material facts are actually and in good faith controverted. He/she shall thereupon issue an order specifying the facts which appear without substantial controversy, and the issues and claims upon which the hearing will proceed.

(z) *Conclusion of hearing.* (1) If, after the expiration of the period for taking an appeal as provided for by paragraph (u) of this section, no appeal has been taken from the Presiding Officer's decision, and, after the expiration of the period for review by the Environmental Appeals Board on its own motion as provided for by paragraph (v) of this section, the Environmental Appeals Board does not move to review such decision, the hearing will be deemed to have ended at the expiration of all periods allowed for such appeal and review.

(2) If an appeal of the Presiding Officer's decision is taken pursuant to paragraph (u) of this section, or if, in the absence of such appeal, the Environmental Appeals Board moves to review the decision of the Presiding Officer pursuant to paragraph (v) of this section, the hearing will be deemed to have ended upon the rendering of a final decision by the Environmental Appeals Board.

(aa) *Judicial review.* (1) The Administrator hereby designates the Deputy General Counsel, Environmental Protection Agency as the officer upon whom copy of any petition for judicial review shall be served. Such officer shall be responsible for filing in the court the record on which the order of the Environmental Appeals Board is based.

(2) Before forwarding the record to the court, the Agency shall advise the petitioner of costs of preparing it and as soon as payment to cover fees is made shall forward the record to the court.

Subpart I—Importation of Nonconforming Locomotives and Locomotive Engines

§ 92.801 Applicability.

(a) Except where otherwise indicated, this subpart is applicable to importers of locomotives or locomotive engines for which the Administrator has promulgated regulations under this part prescribing emission standards, that are offered for importation or imported into the United States, but which locomotives or locomotive engines, at the time of importation or being offered for importation, are not covered by certificates of conformity issued under section 213 and section 206(a) of the Clean Air Act (that is, which are nonconforming locomotives or locomotive engines as defined in § 92.2), and this part. Compliance with regulations under this subpart does not relieve any person or entity from compliance with other applicable provisions of the Clean Air Act.

(b) Regulations prescribing further procedures for the importation of locomotives and locomotive engines into the Customs territory of the United States, as defined in 19 U.S.C. 1202, are set forth in U.S. Customs Service regulations (19 CFR chapter I).

§ 92.802 Definitions.

The definitions of subpart A of this part apply to this subpart.

§ 92.803 Admission.

A nonconforming locomotive or locomotive engine offered for importation may be admitted into the United States pursuant to the provisions of this subpart. In order to obtain admission the importer must submit to the Administrator a written request for approval containing the following:

(a) Identification of the importer of the locomotive or locomotive engine and the importer's address, telephone number, and taxpayer identification number;

(b) Identification of the locomotive's or locomotive engine's owner, the owner's address, telephone number, and taxpayer identification number;

(c) Identification of the locomotive and/or locomotive engine including make, model, identification number, and original production year;

(d) Information indicating the provision in this subpart under which the locomotive or locomotive engine is to be imported;

(e) Identification of the place(s) where the locomotive or locomotive engine is to be stored until EPA approval of the importer's application to the Administrator for final admission;

(f) Authorization for EPA enforcement officers to conduct inspections or testing otherwise permitted by the Act or regulations thereunder; and

(g) Such other information as is deemed necessary by the Administrator.

§ 92.804 Exemptions.

(a) Unless otherwise specified, any person may apply for the exemptions allowed by this section.

(b) Notwithstanding other requirements of this subpart, a

nonconforming locomotive or locomotive engine that qualifies for a temporary exemption under this paragraph may be conditionally admitted into the United States if prior written approval for the conditional admission is obtained from the Administrator. Conditional admission is to be under bond. The Administrator may request that the U.S. Customs Service require a specific bond amount to ensure compliance with the requirements of the Act and this subpart. A written request for a temporary exemption from the Administrator shall contain the identification required in § 92.803 and information that demonstrates that the locomotives and or locomotive engines qualify for an exemption. Noncompliance with provisions of this section may result in the forfeiture of the total amount of the bond and/or exportation of the locomotive or locomotive engine. The following temporary exemptions are permitted by this paragraph (b):

(1) *Exemption for repairs or alterations.* Upon written approval by EPA, a person may conditionally import under bond a nonconforming locomotive or locomotive engine solely for purpose of repair(s) or alteration(s). The locomotive or locomotive engine may not be operated in the United States other than for the sole purpose of repair or alteration or shipment to the point of repair or alteration and to the port of export. It may not be sold or leased in the United States and is to be exported upon completion of the repair(s) or alteration(s).

(2) *Testing exemption.* A nonconforming test locomotive or locomotive engine may be conditionally imported by a person subject to the requirements of § 92.905. A test locomotive or locomotive engine may be operated in the United States provided that the operation is an integral part of the test. This exemption is limited to a period not exceeding one year from the date of importation unless a request is made by the appropriate importer, and subsequently granted by EPA, concerning the locomotive or locomotive engine in accordance with § 92.905 for a subsequent one-year period.

(3) *Display exemptions.* (i) A nonconforming locomotive or locomotive engine intended solely for display may be conditionally imported under bond subject to the requirements of § 92.906(b).

(ii) A display locomotive or locomotive engine may be imported by any person for purposes related to a business or the public interest. Such purposes do not include collections normally inaccessible or unavailable to the public on a daily basis, display of a locomotive or locomotive engine at a dealership, private use, or other purpose that the Administrator determines is not appropriate for display exemptions. A display locomotive or locomotive engine may not be sold or leased in the United States and may not be operated in the United States except for the operation incident and necessary to the display purpose.

(iii) A display exemption is granted for 12 months or for the duration of the display purpose, whichever is shorter. Extensions of up to 12 months each are available upon approval by the Administrator. In no circumstances, however, may the total period of exemption exceed 36 months.

(c) National security exemption. Notwithstanding any other requirement of this subpart, a locomotive or locomotive engine may be permanently imported into the United States under the national security exemption found at § 92.908, if prior written approval for such permanent importation is obtained from the Administrator. A request for approval is to contain the identification information required in § 92.803 and information that demonstrates that the importer is entitled to the exemption.

(d) An application for exemption provided for in paragraphs (b) and (c) of this section shall be mailed to: Group Manager, Engine Compliance Programs Group, Engine Programs and Compliance Division U.S. Environmental Protection Agency, 6403–J, 401 M St., S.W., Washington, D.C. 20460, Attention: Imports.

(e) Incidental use exemption. Locomotives that are operated primarily outside of the United States, and that enter the United States temporarily from Canada or Mexico are exempt from the requirements and prohibitions of this part without application, provided that the operation within the United States is not extensive and is incidental to their primary operation.

§ 92.805 Prohibited acts; penalties.

(a) The importation of a locomotive or locomotive engine which is not covered by a certificate of conformity other than in accordance with this subpart and the entry regulations of the U.S. Customs Service is prohibited. Failure to comply with this section is a violation of section 213(d) and section 203 of the Act.

(b) Unless otherwise permitted by this subpart, during a period of conditional admission, the importer of a locomotive or locomotive engine may not:

(1) Operate the locomotive or locomotive engine in the United States;

(2) Sell or lease or offer the locomotive or locomotive engine for sale or lease.

(c) A locomotive or locomotive engine conditionally admitted pursuant to § 92.804 and not otherwise permanently exempted or excluded by the end of the period of conditional admission, or within such additional time as the Administrator and the U.S. Customs Service may allow, is deemed to be unlawfully imported into the United States in violation of section 213(d) and section 203 of the Act, unless the locomotive or locomotive engine has been delivered to the U.S. Customs Service for export or other disposition under applicable Customs laws and regulations by the end of the period of conditional admission. A locomotive or locomotive engine not so delivered is subject to seizure by the U.S. Customs Service.

(d) An importer who violates section 213(d) and section 203 of the Act is subject to a civil penalty under section 205 of the Act and § 92.1106. In addition to the penalty provided in the Act and § 92.1106, where applicable, a person or entity who imports an engine under the exemption provisions of § 92.804 and, who fails to deliver the locomotive or locomotive engine to the U.S. Customs Service by the end of the period of conditional admission is liable for liquidated damages in the amount of the bond required by applicable Customs laws and regulations.

Subpart J—Exclusion and Exemption Provisions

§ 92.901 Purpose and applicability.

The provisions of this subpart identify excluded locomotives (i.e., locomotives not covered by the Act) and allow for the exemption of locomotives and locomotive engines from certain provisions of this part. The applicability of the exclusions is described in § 92.903, and the applicability of the exemption allowances is described in §§ 92.904 through 92.909.

§ 92.902 Definitions.

The definitions of subpart A of this part apply to this subpart.

§ 92.903 Exclusions.

(a) Upon written request with supporting documentation, EPA will make written determinations as to whether certain locomotives are excluded from applicability of this part. Any locomotives that are determined to be excluded are not subject to the regulations under this part. Requests to determine whether certain locomotives are excluded should be sent to: Group

Manager, Engine Compliance Programs Group, Engine Programs and Compliance Division U.S. Environmental Protection Agency, 6403–J, 401 M St., SW, Washington, D.C. 20460.

(b) EPA will maintain a list of models of locomotives that have been determined to be excluded from coverage under this part. This list will be available to the public and may be obtained by writing to the address in paragraph (a) of this section.

(c) In addition to the locomotives excluded in paragraph (a) of this section, certain vehicles are not subject to the requirements and prohibitions of this part because they are excluded from the definitions of ''locomotive'' and/or ''new locomotive'' in § 92.2.

§ 92.904 Exemptions.

(a) Except as specified otherwise in this subpart, the provisions of §§ 92.904 through 92.911 exempt certain new locomotives and new locomotive engines from the standards, other requirements, and prohibitions of this part, except for the requirements of this subpart and the requirements of § 92.1104.

(b)(1) Any person may request a testing exemption subject to the provisions of § 92.905.

(2) Any locomotive or locomotive engine manufacturer or remanufacturer may request a national security exemption subject to the provisions of § 92.908.

(3) Locomotive or locomotive engines manufactured or remanufactured for export purposes are exempt without application, subject to the provisions of § 92.909, except as otherwise specified by § 92.909.

(4) Manufacturer-owned and remanufacturer-owned locomotive or locomotive engines are exempt without application, subject to the provisions of § 92.906(a).

(5) Display locomotive or locomotive engines are exempt without application, subject to the provisions of § 92.906(b).

(6) Locomotive propulsion engines that are identical to engines that are covered by a certificate of conformity issued under 40 CFR part 89, and the locomotives in which they are used, are exempt, subject to the provisions of § 92.907.

§ 92.905 Testing exemption.

(a)(1) The Administrator may exempt from the standards and/or other requirements and prohibitions of this part new locomotives or new locomotive engines that are being used solely for the purpose of conducting a test program. Any person requesting an exemption for the purpose of conducting a test program must demonstrate the following:

(i) That the test program has a purpose which constitutes an appropriate basis for an exemption in accordance this section;

(ii) That the proposed test program necessitates the granting of an exemption;

(iii) That the proposed test program exhibits reasonableness in scope; and

(iv) That the proposed test program exhibits a degree of oversight and control consonant with the purpose of the test program and EPA's monitoring requirements.

(2) Paragraphs (b), (c), (d), and (e) of this section describe what constitutes a sufficient demonstration for each of the four elements identified in paragraphs (a)(1)(i) through (iv) of this section.

(b) With respect to the purpose of the proposed test program, an appropriate purpose would be research, investigations, studies, demonstrations, technology development, or training, but not national security. A concise statement of purpose is a required item of information.

(c) With respect to the necessity that an exemption be granted, necessity arises from an inability to achieve the stated purpose in a practicable manner without performing or causing to be performed one or more of the prohibited acts under § 92.1103. In appropriate circumstances, time constraints may be a sufficient basis for necessity, but the cost of certification alone, in the absence of extraordinary circumstances, is not a basis for necessity.

(d) With respect to reasonableness, a test program must exhibit a duration of reasonable length and affect a reasonable number of engines. In this regard, required items of information include:

(1) An estimate of the program's duration; and

(2) The maximum number of locomotives or locomotive engines involved.

(e) With respect to control, the test program must incorporate procedures consistent with the purpose of the test and be capable of affording EPA monitoring capability. As a minimum, required items of information include:

(1) The technical nature of the testing;

(2) The location(s) of the testing;

(3) The time, work, or mileage duration of the testing;

(4) The ownership arrangement with regard to the locomotives and engines involved in the testing;

(5) The intended final disposition of the locomotives and engines;

(6) The manner in which the locomotive or engine identification numbers will be identified, recorded, and made available; and

(7) The means or procedure whereby test results will be recorded.

(f) A manufacturer or remanufacturer of new locomotives or locomotive engines may request a testing exemption to cover locomotives or locomotive engines intended for use in test programs planned or anticipated over the course of a subsequent two-year period. Unless otherwise required by the Director, Engine Programs and Compliance Division, a manufacturer or remanufacturer requesting such an exemption need only furnish the information required by paragraphs (a)(1) and (d)(2) of this section along with a description of the recordkeeping and control procedures that will be employed to assure that the locomotives or locomotive engines are used for purposes consistent with paragraph (a) of this section.

(g) For locomotives being used for the purpose of developing a fundamentally new emission control technology related either to an alternative fuel or an aftertreatment device, the Administrator may exempt the locomotive from some or all of the applicable standards of this part for the full useful life of the locomotive, subject to the provisions of paragraphs (a) through (f) of this section.

§ 92.906 Manufacturer-owned, remanufacturer-owned exemption and display exemption.

(a) Any manufacturer-owned or remanufacturer-owned locomotive or locomotive engine, as defined by § 92.2, is exempt from § 92.1103, without application, if the manufacturer complies with the following terms and conditions:

(1) The manufacturer or remanufacturer must establish, maintain, and retain the following adequately organized and indexed information on each exempted locomotive or locomotive engine:

(i) Locomotive or engine identification number;

(ii) Use of the locomotive or engine on exempt status; and

(iii) Final disposition of any locomotive or engine removed from exempt status.

(2) The manufacturer or remanufacturer must provide right of entry and access to these records to EPA Enforcement Officers as outlined in § 92.208.

(3) The manufacturer or remanufacturer must permanently affix a label to each locomotive or locomotive engine on exempt status, unless the requirement is waived or an alternate procedure is approved by the Director,