U.S. ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 58

[AD-FRL-]

RIN 2060-AF71

Ambient Air Quality Surveillance for Lead

AGENCY: Environmental Protection Agency (EPA)

ACTION: Direct Final Rule

SUMMARY: Lead air pollution levels measured near the Nation’s roadways have decreased 97 percent between 1976 and 1995 with the elimination of lead in gasoline used by on-road mobile sources. Because of this historic decrease, EPA is shifting its ambient air monitoring focus from measuring lead air pollutant concentrations emanating from mobile source emissions toward a focus on stationary point sources of lead air pollution. Today’s action revises the part 58 lead air monitoring regulations to allow many lead monitoring stations to be discontinued while maintaining a core lead monitoring network in urban areas to track continued compliance with the lead National Ambient Air Quality Standard (NAAQS). This action also requires lead ambient air monitoring around lead stationary sources. This action is being taken at the direct request of numerous State and local agencies whose on-road mobile source-oriented lead monitors have been reporting peak lead air pollution values that are many times less than the quarterly

lead NAAQS of 1.5μg/m^3 for many years. Approximately 70 of the National Air Monitoring Stations (NAMS) and a number of the State and Local Air Monitoring Stations (SLAMS) could be discontinued with this action, thus making more resources available to those State and local agencies to deploy lead air quality monitors around heretofore unmonitored lead stationary sources.

DATES: The effective date of this rule is **[insert date 45 days after date of publication in the Federal Register]** unless adverse or critical comments are received by **[insert date 30 days from date of publication in the Federal Register.]** If adverse or critical comments are received by **[insert date 30 days after publication in the Federal Register,]** and the effective date is delayed, timely notice will be published in the Federal Register.

ADDRESSES: Comments should be submitted (in duplicate, if possible) to: Air Docket (LE-131), US Environmental Protection Agency, Attn: Docket No. A-91-22, 401 M Street, SW, Washington, DC 20460.

FOR FURTHER INFORMATION CONTACT: Brenda Millar, Emissions, Monitoring, and Analysis Division (MD-14), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Telephone: (919) 541-4036, e-mail: millar,

brenda@email.epa.gov.

SUPPLEMENTARY INFORMATION:

I. AUTHORITY

Sections 110, 301(a), and 319 of the Clean Air Act as amended 42 U.S.C. 7410, 7601(a), 7619.

II. BACKGROUND

The current ambient air monitoring regulations that pertain to lead air sampling were written in the 1970's when lead emissions from on-road mobile sources (e.g., automobiles, trucks) were the predominant lead air emission source affecting our communities. As such, the current lead monitoring requirements focus primarily upon the idea of determining the air quality impacts from major roadways and urban traffic arterial highways. Since the 1970's, lead has been removed from gasoline sources for on-road vehicles (on-road vehicles now account for less than 1 percent of total lead emissions), and a 97 percent decrease in lead air pollution levels measured in our neighborhoods and near roadways has occurred nationwide. Because of this historic decrease, EPA is reducing its requirements for measuring lead air pollutant concentrations near major highways, and is focusing on stationary point sources and their impacts on neighboring populations.

The current lead air monitoring regulations require

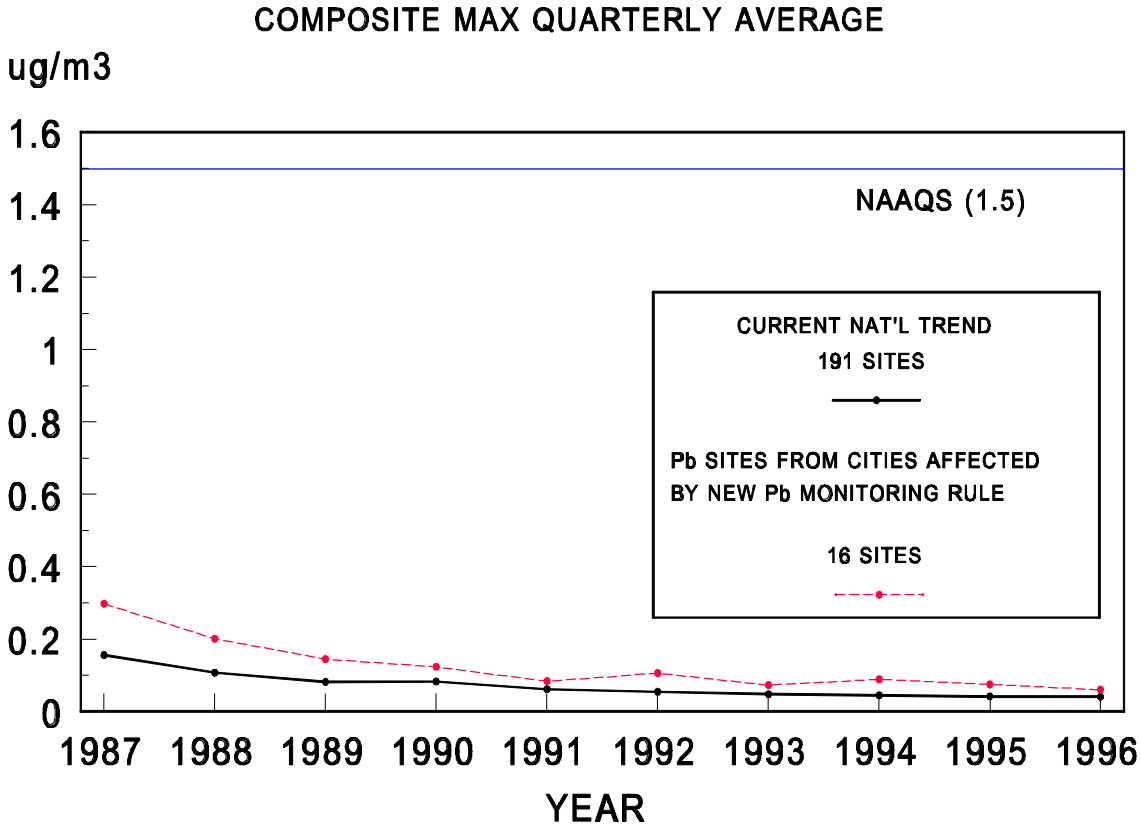
that each urbanized area with a population of 500,000 or more operate at least two lead NAMS, one of which must be a roadway-oriented site and the second must be a neighborhood site with nearby traffic arteries or other major roadways. There are approximately 85 NAMS in operation and reporting data for 1996. This action would reduce this NAMS requirement to include one NAMS site in one of the two largest Metropolitan Statistical Areas (MSA/CMSA) within each of the ten EPA Regions, and one NAMS population-oriented site in each populated area (either a MSA/CMSA, town, or county) where lead violations have been measured over the most recent 8 calendar quarters. This latter requirement is designed to provide information to citizens living in areas that have one or more lead stationary sources that are causing recent air quality violations. At present, the MSA/CMSAs, cities, or counties that have one or more quarterly Pb NAAQS violations that would be subject to this requirement include:

Table 1. CMSA/MSA's or Counties with One or More Lead NAAQS Violations in 1995-1996

CMSA/MSA or County	Contributing Lead Source(s)
Philadelphia-Wilmington-Atlantic City CMSA	Franklin Smelter in Philadelphia County, PA
Tampa-St. Petersburg-Clearwater MSA	Gulf Coast Lead in Hillsborough County, FL
Memphis MSA	Refined Metals in Shelby County, TN
Nashville MSA	General Smelting in Williamson County, TN
St. Louis MSA	Chemetco in Madison County, IL, and Doe Run in Jefferson County, MO
Cleveland-Akron CMSA	Master Metals in Cuyahoga County, OH
Iron County, MO	ASARCO in/near Hogan, MO
Omaha MSA	ASARCO in Douglas County, NE
Lewis and Clark County, MT	ASARCO in/near East Helena, MT

Data from these NAMS will be used to assess national trends in lead ambient air pollution. Figure 1 demonstrates the effect that these monitoring reductions will have on our national lead air pollutant trends.

FIGURE 1. LEAD TRENDS: CURRENT U.S. VS SELECTED CITIES



For other monitoring within the SLAMS network, EPA is requiring State and local agencies to focus their efforts toward establishing air monitoring networks around lead stationary sources which are causing or have a potential to cause exceedances of the quarterly lead NAAQS. Many of these sources have been identified through EPA's ongoing Lead NAAQS Attainment Strategy, and monitoring has already been established. In general, stationary sources emitting five or more tons per year are considered to be candidates for additional lead monitoring, although smaller stationary sources may also be problematic depending upon the facility's size and proximity to neighborhoods. EPA recommends a minimum of two sites per source, one located for stack emission impacts and the other for fugitive emission impacts. Variations of this two-site network are expected as source type, topography, locations of neighboring populations, and other factors play a role in how to most appropriately design such a network. EPA guidance for lead monitoring around point sources has been developed and is available through a variety of sources including the National Technical Information Service (703-

487-4650), and electronic forms accessible through EPA's Office of Air Quality Planning & Standards Technology Transfer Network, Ambient Monitoring Technology Information Center (AMTIC) bulletin board system at http://ttnwww.rtpnc.epa.gov.

In addition to the changes to the lead monitoring requirements, EPA is making several minor changes to update and correct regulatory provisions to current practices. Specifically this affects §§ 58,31, 58.34, 58.41, Appendix B, Appendix D Sections 3.2 and 3.3, and Appendix G, Sections 1 and 2b.

III. Administrative Requirements Section

A. Executive Order 12866

Under Executive Order 12866 (58 F.R. 51735, October 4, 1993), the Agency must determine whether the regulatory action is "significant" and therefore subject to Office of Management and Budget (OMB) review and to the requirements of the Executive Order. The Order defines "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State,

local, or governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another Agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations or recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

It has been determined that this action is not a "significant regulatory action" under the terms of the Executive Order 12866 and is therefore not subject to formal OMB review.

B. Paperwork Reduction Act

Today’s action does not impose any new information collection burden. This action revises the part 58 air monitoring regulations for lead to allow many monitoring sites to be discontinued. The Office of Management and Budget (OMB) has previously approved the information collection requirements in the part 58 regulation under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. and has assigned OMB control number 2060-0084 (EPA ICR No. 0940.13 and revised by 0940.14).

C. Impact on Small Entities

The Regulatory Flexibility Act (RFA) generally requires

an agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entitites. Small entities include small businesses, small not-for-profit enterprises, and small governmental jurisdictions whose jurisdictions are less than 50,000 people. This final rule will not have a significant impact on a substantial number of small entities because it does not impact small entities whose jurisdictions cover less than 50,000 people. Pursuant to the provision of 5 USC 605(b), I certify that this action will not have a significant economic impact on a substantial number of small entities.

Since this modification is classified as minor, no additional reviews are required.

D. Unfunded Mandates Reform Act of 1995

Under section 202 of the Unfunded Mandates Reform Act of 1995 ("Unfunded Mandates Act"), signed into law on March 22, 1995, EPA must prepare a budgetary impact statement to accompany any proposed or final standards that include a Federal mandate that may result in estimated costs to State, local, or tribal governments, or to the private sector, of, in the aggregate, $100 million or more. Under section 205, the EPA must select the most cost-effective and

least burdensome alternative that achieves the objectives of the standard and is consistent with statutory requirements. Section 203 requires EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the standards. The EPA has determined that this action does not include a Federal mandate that may result in estimated costs of $100 million or more to either State, local, or tribal governments. Therefore, the requirements of the Unfunded Mandates Act of 1995 do not apply to this action.S

E. Submission to Congress and the General Accounting Office

Under 5 U.S.C. 801(a)(1)(A) as added by the Small Business Regulatory Enforcement Fairness Act of 1996, EPA submitted a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the General Accounting Office prior to publication of the rule in today’s Federal Register. This rule is not a “major rule” as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 58

Air pollution control, Intergovernmental relations, Reporting and record keeping requirements, Quality assurance requirements, Ambient air quality monitoring network.

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Date Administrator

Billing Code: 6560-50-P

For the reasons set forth in the preamble, title 40, chapter I, part 58 of the Code of Federal Regulations is amended as follows:

PART 58 -- [AMENDED]

1. The authority citation for part 58 continues to read as follows:

Authority: 42 U.S.C. 7410, 7601(a), 7613, 7619.

2. Section 58.31(a) is revised to read as follows:

§58.31 NAMS network description.

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(a) The AIRS site identification number for existing stations.

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3. Section 58.34(a) is revised to read as follows:

§58.34 NAMS network completion.

(a) Each NAMS must be in operation, be sited in accordance with the criteria in Appendix E to this part, and be located as described in the AIRS database; and

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4. Section 58.41(b) is revised to read as follows:

§58.41 PAMS network description.

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(b) The AIRS site identification number for existing stations.

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5. Appendix D is amended by revising the first sentence of paragraph 3 of section 1, revising section 2.7, revising the fifth paragraph of section 3, revising the last sentence of the first paragraph of section 3.2, revising the last sentence of the first paragraph of section 3.3, revising section 3.6, and revising references 6, 7, 10 of section 6 and adding reference 19 to section 6 to read as follows:

Appendix D--Network Design for State and Local Air Monitoring Stations (SLAMS), National Air Monitoring Stations (NAMS), and Photochemical Assessment Monitoring Stations (PAMS)

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1. SLAMS Monitoring Objectives and Spatial Scales

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It should be noted that this appendix contains no criteria for determining the total number of stations in SLAMS networks. * * *

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2.7 Lead (Pb) Design Criteria for SLAMS. Presently, less than 1 percent of the Nation’s Pb air pollution emissions originate from on-road mobile source exhaust. The majority of Pb emissions come from stationary point sources,

such as metals processing facilities, waste disposal and recycling, and fuel combustion (reference 19 of this appendix). The SLAMS networks are used to assess the air quality impacts of stationary Pb sources, and to determine the broad population exposure from any Pb source. The most important spatial scales to effectively characterize the emissions from both mobile and stationary sources are the micro, middle, and neighborhood scales. For purposes of establishing monitoring stations to represent large homogeneous areas other than the above scales of representativeness, urban or regional scale stations may also be needed.

Microscale--This scale would typify areas in close proximity to stationary lead sources or downtown street canyons and traffic corridors where the general public would be exposed to maximum concentrations from mobile sources. Because of the very steep ambient Pb gradients resulting from Pb emissions from mobile sources (reference 7 of this appendix), the dimensions of the microscale for Pb generally would not extend beyond 15 meters from the roadway. Emissions from stationary sources such as primary and secondary lead smelters, and primary copper smelters may under fumigation conditions likewise result in high ground level concentrations at the microscale. In the latter case, the microscale would represent an area impacted by the plume

with dimensions extending up to approximately 100 meters. Data collected at microscale stations provide information for evaluating and developing "hot-spot" control measures.

Middle Scale--This scale generally represents Pb air quality levels in areas up to several city blocks in size with dimensions on the order of approximately 100 meters to 500 meters. The middle scale may for example, include schools and playgrounds in center city areas which are close to major Pb stationary sources. Pb monitors in such areas are desirable because of the higher sensitivity of children to exposures of elevated Pb concentrations (reference 7 of this appendix). Emissions from point sources frequently impact on areas at which single sites may be located to measure concentrations representing middle spatial scales.

Neighborhood Scale--The neighborhood scale would characterize air quality conditions throughout some relatively uniform land use areas with dimensions in the 0.5 to 4.0 kilometer range. Stations of this scale would provide monitoring data in areas representing conditions where children live and play. Monitoring in such areas is important since this segment of the population is more susceptible to the effects of Pb. Where a neighborhood site is located away from immediate Pb sources, the site may be very useful in representing typical air quality values for a larger residential area, and therefore suitable for

population exposure and trends analyses.

Urban Scale--Such stations would be used to present ambient Pb concentrations over an entire metropolitan area with dimensions in the 4 to 50 kilometer range. An urban scale station would be useful for assessing trends in citywide air quality and the effectiveness of larger scale air pollution control strategies.

Regional Scale--Measurements from these stations would characterize air quality levels over areas having dimensions of 50 to hundreds of kilometers. This large scale of representativeness, rarely used in Pb monitoring, would be most applicable to sparsely populated areas and could provide information on background air quality and inter-regional pollutant transport.

Monitoring for ambient Pb levels is required for all major urbanized areas where Pb levels have been shown or are expected to be of significant concern due to the proximity of stationary Pb emissions sources. Sources emitting five tons per year or more of actual point and fugitive Pb emissions would generally be candidates for lead ambient air monitoring. Smaller sources could also pose a potential air quality problem in certain cases, e.g., if the facility is geographically compact and located very close to neighborhoods. Modeling may be needed to determine if a source has the potential to exceed the quarterly lead

National Ambient Air Quality Standard (NAAQS). The total number and type of stations for SLAMS are not prescribed but must be determined on a case-by-case basis. As a minimum, there must be two stations in any area where Pb concentrations currently exceed or have exceeded 1.5 $\mu g/m^3$ quarterly arithmetic mean measured during any one quarter of the most recent eight quarters. Where the Pb air quality violations are widespread or the emissions density, topography, or population locations are complex and varied, there may be a need to establish more than two Pb ambient air monitoring stations. The EPA Regional Administrator may specify more than two monitoring stations if it is found that two stations are insufficient to adequately determine if the Pb standard is being attained and maintained. The Regional Administrator may also specify that stations be located in areas outside the boundaries of the urbanized areas.

Concerning the previously discussed required minimum of two stations, at least one of the stations must be a category (a) type station and the second may be either category (a) or (b) depending upon the extent of the stationary source’s impact and the existence of residential neighborhoods surrounding the source. When the source is located in an area that is subject to NAMS requirements as

in Section 3 of this Appendix, it is preferred that the NAMS site be used to describe the population's exposure and the second SLAMS site be used as a category (a) site. Both of these categories of stations are defined in section 3.

To locate monitoring stations, it will be necessary to obtain background information such as stationary and mobile source emissions inventories, climatological summaries, and local geographical characteristics. Such information should be used to identify areas that are most suitable to the particular monitoring objective and spatial scale of representativeness desired. References 9 & 10 of this appendix provide additional guidance on locating sites to meet specific urban area monitoring objectives and should be used in locating new stations or evaluating the adequacy of existing stations.

After locating each Pb station and, to the extent practicable, taking into consideration the collective impact of all Pb sources and surrounding physical characteristics of the siting area, a spatial scale of representativeness must be assigned to each station.

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3. Network Design for National Air Monitoring Stations (NAMS)

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For each urban area where NAMS are required, both

categories of monitoring stations must be established. In the case of Pb and SO_2 if only one NAMS is needed, then category (a) must be used. The analysis and interpretation of data from NAMS should consider the distinction between these types of stations as appropriate.

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3.2 Sulfur Dioxide Design Criteria for NAMS

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The actual number and location of the NAMS must be determined by EPA Regional Offices and the State Agency, subject to the approval of EPA Headquarters, Office of Air Quality Planning and Standards (OAQPS).

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3.3 Carbon Monoxide (CO) Design Criteria for NAMS

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At the national level, EPA will not routinely require data from as many stations as are required for PM-10, and perhaps SO_2, since CO trend stations are principally needed to assess the overall air quality progress resulting from the emission controls required by the Federal motor vehicle control program (FMVCP) and other local controls.

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3.6 Lead (Pb) Design Criteria for NAMS. In order to achieve the national monitoring objective, one NAMS site must be located in one of the two cities with the greatest

population in the following ten regions of the country (the choice of which of the two metropolitan areas should have the lead NAMS requirement is made by the Administrator or the Administrator's designee using the recommendation of the Regional Administrators or the Regional Administrators' designee):

Table 1. EPA Regions & Two Current Largest MSA/CMSAs (using 1995 Census Data)

Region (States)	**Two Largest MSA/CMSAs**
I (Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont)	Boston-Worcester-Lawrence CMSA Hartford, CT MSA
II (New Jersey, New York, Puerto Rico, U.S. Virgin Islands)	New York-Northern New Jersey-Long Island, CMSA San Juan-Caguas-Arecibo, PR CMSA
III (Delaware, Maryland, Pennsylvania, Virginia, West Virginia, Washington, D.C.)	Washington-Baltimore CMSA Philadelphia-Wilmington-Atlantic City CMSA
IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee)	Miami-Fort Lauderdale CMSA Atlanta, GA MSA
V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin)	Chicago-Gary-Kenosha CMSA Detroit-Ann Arbor-Flint CMSA
VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas)	Dallas-Fort Worth CMSA Houston-Galveston-Brazoria CMSA
VII (Iowa, Kansas, Missouri, Nebraska)	St. Louis MSA Kansas City MSA
VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming)	Denver-Boulder-Greeley CMSA Salt Lake City-Ogden MSA

IX (American Samoa, Arizona, California, Guam, Hawaii, Nevada)	Los Angeles-Riverside-Orange County CMSA San Francisco-Oakland-San Jose CMSA
X (Alaska, Idaho, Oregon, Washington)	Seattle-Tacoma-Bremerton CMSA Portland-Salem CMSA

In addition, one NAMS site must be located in each of the MSA/CMSAs where one or more violations of the quarterly Pb NAAQS have been recorded over the previous eight quarters. If a violation of the quarterly Pb NAAQS is measured at a monitoring site outside of a MSA/CMSA, one NAMS site must be located within the county in a populated area, apart from the Pb source, to assess area wide Pb air pollution levels. These NAMS sites should represent the maximum Pb concentrations measured within the MSA/CMSA, city, or county that is not directly impacted from a single stationary Pb source. This site may be a microscale or middle scale category (a) station, located adjacent to a major roadway (e.g., >30,000 ADT), or a neighborhood scale category (b) station that is located in a highly populated residential section of the MSA/CMSA or county where the traffic density is high. Data from these sites will be used to assess general conditions for large MSA/CMSAs and other populated areas as a marker for national trends, and to confirm continued attainment of the Pb NAAQS. In some cases, the MSA/CMSA subject to the latter lead NAMS

requirement due to a violating stationary source will be the same MSA/CMSA subject to the lead NAMS requirement based upon its population. For these situations, the total minimum number of required lead NAMS is one.

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6. References

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6. Lead Guideline Document, U. S. Environmental Protection Agency, Research Triangle Park, NC. EPA-452/R-93-009.

7. Air Quality Criteria for Lead. Office of Research and Development, U.S. Environmental Protection Agency, Washington, DC. EPA-600/8-83-028 aF - dF, 1986, and supplements EPA-600/8-89/049F, August 1990. (NTIS document numbers PB87-142378 and PB91-138420.)

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10. “Guidance for Conducting Ambient Air Monitoring for Lead Around Point Sources,” Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC EPA - 454/R-92-009, May 1997.

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19. National Air Pollutant Emissions Trends, 1900-1995, Office of Air Quality Planning and Standards, U. S. Environmental Protection Agency, Research Triangle Park, NC. EPA-454/R96-007, October 1996, updated annually.

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6. Appendix E is amended by revising the first paragraph of section 7.1, adding a sentence at the beginning of section 7.3, revising section 7.4, and revising reference 18 in section 13 to read as follows:

Appendix E--Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring

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7.1 Vertical Placement. Optimal placement of the sampler inlet for Pb monitoring should be at breathing height level. However, practical factors such as prevention of vandalism, security, and safety precautions must also be considered when siting a Pb monitor. Given these considerations, the sampler inlet for microscale Pb monitors must be 2-7 meters above ground level. The lower limit was based on a compromise between ease of servicing the sampler and the desire to avoid unrepresentative conditions due to re-entrainment from dusty surfaces. The upper limit represents a compromise between the desire to have measurements which are most representative of population exposures and a consideration of the practical factors noted above.

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7.3. Spacing from Roadways. This criteria applies only

to those Pb sites designed to assess lead concentrations from mobile sources. Numerous studies have shown that ambient Pb levels near mobile sources are a function of the traffic volume and are most pronounced at ADT >30,000 within the first 15 meters on the downwind side of the roadways.

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7.4. Spacing from trees and other considerations. Trees can provide surfaces for deposition or adsorption of Pb particles and obstruct normal wind flow patterns. For microscale and middle scale category (a) sites there must not be any tree(s) between the source of the Pb and the sampler. For neighborhood scale category (b) sites, the sampler should be at least 20 meters from the drip line of trees. The sampler must, however, be placed at least 10 meters from the drip line of trees which could be classified as an obstruction, i.e., the distance between the tree(s) and the sampler is less than the height that the tree protrudes above the sampler.

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13. References

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18. Air Quality Criteria for Lead. Office of Research and Development, U.S. Environmental Protection Agency, Washington, DC EPA-600/8-83-028 aF - dF, 1986, and supplements EPA-600/8-89/049F, August 1990. (NTIS document

numbers PB87-142378 and PB91-138420.)

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7. Section 1 and section 2 b of Appendix G are revised to read as follows:

Appendix G -- Uniform Air Quality Index and Daily Reporting

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1. General. This appendix describes the uniform air quality index to be used by States in reporting the daily air quality index required by §58.50.

2. Definitions.

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b. Reporting Agency means the applicable State agency. or a local air pollution control agency designated by the State, that will carry out the provisions of §58.50.

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