UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
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DENVER, COLORADO 80202-2405

1 of 7

JAN 11 1989

Ref: 8AT-AP

Jeffrey T. Chaffee. Chief
Air Quality Bureau
Department of Health and Environmental Sciences
Cogswell Building
Helena, MT 59620

Dear Jeff:

Thank you for the opportunity to comment on the schedule and workplan for the submittal of the Montana Lead State Implementation Plan (SIP) for East Helena. The schedule provides for the submittal of the Lead SIP by October 1, 1989, as required by James J. Scherer's (Regional Administrator, EPA) letter to Governor Ted Schwinden dated October 1, 1988.

Two major comments to the schedule and workplan are: (1) the State should include in the schedule that a copy of the draft Lead SIP be sent to EPA for review; and (2) the workplan does not provide for certain requirements of 40 CFR Part 51 to be met. Comments to the workplan are found in Attachment I. EPA's comments are organized to illustrate our concerns with compliance, modeling and monitoring issues. Preliminary discussions on these issues occurred between my staff, the State and the EPA Montana Office on January 10, 1989.

EPA is also sending copies of guidance documents and guidance memoranda to assist the State in the development of the Lead SIP. An index of such material is found in Attachment II.

EPA appreciates the efforts the State has taken to address the SIP Call. We would like to receive a modified schedule and workplan pursuant to your discussions with the parties involved by February 1, 1989. EPA's comments are made to assist the State in meeting the general SIP requirements as well as the specific Lead SIP requirements. Please contact Laurie Ostrand at (303) 293-1814 if you have any questions regarding our comments.

Sincerely,

Douglas M. Skie, Chief
Air Programs Branch

cc: Dean Chaussee, MO

ATTACHMENT I

A. COMPLIANCE ISSUES

EPA has concerns with respect to compliance determinations of point sources and fugitive emission sources of lead. These concerns were raised after reviewing the original East Helena Lead SIP, page 5-74, which states that, in addition to other regulations, Sub-Chapter 14 contains general emission limitations requirements for fugitive emission sources. Also, as required by 40 CFR Part 51.210, the State must monitor compliance with any rules and regulations set forth by any portion of the control strategy. In reviewing a recent State inspection report of the ASARCO facility dated September 13, 1988, EPA could find no indication that the source was evaluated for compliance with the fugitive emission regulation, i.e. ARM 16.8.1401(2). It appears from the report that only stack emissions were evaluated for compliance with ARM 16.8.1404 (opacity).

In addition, EPA believes that the State's particulate matter emissions standards (ARM 16.8.1403 - Particulate Matter, Industrial Processes) should also be part of the control strategy. Because lead is emitted as particulate matter, and because the State does have particulate matter regulations to which all sources are subject, every stack emission point should be subject to a particulate weight limit. In reviewing a State inspection report of the ASARCO facility, as mentioned above, EPA found that compliance with ARM 16.8.1403 had not been evaluated since 1978 for the blast furnaces, and not since 1977 for the sinter plant. Apparently, other point emission sources have never been evaluated for compliance with ARM 16.8.1403. Therefore, the State should include ARM 16.8.1403 in its control strategy and ensure that compliance determinations with this regulation, all applicable regulations in Sub-chapter 14, and all regulations in the SIP control strategy, are implemented on a periodic basis.

Per an EPA guidance memorandum (Darryl Tyler to Conrad Simon, dated July 5, 1984, Attachment II), "fugitive (process and nonprocess) lead emissions must be counted in determining whether the source size cutoff is met or exceeded". The State should review its regulations, i.e. ARM 16.8.1102(1)(m) and (n), to ensure that such fugitive emissions are being included in the calculations of potential to emit.

The workplan indicates that the "new" New Deal Building, when constructed, will enclose a larger area (i.e., ore unloading and storage, as well as mixing) than the New Deal building that burned down. As a result of this new building, emissions that were once fugitive will now be a point source. Therefore, the point source emissions from the New Deal Building will be

increasing. The State must evaluate the "new" New Deal Building to determine whether there will be a net emissions increase. Since the fugitive emissions (if quantifiable) being offset have the same health effect as the point source emissions, it is acceptable for them to be used for the purpose of netting. After such netting, if there is a net lead emissions increase from the "new" New Deal Building greater than 0.6 tons per year, then a major modification under Prevention of Significant Deterioration (PSD) would be triggered. In addition, some modeling analysis should be conducted to ensure no ambient impact problems.

Per the workplan, ASARCO has completed modifications to the sinter building which collect fugitive emissions and vent them through a new baghouse as well as to an existing baghouse. EPA questions what was done by the State in terms of permits issued or modified for this building's emission point(s) as well as the emissions from the whole ASARCO facility. As with the original SIP, such control strategies at ASARCO and American Chemet should be embodied in some legally enforceable document(s), such as an operating permit, agency order, or court order. (See Draft Manual - "Updated Information on Approval and Promulgation of Lead Implementation Plans", page 5-1).

B. MODELING ISSUES

The State has indicated in the workplan that dispersion modeling is not appropriate for the East Helena Lead SIP. EPA, however, does not agree with this concept for the reasons given below.

Although EPA did approve the use of receptor modeling for developing the original Lead SIP's control strategy, such approval was justified in a June 14, 1984 letter, G.T. Helms to Tom Harris. This letter referenced the EPA's guidance on receptor modeling (Receptor Model Technical Series, Volume I, page 53) which indicates that receptor modeling should not be used alone to develop a control strategy, but should be used in conjunction with dispersion modeling. The analysis of the ASARCO primary lead smelter at East Helena, however, did rely on receptor modeling for developing the control strategy and demonstrating attainment. EPA had determined that effort was acceptable for the following reasons:

1. The original Lead SIP (pages 5-76 and 5-81) provided adequate justification for relying on receptor modeling alone at the time the SIP was developed.

2. EPA's guidance on receptor modeling, cited above, was not widely circulated at the time the State was undertaking its original receptor modeling analysis.

3. EPA's detailed guidance on dispersion modeling for Lead SIPs did not become available until well after Montana began its receptor modeling analysis, which it undertook in a good faith effort to develop its Lead SIP.

The June 14, 1984, letter also indicated that if subsequent monitoring indicated ambient lead exceedances in the vicinity of the source, EPA would request Montana to revise its SIP analyses based on new dispersion modeling, as well as the previous receptor modeling analyses.

EPA contends the State must conduct dispersion modeling in conjunction with the receptor modeling because of the above mentioned letter and guidance; the requirements of 40 CFR Part 51.117(c); and the fact that receptor modeling used by the State to date has not proved to be totally successful.

The preferred dispersion model for Lead SIPs nationwide is the Industrial Source Complex Long Term (ISCLT). EPA believes this model can be properly applied at the ASARCO facility and surrounding areas. ISCLT can address point, area and line sources. It also has a particle deposition algorithm which will account for the settling out of larger particulate. To address the high terrain to the south of the facility impacted by the stacks emissions, either Complex I or Rough Terrain Dispersion Model (RTDM), should be applied. Since there is no onsite meteorological data, EPA believes that, in the interim, the National Weather Service (NWS) meteorological data from the airport should be used to provide "initial" evaluation for this area.

EPA does note that the NWS data indicates that the prevailing winds are from the southwest, west and northwest which would lend one to think that the highest values of measured ambient lead would be to the east of the ASARCO facility. However, ambient monitoring data indicates that the highest measured values of lead have been to the north of the ASARCO facility. This dichotomy could indicate that the NWS data is not representative at the ASARCO facility or that the ambient monitoring coverage to the east of the ASARCO facility has not been representative of ambient conditions.

Therefore, EPA strongly suggests that one year of onsite meteorological data be collected at the ASARCO facility starting immediately. This would allow the State to do the initial dispersion modeling with the NWS data and then confirm or modify the initial dispersion modeling, as necessary, when the onsite meteorological data is collected. The onsite meteorological data needs to be collected at two or more different levels, i.e., 10 meters and stack top. The 10 meter level will be used to determine atmospheric stability and provide transport and

dilution for low level area, line and fugitive sources. Stack top winds are required for the stack emissions. Note that measurements above 100 meters are not required as per the "Guideline on Air Quality Models," EPA-450/2-78-027R. All meteorological modeling should be done in accordance with the requirements found in the above mentioned "Guideline" and its referenced material.

The workplan discussed the States's position that light downslope winds from the Little Prickly Pear Creek are primarily responsible for the lead concentrations observed in East Helena. Without onsite meteorological data, however, this phenomena cannot be confirmed. EPA does question this theory since night time downslope drainage winds are usually of low wind speed and not sufficient enough to transport the larger lead particles (i.e., those greater than 30 microns) that ASARCO's consultants, NEA, Inc., believe are contributing to the present lead violations.

The workplan states that an emissions inventory is unnecessary. Because EPA is requiring that dispersion modeling be conducted, an emissions inventory must be completed. An emissions inventory could also validate the theory that fugitive emissions are in fact the remaining area for lead control in East Helena. Some of the attached guidance documents reference additional sources that should help the State in evaluating fugitive emissions.

C. MONITORING ISSUES

The workplan described the past extensive air monitoring program around the ASARCO/American Chemet and the City of East Helena. The proposed monitoring specified in the workplan would be at three existing sites: Hadfield, Firehall, and Dartman Field. EPA's comments on the monitoring issues outlined in the workplan involve four issues. These issues are the location of the monitoring sites to determine attainment of the lead standard, frequency of sampling, use of high and low volume samplers, and 40 CFR 58 Subpart C criteria.

The State and ASARCO plan to cooperatively operate high volume samplers on a every third-day cycle at the Hadfield and Firehall sites and on a six-day cycle at the Dartman Field site. These sites have experienced the highest lead concentrations in recent years combined with the fact that they lie in close proximity to the ASARCO/American Chemet suggests that the sites could continue to record the highest lead concentrations in the area. The State has committed to evaluating the monitoring network by February 1, 1989. This effort is greatly supported and encouraged by EPA. The final Lead SIP monitoring network should be validated by the dispersion modeling being recommended by EPA. The dispersion modeling, receptor modeling and emission

inventory should be used to determine the area of maximum concentration.

Although EPA monitoring guidelines recommend a minimum effort of one-in six-day sampling schedule, the more frequent one-in three-day sampling schedule proposed in the workplan at two of the locations should enhance the lead data base. Also, it is strongly recommended that a co-located high volume monitor be installed, if one is not already present, at the monitoring station that has traditionally measured the highest concentrations. A one-in six-day sampling frequency is required and sampling must occur on the same sampling day as the primary sampler.

The workplan indicates that both high and low volume samplers will be located at these monitoring stations. The low volume samplers will be utilized to collect the smaller size particles for use in X-Ray Fluorescence (XRF) analyses as part of the Chemical Mass Balance (CMB) work the State is conducting in the area. It should be emphasized that high volume sampling is the reference method for lead monitoring and is the only monitoring method from which data can be used to determine compliance with lead standards.

Finally, all monitoring for this SIP effort must comply with 40 CFR 51.190; 40 CFR 51.190 refers to 40 CFR 58 Subpart C for the detailed requirements which includes guidelines on the siting of instruments and quality assurance.

D. OTHER ISSUES

Discussion with the EPA Superfund Program indicates that air emissions could be significantly impacted during clean-up and thus affect the Lead SIP. To that end, the State must consider the efforts of the Superfund clean-up at ASARCO and the affected East Helena area and incorporate, as necessary, the appropriate control strategy.

ATTACHMENT II

1. Draft Manual "Updated Information on Approval and Promulgation of Lead Implementation Plans", July 1983.

2. Guidance Memorandum from Darryl D. Tyler to Conrad Simon dated July 5, 1984, regarding "Lead State Implementation (SIP's)--Fugitive Emission in New Source Review (NSR)".

3. Memorandum from G.T. Helms to Tom Harris dated June 14, 1984, regarding "Montana Lead State Implementation Plan (SIP) - Receptor and Dispersion Modeling".

4. Memorandum from G.T. Helms to Conrad Simon dated March 14, 1983, regarding "Issues on Lead SIP's".

5. "Receptor Model Technical Series, Volume I, Overview of Receptor Model Application to Particulate Source Apportionment", EPA-450/4-81-016a, July 1981.

6. "Control Techniques For Lead Air Emissions from Stationary Sources - Volumes 1 and 2, March 1985.

7. "Guideline Series, Supplementary Guidelines for Lead Implementation Plans", EPA-450/2-78-038, August 1978.

8. "Guideline Series, Development of an Example Control Strategy for Lead", EPA-450/2-79-002, April 1979.

9. "Guideline for Lead Monitoring in the Vicinity of Lead Sources", EPA-450/4-81-006, January 1981.

10. "On-Site Meteorological Program Guidance for Regulatory Modeling Applications", EPA-450/4-87-013, June 1987.

except Ref. 10

NOTE: Since all of the above mentioned guidance is pre-1986, they reference portions of the Code of Federal Regulations that were recodified. The State should refer to 51 FR 40656, November 7, 1986, copy attached, to determine the recodified provisions.