UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
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DENVER, COLORADO 80202-2405
DEC 24 1991

Ref: 8ART-AP

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

RE: Protocols for East Helena Lead SIP - Design Value Determination and Model Comparison

Dear Jeff:

On December 5, 1991 we received copies of the two protocols for the East Helena Lead SIP which the State and Asarco committed to provide during our November 5, 1991 meeting. These protocols are entitled, respectively, "Protocol for Determination of the Design Value Lead Concentration - East Helena Lead SIP", dated December 3, 1991, and "Protocol for Comparison of Additional Results From Reconciled ISCST and CMB Models at East Helena, Montana", dated December 2, 1991.

We have reviewed these protocols with respect to EPA guidelines, and with respect to the proposals discussed during the meeting of November 5th, and have determined that the protocol for the model comparison is acceptable. We have several concerns with the protocol for the design value determination; our specific comments are enclosed with this letter. We do not believe that the protocol needs to be formally revised; however, our comments must be addressed during the actual modeling and in the documentation of the modeling effort. Therefore, we will consider the protocol of December 3, 1991, as modified by the enclosed comments, to be an approved protocol for the determination of design value.

With regard to the SIP schedule adjustments, we would expect that these tasks will be completed within "six weeks after EPA approval" of the protocols, as was indicated in the Asarco transmittal letter of December 4, 1991. Although it was not possible for us to provide this response to you by mid-December, as requested in the Asarco letter of December 4th, the date of this response should allow sufficient time for completion of these tasks in the first part of February 1992. This two week delay should not materially affect the remainder of the SIP schedule, and should provide for SIP submittal in late September 1992.

Please feel free to contact Mindy Mohr at (303) 294-7539 with any questions regarding this response. We look forward to the continuation of excellent progress on the East Helena Lead SIP.

Sincerely,

Dean Gillam for

Douglas M. Skie, Chief
Air Programs Branch

Enclosure

ENCLOSURE

EPA COMMENTS ON THE PROTOCOL FOR DETERMINATION OF THE DESIGN VALUE LEAD CONCENTRATION - EAST HELENA LEAD SIP

1. EPA recognizes that the March 11, 1991 modeling protocol indicates that design value and attainment demonstration modeling will be performed using July 1, 1990 through June 30, 1991 meteorological data. Please note, however, that the EPA Guideline on Air Quality Models (Revised) (the Guideline) recommends the use of all available on-site data. Therefore, credibility for the Lead SIP would be enhanced if all quarters since January 1990, for which meteorological data are available, were included in the modeling for the design value. Therefore, although it is acceptable for the current Lead SIP modeling to use only the one year of data, we urge the State to consider using all available meteorological data for this effort.

2. Table 9.1 of the Guideline indicates that, for a quarterly emission limit, modeling should be based upon a short term emission limit (maximum allowable limit or federally enforceable permit limit), or a maximum emission limit at design capacity, which is then multiplied by an operating factor which represents the average historical percentage of the time that the unit was operating. It is our understanding from the design protocol that Asarco will start with a maximum quarterly emission rate, and divide by 91 to obtain an average daily emission rate, which is then input to the model. During a December 12, 1991 telephone conversation with John Coefield, he further explained that Asarco was using the highest measured or estimated emission factor in a quarter (pounds of lead per hour, pounds of lead per ton of material crushed, etc.), increasing that number by 20% for "safety", and then multiplying that by the highest operating rate in the quarter. This quarterly rate would then be divided by 91 to provide a daily rate; the daily rate would be used for all 365 days modeled.

   We believe that the results as obtained by Asarco's proposal will be different than those obtained by using the methods of Table 9.1. In order for the proposed methods to be acceptable, the State must document that the proposal is at least as conservative as the Guideline method. In addition, the State should consider any increases in Asarco's operations in the future, and the affect such increases might have on the design value.

3. It was not clear from the protocol whether emissions from the volume sources (building volume sources and material handling sources) and the variable sources (discussed on

page 3, second paragraph and in our comment #5 below) would be treated in the manner as discussed above for the point sources. This should be clearly stated, and any deviations from the Guideline method for these sources also must be documented as being conservative.

4. The protocol specified, on page 4, that "design maximum value quarterly emissions for the American Chemet facility" will be applied in the modeling. The exact method of determining these emissions must be documented, and, as discussed above, any deviation from the Guideline method must be documented.

5. On page 3 of the design value protocol, the second paragraph discusses the hourly variation for "variable" sources 1P, 2P, 3P, 4P, 5P, 1V, 1Va, 1Vb, and 6V. The proposal is to model emissions from these sources during the Asarco day shift (7 a.m. to 3 p.m.), rather than for a variable number of hours. Sources 3Pa and 4Pa, which are operated during hours in which 3P, 4P and 6V are not operating, would have emissions during the other two Asarco 8-hour shifts. Based upon our review of the operation of these sources during the time period from July 1, 1990 through December 31, 1990, as documented for the emission inventory, this seems to be a reasonable proposal. However, for the Lead SIP Asarco would need to have a federally-enforceable permit condition or regulation which would limit the operation of these sources in the manner they have described, unless it can be shown that operating during the other shifts would not affect the design value(s), or unless there are documentable physical limitations to prevent operation of these sources during the other shifts.

6. The discussion on page 3 of the protocol regarding re-entrained road dust at Asarco indicates that, for the fourth quarter (October through December), the model emission inputs will represent "2/3 uncontrolled and 1/3 controlled". It would be preferable that the October "controlled" emissions be treated explicitly in the modeling for that month (i.e. model October using controlled emissions, and model November and December using uncontrolled emissions). If this is not possible, the State must use uncontrolled emissions for the entire fourth quarter. Again, we must stress that for any time period during which controlled emissions are assumed, the SIP will have to specify federally-enforceable conditions to ensure that such controls are in place.