

BEFORE THE
ENVIRONMENTAL PROTECTION AGENCY
TESTIMONY OF KENNETH WISE, SENIOR RESEARCH ASSOCIATE,
CHARLES RIVER ASSOCIATES
ON THE PROPOSED NATIONAL AMBIENT AIR
QUALITY STANDARD FOR LEAD
DOCKET OAQPS 77-1

February 16, 1978

My name is Kenneth Wise. I am a Senior Research Associate for Charles River Associates (CRA), an economic research firm with offices at 1050 Massachusetts Avenue, Cambridge, Massachusetts.

CRA performs economic research projects for government and industry in such areas as metals and minerals, energy, and transportation. Our firm has performed a number of studies of the lead industry over the past decade, most recently for the U.S. Department of Interior in 1976 and for the Lead Industries Association in 1977 in connection with OSHA's current proposal for a new in-plant air lead standard.

Together with The Research Corporation of New England, an environmental engineering consulting firm which has expertise in air quality monitoring and prediction, CRA has been retained by counsel for the Lead Industries Association to assess the technological and

economic feasibility of EPA's proposal to adopt a 1.5 ug/m³ ambient air quality standard for lead. Our study has concentrated on three segments of the lead industry: the primary and secondary lead producers and lead-acid battery companies.

Although our analyses will not be completed until mid-March, we have been able to develop some important tentative conclusions concerning the primary and secondary lead industries, which account for all U.S. lead production. Our analyses of the battery industry are not sufficiently advanced to permit conclusions to be drawn as to the impact of the proposed standard on that industry.

1. Based on a sample of four primary lead producing facilities in the Missouri and non-Missouri lead producing regions, we have concluded that most, if not all, of the primary lead smelters will be unable to attain the 1.5 ug/m³ standard proposed by the EPA.

2. We have also studied several secondary lead producing facilities and, while our data relating to the secondary industry are not as comprehensive as those for the primary industry, it appears that the secondary lead industry will experience similar difficulties in attaining the proposed air lead level.

The remainder of my statement will detail the facts and reasons for these conclusions.

Primary Lead Smelters

EPA's economic analysis excluded consideration of background lead presumably on the theory that it would not be an important factor. Analyses of ambient air-lead monitoring data provided by four primary lead facilities have led us to conclude that the contrary is true.

These analyses indicate that background levels of lead in the air near primary smelters are not only composed of lead from motor vehicle emissions but contain a significant component attributable to resuspended lead material. For the plants in our sample the contribution from this source was equal to or greater than 1.5 ug/m^3 in every case. These air lead background concentrations are in some cases expected to decline over time, but at a very slow rate. Since they are due to lead sources which exist outside the plant boundary and are not under the control of the plants, the conclusion is inescapable that none of the plants studied will be able to control its fugitive and stack emissions to the degree necessary to attain the 1.5 ug/m^3 standard. Consequently, enforcement of the standard will result in the closure of all the facilities in our

LIA03607

sample and, very likely all facilities in the industry, since there is every reason to believe that our sample, which covers two-thirds of the industry, is representative.

We have also investigated the potential for compliance at an alternative standard level of 5.0 ug/m³ based on a 90 day sampling period. Our preliminary results for the two Missouri facilities indicate that control levels of less than 80 percent would allow compliance to be attained at both facilities. In order to achieve these control levels, it will be necessary to totally enclose many of the plant operations in buildings in order to control difficult fugitive emission problems. However, it appears that efforts along these lines would permit attainment of the 5.0 ug/m³ standard. Our work on the non-Missouri facilities indicates that control levels between 90 and 95 percent would be necessary to attain the 5.0 ug/m³ level. Consequently, if 95 percent control can be achieved, as EPA indicated in its economic impact statement, then it will be technologically feasible for these facilities to comply with the higher standard.

In summary, our initial results indicate that a standard of 1.5 ug/m³ would result in extensive, possibly total, plant closures in the primary lead industry. Our research indicates that it would at least be technologically

feasible to comply with a standard of 5.0 ug/m^3 for most, if not all, plants, although to do so would require significant capital expenditures. We intend to analyze the economic feasibility of complying with a 5.0 ug/m^3 standard as part of our research effort and the results of that analysis will be presented in our final report.

Secondary Lead Producers

Our preliminary results for secondary lead smelting facilities indicate that it will be technologically infeasible for most plants to achieve the 1.5 ug/m^3 level. Many secondary smelters are located in urban areas where motor vehicle emissions will make some contribution towards the proposed air lead level. In addition, re-suspension of lead-bearing particulate matter, which is beyond a plant's control, is also expected to contribute to high background ambient air lead levels at most secondary lead production facilities. Consequently, the background air lead concentration is expected to approach or exceed the proposed 1.5 ug/m^3 standard at secondary smelters.

Air quality monitoring data collected at three secondary plants have revealed that peak air lead levels in excess of 40 ug/m^3 at the plant boundaries are not uncommon. Such plants would find it difficult or impossible

LIA03609

to comply with a 1.5 ug/m^3 standard even in the absence of significant air lead background levels. Since high background levels would be expected at most secondary lead smelters, it must be concluded that most existing producers would not be able to comply with the proposed standard and would be forced to terminate operations.

We are also investigating whether it would be feasible for the secondary lead industry to comply with a 5.0 ug/m^3 standard. Our preliminary conclusions are that compliance with the higher standard would be technologically feasible for most secondary facilities. As in the case of primary smelters, compliance would require the use of the best available technology, building evacuation to a fabric filter, to control the fugitive emissions sufficiently. Such a control strategy would, of course, involve large capital expenditures. As in the case of primary smelters, these issues of technological feasibility and economic feasibility will be further analyzed and discussed in more depth in our final report.

LIA03610

General Economic Impacts of Compliance

Our analysis to date is not sufficiently advanced to be able to provide a detailed quantification of the economic impacts of a 1.5 ug/m^3 air lead standard. However, based on our preliminary conclusion that most of the primary and secondary lead producers will be unable to comply with the proposed standard, it is possible to determine that certain economic impacts will result. Some of the major impacts are the following:

- o There will be a loss of a substantial number of jobs in the primary and secondary producing industries as plants are closed. In areas where lead facilities employ a significant percentage of the workforce, there will be secondary effects affecting the economy of the entire region.
- o The closure of primary lead facilities will affect the mines which supply them. These impacts will be felt most severely by western mines, many of which are marginally profitable and would be forced to close with the loss of their domestic buyers. These closures would cause further unemployment and further damage to particular regions.
- o The closure of secondary facilities would create problems regarding the disposal of lead scrap which is a hazardous material.
- o The short run effect of simultaneous widespread closure of domestic lead producing facilities would be a large increase in the international lead price. It is probable that domestic shortages would result which would

LIA03611

severely affect lead consuming industries such as the battery industry or the tetraethyl lead industry. The secondary impacts on the auto industry, a substantial sector of the U.S. economy, would be most severe.

- o The long run effect of the closure of domestic lead producing facilities will be to increase U.S. reliance on foreign suppliers of this critical material. This reliance will, of course, have adverse balance of payment effects.

The above list, although not a complete summary of the major impacts of the standard, does indicate that enormous economic consequences will result if a 1.5 ug/m^3 air lead standard is adopted. These issues will be analyzed and discussed in greater detail in our final report.

LIA03612