f. Presorted rate pieces must contain a 5-digit barcode and be co-packaged with automation rate pieces for the same presort destination. If this optional preparation method is used, all automation rate and Presorted rate pieces in the same mailing job and reported on the same postage statement must be co-packaged.

g. Within a package, all pieces must meet the FSM 881 requirements or all pieces must meet the FSM 1000 requirements described in C820.

h. Mailers must sort Presorted rate pieces and automation rate pieces for each presort destination so that only one physical package for each logical presort destination (see M011) includes both automation rate pieces (containing a ZIP+4 or delivery point barcode) and Presorted rate pieces (containing a 5-digit barcode).

### 2.2 Package Preparation

Package size, preparation sequence, and labeling:

a. Firm: optional (for Presorted rate pieces only under M210.1.4) (two-piece minimum); blue Label F or optional endorsement line (OEL).

b. 5-digit: required (six-piece minimum, fewer not permitted except under 2.3); red Label D or OEL.

c. 3-digit: required (six-piece minimum, fewer not permitted except under 2.3); green Label 3 or OEL.

d. ADC: required (six-piece minimum, fewer not permitted); pink Label A or OEL.

e. Mixed ADC: required (no minimum); tan Label MXD or OEL.

### 2.3 Low-Volume Packages in Sacks or on Pallets

Periodicals 5-digit and 3-digit packages prepared under 2.2, may contain fewer than six pieces when the publisher determines that such preparation improves service. These low-volume packages may be placed in merged 5-digit scheme, merged 5-digit, 5-digit, 3-digit, and SCF sacks or on merged 5-digit scheme, merged 5-digit, 5-digit, 3-digit, or SCF pallets. Presorted rate pieces in such low-volume packages must be claimed at the applicable basic Presorted rate. Automation rate pieces in such low-volume packages must be claimed at the applicable basic automation rate.

## 3.0 STANDARD MAIL

### 3.1 Basic Standards

Effective March 31, 2002, mailers may choose to co-package (see M011) automation rate and Presorted rate pieces as an option to the basic packaging requirements in M610 and M820, subject to the following conditions:

a. The pieces in the automation rate mailing and the Presorted rate mailing must be part of the same mailing job and must be reported on the appropriate postage statement.

b. The pieces in the mailing job must be flat-size and meet any other size and mailpiece design requirements applicable to the rate category for which they are prepared.

c. Mailings prepared in sacks must meet the basic standards in M910 or M920.

d. Mailings prepared on pallets must meet the basic standards in M045, M920, M930, or M940.

e. A minimum of 200 pieces or 50 pounds of automation rate pieces are required; the Presorted rate mailing may meet the residual volume requirements in E620. The total number of automation rate and Presorted rate pieces must be used to meet the minimum volume requirements for packages and containers.

f. Presorted rate pieces must contain a 5-digit barcode and be co-packaged with automation rate pieces for the same presort destination. If this optional preparation method is used, all automation rate and Presorted rate pieces in the same mailing job and reported on the same postage statement must be co-packaged.

g. Within a package, all pieces must meet the FSM 881 requirements or all pieces must meet the FSM 1000 requirements described in C820.

h. Mailers must sort Presorted rate pieces and automation rate pieces for each presort destination so that only one physical package for each logical presort destination (see M011) includes both Presorted rate pieces (containing a 5-digit barcode) and automation rate pieces (containing a ZIP+4 or delivery point barcode).

### 3.2 Package Preparation

Package size, preparation sequence, and labeling:

a. 5-digit: required (10-piece minimum, fewer not permitted); red Label D or optional endorsement line (OEL)

b. 3-digit: required (10-piece minimum, fewer not permitted); green Label 3 or OEL.

c. ADC: required (10-piece minimum, fewer not permitted); pink Label A or OEL.

d. Mixed ADC: required (no minimum); tan Label MXD or OEL.

* * * * *

An appropriate amendment to 39 CFR part 111 to reflect these changes will be published.

**Stanley F. Mires,**
*Chief Counsel, Legislative.*

[FR Doc. 01–29299 Filed 11–23–01; 8:45 am]

BILLING CODE 7710–12–P

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## ENVIRONMENTAL PROTECTION AGENCY

## 40 CFR Part 70

**[DC–T5–2001–01a; FRL–7107–2]**

# Clean Air Act Full Approval of Operating Permit Program; District of Columbia; Withdrawal of Direct Final Rule

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Withdrawal of direct final rule.

**SUMMARY:** Due to an adverse comment, EPA is withdrawing the direct final rule fully approving the operating permit program of the District of Columbia. In the direct final rule published on October 16, 2001 (66 FR 52538), EPA stated that if adverse comments were received by November 15, 2001, the rule would be withdrawn and not take effect. EPA subsequently received adverse comments. EPA will address the comments received in a subsequent final action based upon the proposed action also published on October 16, 2001 (66 FR 52561). EPA will not institute a second comment period on this action.

**EFFECTIVE DATE:** The direct final rule is withdrawn as of November 26, 2001.

**FOR FURTHER INFORMATION CONTACT:** Paresh R. Pandya, Permits and Technical Assessment Branch at (215) 814–2167 or by e-mail at *pandya.perry@epa.gov.*

### List of Subjects in 40 CFR Part 70

Environmental protection, Air pollution control, Intergovernmental relations, Operating permits, Reporting and recordkeeping requirements.

Dated: November 16, 2001.

**Donald S. Welsh,**
*Regional Administrator, Region III.*

Accordingly, the addition of 40 CFR part 70, Appendix A, ''District of Columbia'', paragraph (b) is withdrawn as of November 26, 2001.

[FR Doc. 01–29367 Filed 11–23–01; 8:45 am]

BILLING CODE 6560–50–P

## ENVIRONMENTAL PROTECTION AGENCY

## 40 CFR Part 92

## Control of Air Pollution From Locomotives and Locomotive Engines

*CFR Correction*

In Title 40 of the Code of Federal Regulations, Parts 87 to 99, revised as of July 1, 2001, part 92 is corrected in § 92.120 by revising equations (1) and (2) in paragraph (c)(2)(v), in § 92.121 by revising paragraphs (b)(2)(vi), (b)(2)(ix), (b)(2)(xi)(A), and (b)(4)(iv), and by revising § 92.132 to read as follows:

### § 92.120 NDIR analyzer calibration and checks.

* * * * *

(c)* * *

(2)* * *

(v)* * *

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

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

where:

y = concentration.

x = chart deflection.

* * * * *

### § 92.121 Oxides of nitrogen analyzer calibration and check.

* * * * *

(b)* * *

(2)* * *

(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.

* * * * *

(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.

* * * * *

(xi)* * *

(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.

* * * * *

(4)* * *

(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

* * * * *

### § 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:

$$E_{HCdc}=[(M_{HC1a})(0.190) + (M_{HC1})(0.190) + (M_{HC2})(0.125) + (M_{HC3})(0.065) + (M_{HC4})(0.065) + (M_{HC5})(0.052) + (M_{HC6})(0.044) + (M_{HC7})(0.038) + (M_{HC8})(0.039) + (M_{HC9})(0.030) + (M_{HC10})(0.162)]/[(BHP_{1a})(0.190) + (BHP_1)(0.190) + (BHP_2)(0.125) + (BHP_3)(0.065) + (BHP_4)(0.065) + (BHP_5)(0.052) + (BHP_6)(0.044) + (BHP_7)(0.038) + (BHP_8)(0.039) + (BHP_9)(0.030) + (BHP_{10})(0.162)]$$

(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):

$\alpha$=Atomic hydrogen/carbon ratio of the fuel.
$\beta$=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.
$\Sigma$DX=The sum of concentrations DX for all oxygenated species.
$\Sigma$WX=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:

## SCHEDULE C - CONTRACT RENT ANNUAL ADJUSTMENT FACTORS - **AREA DEFINITIONS**

### GEORGIA (SOUTHEAST)

CPI AREAS: COUNTIES
*Atlanta, GA: Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, Dekalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Pickens, Rockdale, Spalding, Walton

METROPOLITAN COUNTIES
Bibb, Bryan, Catoosa, Chatham, Chattahoochee, Clarke, Columbia, Dade, Dougherty, Effingham, Harris, Houston, Jones, Lee, Madison, Mcduffie, Muscogee, Oconee, Peach, Richmond, Twiggs, Walker

NONMETROPOLITAN COUNTIES
Appling, Atkinson, Bacon, Baker, Baldwin, Banks, Ben Hill, Berrien, Bleckley, Brantley, Brooks, Bulloch, Burke, Butts, Calhoun, Camden, Candler, Charlton, Chattooga, Clay, Clinch, Coffee, Colquitt, Cook, Crawford, Crisp, Dawson, Decatur, Dodge, Dooly, Early, Echols, Elbert, Emanuel, Evans, Fannin, Floyd, Franklin, Gilmer, Glascock, Glynn, Gordon, Grady, Greene, Habersham, Hall, Hancock, Haralson, Hart, Heard, Irwin, Jackson, Jasper, Jeff Davis, Jefferson, Jenkins, Johnson, Lamar, Lanier, Laurens, Liberty, Lincoln, Long, Lowndes, Lumpkin, Macon, Marion, Mcintosh, Meriwether, Miller, Mitchell, Monroe, Montgomery, Morgan, Murray, Oglethorpe, Pierce, Pike, Polk, Pulaski, Putnam, Quitman, Rabun, Randolph, Schley, Screven, Seminole, Stephens, Stewart, Sumter, Talbot, Taliaferro, Tattnall, Taylor, Telfair, Terrell, Thomas, Tift, Toombs, Towns, Treutlen, Troup, Turner, Union, Upson, Ware, Warren, Washington, Wayne, Webster, Wheeler, White, Whitfield, Wilcox, Wilkes, Wilkinson, Worth

### HAWAII (PACIFIC/HAWAII)

CPI AREAS: COUNTIES
STATE Hawaii: Hawaii, Honolulu, Kauai, Maui

### IDAHO (NORTHWEST/ALASKA)

METROPOLITAN COUNTIES
Ada, Bannock, Canyon

NONMETROPOLITAN COUNTIES
Adams, Bear Lake, Benewah, Bingham, Blaine, Boise, Bonner, Bonneville, Boundary, Butte, Camas, Caribou, Cassia, Clark, Clearwater, Custer, Elmore, Franklin, Fremont, Gem, Gooding, Idaho, Jefferson, Jerome, Kootenai, Latah, Lemhi, Lewis, Lincoln, Madison, Minidoka, Nez Perce, Oneida, Owyhee, Payette, Power, Shoshone, Teton, Twin Falls, Valley, Washington

### ILLINOIS (MIDWEST)

CPI AREAS: COUNTIES
*Chicago, IL: Cook, Dupage, Kane, Lake, McHenry, Will
*COUNTY De Kalb, IL: Dekalb
*COUNTY Grundy, IL: Grundy
PMSA Kankakee, IL: Kankakee
*COUNTY Kendall, Il: Kendall
MSA St. Louis, MO-IL: Clinton, Jersey, Madison, Monroe, St. Clair

METROPOLITAN COUNTIES
Boone, Champaign, Henry, Macon, Mclean, Menard, Ogle, Peoria, Rock Island, Sangamon, Tazewell, Winnebago, Woodford

NONMETROPOLITAN COUNTIES
Adams, Alexander, Bond, Brown, Bureau, Calhoun, Carroll, Cass, Christian, Clark, Clay, Coles, Crawford, Cumberland, De Witt, Douglas, Edgar, Edwards, Effingham, Fayette, Ford, Franklin, Fulton, Gallatin, Greene, Hamilton, Hancock, Hardin, Henderson, Iroquois, Jackson, Jasper, Jefferson, Jo Daviess, Johnson, Knox, La Salle, Lawrence, Lee, Livingston, Logan, Macoupin, Marion, Marshall, Mason, Massac, Mcdonough, Mercer, Montgomery, Morgan, Moultrie, Perry, Piatt, Pike, Pope, Pulaski, Putnam, Randolph, Richland, Saline, Schuyler, Scott, Shelby, Stark, Stephenson, Union, Vermilion, Wabash, Warren, Washington, Wayne, White, Whiteside, Williamson

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:

# SCHEDULE C - CONTRACT RENT ANNUAL ADJUSTMENT FACTORS - **AREA DEFINITIONS**

## INDIANA (MIDWEST)

### CPI AREAS: COUNTIES

*Cincinnati, OH-KY-IN: Dearborn
PMSA Gary, IN: Lake, Porter
*COUNTY Ohio, IN: Ohio

### METROPOLITAN COUNTIES

Adams, Allen, Boone, Clark, Clay, Clinton, De Kalb, Delaware, Elkhart, Floyd, Hamilton, Hancock, Harrison, Hendricks, Howard, Huntington, Johnson, Madison, Marion, Monroe, Morgan, Posey, Scott, Shelby, St. Joseph, Tippecanoe, Tipton, Vanderburgh, Vermillion, Vigo, Warrick, Wells, Whitley

### NONMETROPOLITAN COUNTIES

Bartholomew, Benton, Blackford, Brown, Carroll, Cass, Crawford, Daviess, Decatur, Dubois, Fayette, Fountain, Franklin, Fulton, Gibson, Grant, Greene, Henry, Jackson, Jasper, Jay, Jefferson, Jennings, Knox, Kosciusko, La Porte, Lagrange, Lawrence, Marshall, Martin, Miami, Montgomery, Newton, Noble, Orange, Owen, Parke, Perry, Pike, Pulaski, Putnam, Randolph, Ripley, Rush, Spencer, Starke, Steuben, Sullivan, Switzerland, Union, Wabash, Warren, Washington, Wayne, White

## IOWA (GREAT PLAINS)

### METROPOLITAN COUNTIES

Black Hawk, Dallas, Dubuque, Johnson, Linn, Polk, Pottawattamie, Scott, Warren, Woodbury

### NONMETROPOLITAN COUNTIES

Adair, Adams, Allamakee, Appanoose, Audubon, Benton, Boone, Bremer, Buchanan, Buena Vista, Butler, Calhoun, Carroll, Cass, Cedar, Cerro Gordo, Cherokee, Chickasaw, Clarke, Clay, Clayton, Clinton, Crawford, Davis, Decatur, Delaware, Des Moines, Dickinson, Emmet, Fayette, Floyd, Franklin, Fremont,

## IOWA (Cont.)

Greene, Grundy, Guthrie, Hamilton, Hancock, Hardin, Harrison, Henry, Howard, Humboldt, Ida, Iowa, Jackson, Jasper, Jefferson, Jones, Keokuk, Kossuth, Lee, Louisa, Lucas, Lyon, Madison, Mahaska, Marion, Marshall, Mills, Mitchell, Monona, Monroe, Montgomery, Muscatine, O'Brien, Osceola, Page, Palo Alto, Plymouth, Pocahontas, Poweshiek, Ringgold, Sac, Shelby, Sioux, Story, Tama, Taylor, Union, Van Buren, Wapello, Washington, Wayne, Webster, Winnebago, Winneshiek, Worth, Wright

## KANSAS (GREAT PLAINS)

### CPI AREAS: COUNTIES

MSA Kansas City, MO-KS: Johnson, Leavenworth, Miami, Wyandotte

### METROPOLITAN COUNTIES

Butler, Douglas, Harvey, Sedgwick, Shawnee

### NONMETROPOLITAN COUNTIES

Allen, Anderson, Atchison, Barber, Barton, Bourbon, Brown, Chase, Chautauqua, Cherokee, Cheyenne, Clark, Clay, Cloud, Coffey, Comanche, Cowley, Crawford, Decatur, Dickinson, Doniphan, Edwards, Elk, Ellis, Ellsworth, Finney, Ford, Franklin, Geary, Gove, Graham, Grant, Gray, Greeley, Greenwood, Hamilton, Harper, Haskell, Hodgeman, Jackson, Jefferson, Jewell, Kearny, Kingman, Kiowa, Labette, Lane, Lincoln, Linn, Logan, Lyon, Marion, Marshall, Mcpherson, Meade, Mitchell, Montgomery, Morris, Morton, Nemaha, Neosho, Ness, Norton, Osage, Osborne, Ottawa, Pawnee, Phillips, Pottawatomie, Pratt, Rawlins, Reno, Republic, Rice, Riley, Rooks, Rush, Russell, Saline, Scott, Seward, Sheridan, Sherman, Smith, Stafford, Stanton, Stevens, Sumner, Thomas, Trego, Wabaunsee, Wallace, Washington, Wichita, Wilson, Woodson

## KENTUCKY (SOUTHEAST)

### CPI AREAS: COUNTIES

*Cincinnati, OH-KY-IN: Boone, Campbell, Kenton
*COUNTY Gallatin, KY: Gallatin
*COUNTY Grant, KY: Grant
*COUNTY Pendleton, KY: Pendleton

(*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:

## SCHEDULE C - CONTRACT RENT ANNUAL ADJUSTMENT FACTORS - **AREA DEFINITIONS**

### KENTUCKY (cont'd)

METROPOLITAN COUNTIES

Bourbon, Boyd, Bullitt, Carter, Christian, Clark, Daviess, Fayette, Greenup, Henderson, Jefferson, Jessamine, Madison, Oldham, Scott, Woodford

NONMETROPOLITAN COUNTIES

Adair, Allen, Anderson, Ballard, Barren, Bath, Bell, Boyle, Bracken, Breathitt, Breckinridge, Butler, Caldwell, Calloway, Carlisle, Carroll, Casey, Clay, Clinton, Crittenden, Cumberland, Edmonson, Elliott, Estill, Fleming, Floyd, Franklin, Fulton, Garrard, Graves, Grayson, Green, Hancock, Hardin, Harlan, Harrison, Hart, Henry, Hickman, Hopkins, Jackson, Johnson, Knott, Knox, Larue, Laurel, Lawrence, Lee, Leslie, Letcher, Lewis, Lincoln, Livingston, Logan, Lyon, Magoffin, Marion, Marshall, Martin, Mason, Mccracken, Mccreary, Mclean, Meade, Menifee, Mercer, Metcalfe, Monroe, Montgomery, Morgan, Muhlenberg, Nelson, Nicholas, Ohio, Owen, Owsley, Perry, Pike, Powell, Pulaski, Robertson, Rockcastle, Rowan, Russell, Shelby, Simpson, Spencer, Taylor, Todd, Trigg, Trimble, Union, Warren, Washington, Wayne, Webster, Whitley, Wolfe

### LOUISIANA (SOUTHWEST)

METROPOLITAN COUNTIES

Acadia, Ascension, Bossier, Caddo, Calcasieu, East Baton Rouge, Jefferson, Lafayette, Lafourche, Livingston, Orleans, Ouachita, Plaquemines, Rapides, St. Bernard, St. Charles, St. James, St. John the Baptist, St. Landry, St. Martin, St. Tammany, Terrebonne, Webster, West Baton Rouge

NONMETROPOLITAN COUNTIES

Allen, Assumption, Avoyelles, Beauregard, Bienville, Caldwell, Cameron, Catahoula, Claiborne, Concordia, De Soto, East Carroll, East Feliciana, Evangeline, Franklin, Grant, Iberia, Iberville, Jackson, Jefferson Davis, La Salle, Lincoln, Madison, Morehouse, Natchitoches, Pointe Coupee, Red River, Richland, Sabine, St. Helena, St. Mary, Tangipahoa, Tensas, Union, Vermilion, Vernon, Washington, West Carroll, West Feliciana, Winn

### MAINE (NEW ENGLAND)

CPI AREAS: COUNTIES

PMSA Portsmouth-Rochester, NH-ME

York County part: Berwick town, Eliot town, Kittery town, South Berwick town, York town

METROPOLITAN COUNTIES

Androscoggin County part: Auburn city, Greene town, Lewiston city, Lisbon town, Mechanic Falls town, Poland town, Sabattus town, Turner town, Wales town

Cumberland County part: Cape Elizabeth town, Casco town, Cumberland town, Falmouth town, Freeport town, Gorham town, Gray town, Long Island town, North Yarmouth town, Portland city, Raymond town, Scarborough town, South Portland city, Standish town, Westbrook city, Windham town, Yarmouth town

Penobscot County part: Bangor city, Brewer city, Eddington town, Glenburn town, Hampden town, Hermon town, Holden town, Kenduskeag town, Milford town, Old Town city, Orono town, Orrington town, Penobscot Indian Island, Veazie town

Waldo County part: Winterport town

York County part: Buxton town, Hollis town, Limington town, Old Orchard Beach

Where:

## SCHEDULE C - CONTRACT RENT ANNUAL ADJUSTMENT FACTORS - **AREA DEFINITIONS**

MAINE (cont'd)

NONMETROPOLITAN COUNTIES
Aroostook
Franklin
Hancock
Kennebec
Knox
Lincoln
Oxford
Piscataquis
Sagadahoc
Somerset
Washington
Androscoggin County part: Durham town, Leeds town, Livermore town, Livermore Falls town, Minot town
Cumberland County part: Harpswell town, Harrison town, Naples town, New Gloucester town, Pownal town, Sebago town
Penobscot County part: Alton town, Argyle unorg., Bradford town, Bradley town, Burlington town, Charleston town, Chester town, Clifton town, Corinna town, Corinth town, Dexter town, Dixmont town, Drew plantation, East Central Penob, East Millinocket town, Edinburg town, Enfield town, Etna town, Exeter town, Garland town, Greenbush town, Greenfield town, Howland town, Hudson town, Kingman unorg., Lagrange town, Lakeville town, Lee town, Levant town, Lincoln town, Lowell town, Mattawamkeag town, Maxfield town, Medway town, Millinocket town, Mount Chase town, Newburgh town, Penobscot unorg., Passadumkeag town, Patten town, Plymouth town, Prentiss plantation, Seboeis plantation, Springfield town, Stacyville town, Stetson town, Twombly unorg., Webster plantation, Whitney unorg., Winn town, Woodville town
Waldo County part: Belfast city, Belmont town, Brooks town, Burnham town, Frankfort town, Freedom town, Islesboro town, Jackson town, Knox town, Liberty town, Lincolnville town, Monroe town, Montville town, Morrill town, Northport town, Palermo town, Prospect town, Searsmont town, Searsport town, Stockton Springs, Swanville town, Thorndike town, Troy town, Unity town, Waldo town
York County part: Acton town, Alfred town, Arundel town, Biddeford city, Cornish town, Dayton town, Kennebunk town, Kennebunkport town, Lebanon town, Limerick town, Lyman town, Newfield town, North Berwick town, Ogunquit town, Parsonsfield town, Saco city, Sanford town, Shapleigh town, Waterboro town, Wells town

MARYLAND (MID-ATLANTIC)

CPI AREAS: COUNTIES
PMSA Baltimore, MD: Anne Arundel, Baltimore, Carroll, Harford, Howard, Queen Anne's, Baltimore city, Columbia city
PMSA Hagerstown, MD: Washington
*Washington, DC-MD-VA: Calvert, Charles, Frederick, Montgomery, Prince George's
PMSA Wilmington-Newark, DE-MD: Cecil

METROPOLITAN COUNTIES
Allegany

NONMETROPOLITAN COUNTIES
Caroline, Dorchester, Garrett, Kent, Somerset, St. Mary's, Talbot, Wicomico, Worcester

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:

## SCHEDULE C - CONTRACT RENT ANNUAL ADJUSTMENT FACTORS - **AREA DEFINITIONS**

### MASSACHUSETTS (NEW ENGLAND)

CPI AREAS: COUNTIES

PMSA Boston, MA-NH
Bristol County part: Berkley town, Dighton town, Mansfield town, Norton town, Taunton city
Essex County part: Amesbury town, Beverly city, Danvers town, Essex town, Gloucester city, Hamilton town, Ipswich town, Lynn city, Lynnfield town, Manchester-by-the-Sea town, Marblehead town, Middleton town, Nahant town, Newbury town, Newburyport city, Peabody city, Rockport town, Rowley town, Salem city, Salisbury town, Saugus town, Swampscott town, Topsfield town, Wenham town
Middlesex County part: Acton town, Arlington town, Ashland town, Ayer town, Bedford town, Belmont town, Boxborough town, Burlington town, Cambridge city, Carlisle town, Concord town, Everett city, Framingham town, Holliston town, Hopkinton town, Hudson town, Lexington town, Lincoln town, Littleton town, Malden city, Marlborough city, Maynard town, Medford city, Melrose city, Natick town, Newton city, North Reading town, Reading town, Sherborn town, Shirley town, Somerville city, Stoneham town, Stow town, Sudbury town, Townsend town, Wakefield town, Waltham city, Watertown town, Wayland town, Weston town, Wilmington town, Winchester town, Woburn city
Norfolk County part: Bellingham town, Braintree town, Brookline town, Canton town, Cohasset town, Dedham town, Dover town, Foxborough town, Franklin town, Holbrook town, Medfield town, Medway town, Millis town, Milton town, Needham town, Norfolk town, Norwood town, Plainville town, Quincy city, Randolph town, Sharon town, Stoughton town, Walpole town, Wellesley town, Westwood town, Weymouth town, Wrentham town
Plymouth County part: Carver town, Duxbury town, Hanover town, Hingham town, Hull town, Kingston town, Marshfield town, Norwell town, Pembroke town, Plymouth town, Rockland town, Scituate town, Wareham town
Suffolk county part: Boston city, Chelsea city, Revere city, Winthrop town
Worcester County part: Berlin town, Blackstone town, Bolton town, Harvard town, Hopedale town, Lancaster town, Mendon town, Milford town, Millville town, Southborough town, Upton town

PMSA Brockton, MA
Bristol County part: Easton town, Raynham town
Norfolk County part: Avon town
Plymouth County part: Abington town, Bridgewater town, Brockton city, East Bridgewater town, Halifax town, Hanson town, Lakeville town, Middleborough town, Plympton town, West Bridgewater town, Whitman town

PMSA Fitchburg-Leominster, MA
Middlesex County part: Ashby town
Worcester County part: Ashburnham town, Fitchburg city, Gardner city, Leominster city, Lunenburg town, Templeton town, Westminster town, Winchendon town
PMSA Lawrence, MA-NH
Essex County part: Andover town, Boxford town, Georgetown town, Groveland town, Haverhill city, Lawrence city, Merrimac town, Methuen town, North Andover town, West Newbury town

PMSA Lowell, MA-NH
Middlesex County part: Billerica town, Chelmsford town, Dracut town, Dunstable town, Groton town, Lowell city, Pepperell town, Tewksbury town, Tyngsborough town, Westford town

PMSA New Bedford, MA
Bristol County part: Acushnet town, Dartmouth town, Fairhaven town, Freetown town, New Bedford city
Plymouth County part: Marion town, Mattapoisett town, Rochester town

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/ft$^3$ (1.833 kg/m$^3$), 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, ft$^{3.}$
$P_B$=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.
$T_{DF}$=Temperature of acetaldehyde sample withdrawn from dilution air, °R.
$V_{SA}$=Volume of acetaldehyde sample withdrawn from dilution air, ft$^{3.}$

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

$M_{NMHC\ mode}=(V_{mix})(Density_{NMHC})((NMHCE_{conc}/10^6))/V_f$
$NMHC_{conc}=NMHC_e—(NMHC_d)(1-(1/DF))$
$NMHC_e=FID\ HC_e-(r_m)(C_{CH4e})$
$NMHC_d=FID\ HC_d-(r_m)(C_{CH4d})$

Where:

$Density_{NMHC}$=Density of nonmethane hydrocarbons=16.42 g/ft$^3$ (0.5800 kg/m$^3$) for # 1 petroleum diesel fuel, 16.27 g/ft$^3$ (0.5746 kg/m$^3$) 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/ft$^3$
$M_{PMe}$=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:

## SCHEDULE C - CONTRACT RENT ANNUAL ADJUSTMENT FACTORS - **AREA DEFINITIONS**

### MASSACHUSETTS (cont'd)

CPI AREAS: COUNTIES
PMSA Worcester, MA-CT
Hampden County part: Holland town
Worcester County part: Auburn town, Barre town, Boylston town, Brookfield town, Charlton town, Clinton town, Douglas town, Dudley town, East Brookfield town, Grafton town, Holden town, Leicester town, Millbury town, Northborough town, Northbridge town, North Brookfield town, Oakham town, Oxford town, Paxton town, Princeton town, Rutland town, Shrewsbury town, Southbridge town, Spencer town, Sterling town, Sturbridge town, Sutton town, Uxbridge town, Webster town, Westborough town, West Boylston town, West Brookfield town, Worcester city

METROPOLITAN COUNTIES
Barnstable County part: Barnstable town, Brewster town, Chatham town, Dennis town, Eastham town, Harwich town, Mashpee town, Orleans town, Sandwich town, Yarmouth town
Berkshire County part: Adams town, Cheshire town, Dalton town, Hinsdale town, Lanesborough town, Lee town, Lenox town, Pittsfield city, Richmond town, Stockbridge town
Bristol County part: Attleboro city, Fall River city, North Attleborough, Rehoboth town, Seekonk town,Somerset town, Swansea town, Westport town
Franklin County part: Sunderland town
Hampden County part: Agawam town, Chicopee city, East Longmeadow town, Hampden town, Holyoke city, Longmeadow town, Ludlow town, Monson town, Montgomery town, Palmer town, Russell town, Southwick town, Springfield city, Westfield city, West Springfield town, Wilbraham town
Hampshire County part: Amherst town, Belchertown town, Easthampton town, Granby town, Hadley town, Hatfield town, Huntington town, Northampton city, Southampton town, South Hadley town, Ware town, Williamsburg town

NONMETROPOLITAN COUNTIES
Dukes
Nantucket
Barnstable County part: Bourne town, Falmouth town, Provincetown town, Truro town, Wellfleet town
Berkshire County part: Alford town, Becket town, Clarksburg town, Egremont town, Florida town, Great Barrington town, Hancock town, Monterey town, Mount Washington town, New Ashford town, New Marlborough town, North Adams city, Otis town, Peru town, Sandisfield town, Savoy town, Sheffield town, Tyringham town, Washington town, West Stockbridge town, Williamstown town, Windsor town
Franklin County part: Ashfield town, Bernardston town, Buckland town, Charlemont town, Colrain town, Conway town, Deerfield town, Erving town, Gill town, Greenfield town, Hawley town, Heath town, Leverett town, Leyden town, Monroe town, Montague town, New Salem town, Northfield town, Orange town, Rowe town, Shelburne town, Shutesbury town, Warwick town, Wendell town, Whately town
Hampden County part: Blandford town, Brimfield town, Chester town, Granville town, Tolland town, Wales town
Hampshire County part: Chesterfield town, Cummington town, Goshen town, Middlefield town, Pelham town, Plainfield town, Westhampton town, Worthington town
Worcester County part: Athol town, Hardwick town, Hubbardston town, New Braintree town, Petersham town, Phillipston town, Royalston town, Warren town

### MICHIGAN (MIDWEST)

CPI AREAS: COUNTIES
PMSA Ann Arbor, MI: Lenawee, Livingston, Washtenaw
PMSA Detroit, MI: Lapeer, Macomb, Monroe, Oakland, St. Clair, Wayne
PMSA Flint, MI: Genesee

METROPOLITAN COUNTIES
Allegan, Bay, Berrien, Calhoun, Clinton, Eaton, Ingham, Jackson, Kalamazoo, Kent, Midland, Muskegon, Ottawa, Saginaw, Van Buren

(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:

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

$K=(K_H)(K_T)$

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

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

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

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.

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**BILLING CODE 1505–01–D**

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## ENVIRONMENTAL PROTECTION AGENCY

## 40 CFR Part 272

**[FRL–7092–1]**

## Utah: Final Authorization of State-Initiated Changes and Incorporation by Reference of State Hazardous Waste Management Program

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Immediate final rule.

**SUMMARY:** During a review of Utah's regulations, EPA identified a variety of State-initiated changes to Utah's hazardous waste program under the Resource Conservation and Recovery Act (RCRA). We have determined that these changes are minor and satisfy all requirements needed to qualify for Final authorization and are authorizing the State-initiated changes through this Immediate Final action. In addition, today's document corrects technical errors made in the tables published in the May 23, 1991 **Federal Register** (as amended August 6, 1991), October 14, 1994, and January 13, 1999 authorization documents for Utah.

EPA uses the Section of the Code of Federal Regulations (CFR) entitled Approved State Hazardous Waste Management Programs to incorporate by reference those provisions of the State regulations that are part of the authorized State program. This document incorporates the newly authorized State program into the regulations entitled Approved State Hazardous Waste Management Programs and clarifies which of these provisions we have authorized and will enforce under sections 3008, 3013, and 7003 of RCRA.

**DATES:** This Final authorization for Utah and incorporation by reference of the Utah authorized hazardous waste program will become effective on January 25, 2002, unless EPA receives adverse written comment by December 26, 2001. The Director of the Federal Register approves the incorporation by reference of the Utah regulations contained in this rule as of January 25, 2002 in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

**ADDRESSES:** Send written comments to Kris Shurr, 8P–HW, U.S. EPA, Region VIII, 999 18th St., Suite 300, Denver, Colorado 80202–2466, phone number: (303) 312–6139. You can view and copy the materials used by EPA to make this determination during normal business hours at the following locations: Utah Department of Environmental Quality, Division of Solid and Hazardous Waste, 288 North 1460 West, Salt Lake City, Utah 84114–4880, phone (801) 538–6776 and EPA Region VIII, 999 18th St., Suite 300, Denver, Colorado 80202–2466, phone (303) 312–6139.

**FOR FURTHER INFORMATION CONTACT:** Kris Shurr, EPA Region VIII, 999 18th Street, Suite 300, Denver, Colorado 80202–2466, phone (303) 312–6139.

**SUPPLEMENTARY INFORMATION:**

### I. Authorization of State-Initiated Changes

#### *A. Why Are Revisions to State Programs Necessary?*

States which have received Final authorization from EPA under RCRA section 3006(b), 42 U.S.C. 6926(b), must maintain a hazardous waste program that is equivalent to, consistent with, and no less stringent than the Federal hazardous waste program. As the Federal program changes, the States must change their programs and ask EPA to authorize the changes. Changes to State hazardous waste programs may be necessary when Federal or State statutory or regulatory authority is modified or when certain other changes occur. Most commonly, States must change their programs because of changes to EPA's regulations in 40 CFR parts 124, 260 through 266, 268, 270, 273 and 279. States can also initiate their own changes to their hazardous waste program and these changes must then be authorized.

#### *B. What Authorization Decisions Have We Made in This Rule?*

We conclude that Utah's revisions to its authorized program meet all of the statutory and regulatory requirements established by RCRA. We found that the State-initiated changes make Utah's rules more clear or conform more closely to the Federal equivalents and are so minor in nature that a formal application is unnecessary. Therefore, we grant Utah Final authorization to operate its hazardous waste program with the changes described in the table at item I.G. of this document. Utah has responsibility for permitting Treatment, Storage, and Disposal Facilities (TSDFs) within its borders (except in Indian Country) and for carrying out all authorized aspects of the RCRA program, subject to the limitations of the Hazardous and Solid Waste Amendments of 1984 (HSWA). New Federal requirements and prohibitions imposed by Federal regulations that EPA promulgates under the authority of HSWA take effect in authorized States before they are authorized for the requirements. Thus, EPA will implement those requirements and prohibitions in Utah, including issuing permits, until the State is granted authorization to do so.

#### *C. What Is the Effect of Today's Authorization Decision?*

The effect of this decision is that a facility in Utah will continue to be subject to the authorized State requirements instead of the equivalent Federal requirements in order to comply