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Policy Office
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RE: Public Comments
North Reading Nonattainment Area Lead SIP
Berks County Comments

Dear Pennsylvania Administrator:

The following comments on the Department's Draft North Reading Nonattainment Area Lead SIP are submitted by the County of Berks, which entity petitioned the US EPA requesting that the Commonwealth of Pennsylvania develop and finalize this lead SIP. The County appreciates the Department's work on the proposed SIP and offers the following comments for the Department's consideration.

I. Air Dispersion Modeling

A. Meteorological Data Used are Not Representative of the Area Being Modeled

The air dispersion modeling analysis conducted in support of the North Reading Nonattainment Area Lead SIP uses meteorological data from the Reading Regional Airport. These data are not representative of meteorological conditions in and around Exide/Yuasa where the highest lead concentrations are predicted to occur, per the criteria established in Section 8.3 of 40 CFR 51, Appendix W. Berks County has examined and compared the Exide meteorological station data and compared it to the Reading Area Airport meteorological data. The results of this comparison demonstrate that the elevated terrain immediately to the east of Exide/Yuasa causes a diurnal upslope/downslope wind flow that is not captured by the Reading Airport data. This difference is most pronounced in the nighttime hours, which are typically associated with poor atmospheric dispersion and thus higher pollutant impacts. The failure to account for the localized effects during poor dispersion conditions will underestimate the maximum modeled impact and thus will falsely show attainment when attainment has not been achieved.

Because the Reading Airport data are not representative of meteorological conditions near Exide/YUASA particularly during nighttime hours, they should not be used in an air dispersion modeling to demonstrate the effectiveness of the proposed Lead SIP. Therefore, the Department should run the SIP modeling using meteorological data that reflects the impact of the area immediately surrounding Exide and YUASA. By utilizing Reading Airport data, the Lead SIP will predict attainment where attainment will not, in fact, be achieved because of the unique local (micro) meteorological conditions and patterns. If the Department would like to view the County's meteorological data comparison, please do not hesitate to request it.

B. Background Data Used Are Not Representative of Area Being Modeled, and Development of Background Concentration Ignores Established EPA Regulations

The air dispersion modeling analysis conducted in support of the North Reading Nonattainment Area Lead SIP used a background concentration from Ridley Park, PA, approximately 45 miles from Exide/YUASA. The Department's rationale for using such a distant monitor was that the two monitors (Laureldale North and Laureldale South) in the North Reading Nonattainment area were influenced by Exide/Yuasa. Because Exide, which is responsible for the overwhelming majority of emissions in the modeling analysis, has been idled for more than two years, the Department's concern is unwarranted. Instead, the Department should have utilized the Department's Laureldale North and Laureldale South monitor data to establish the background concentration.

Even if there is legitimate reason for concern that operations from the idled Exide facility and YUASA have influenced recent monitor values at the two Laureldale stations, EPA has established procedures to account for this type of situation. These procedures are set forth in Section 8.2.2 of 40 CFR 51, Appendix W, whereby concentrations influenced by that source's operations (e.g., when the wind blows from the source to the monitor) are discounted in the development of the overall background concentration. The Department did not follow the methodology set forth in the federal rule.

We note the irony of the Department's use of the Ridley Park monitor. The selected Ridley Park monitor was originally sited as a result of the 1-ton lead source, Exelon Generation – Eddystone facility, in Delaware County. Based on EPA's Source Management System, the Exelon Generation – Eddystone facility last operated on April 28, 2011. Since the one ton source ceased operation, the Ridley Park monitor used to establish background for the lead SIP in this case, has been monitoring ambient air since May 2011. Why it is ok to use this particular monitor when it is essentially monitoring ambient air in a formerly influenced lead area and not use a similar monitoring station next to Exide, which has been idled since 2013, should be explained. Of the greatest concern to this issue is that the Department's approach fails to account for the well documented legacy lead contamination in the Laureldale area. This factor is illustrated by data from the first quarter of this year, the most recent data which DEP has made publically available. In the first quarter Ridley Park had fourteen lead samples, three of which measured $0.011 \mu\text{g}/\text{M}^3$, and the remainder of which were $0.01 \mu\text{g}/\text{M}^3$. Laureldale North, during the same period and with a totally idled lead smelter, had four readings above $0.011 \mu\text{g}/\text{M}^3$ with the highest at $0.044 \mu\text{g}/\text{M}^3$ and Laureldale South had seven readings above $0.011 \mu\text{g}/\text{M}^3$, with a maximum of $0.022 \mu\text{g}/\text{M}^3$.

A review of these data clearly shows that Ridley Park is not representative of Laureldale as a background site.

Moreover, if the Department were to use the Laureldale data for the background concentration, and add it to the modeled concentration, the area will exceed the Lead NAAQS. DEP's approach to the background concentration was to look at the three distant monitors and choose the highest of the 3-month averages over 2012-2014. If you apply the same approach to the Laureldale monitors, but look at only concentrations after Exide idled, the background concentration should be 0.099 ug/m³ (Laureldale North). That concentration was from the 3-month period ending June 2013, which was the first 3-month period that did not include any Exide operations (Exide was idle as of the end of March 2013).

However, to be even more forgiving to Exide, if one considers that Exide still had storage piles through January 2014, you should look at only 3-month averages after May 2014. If you consider only those data the highest 3-month average is 0.028 ug/m³ (Laureldale South). This 3-month average is for the period ending February 2015. If you add either of these concentrations to the predicted max concentration from the Department's modeling the total concentration exceeds the Lead NAAQS.

Therefore, the Department should re-calculate the background concentration using data from the two Laureldale stations in conjunction with the procedures established in Section 8.2.2 of 40 CFR 51, Appendix W.

C. Insufficient Margin of Safety

The design value is at 94% of the NAAQS. This may sound like a reasonable margin of safety but it should be noted that the lead method strives for a bias error of less than 15% at a 95% confidence level. At a positive measurement bias of only half that amount we would result in a measured NAAQS exceedance, if all of the assumptions in the model were correct and we were sampling at the maximum impact point.

II. **Monitoring: Fugitive Sources Are Still Not Being Monitored or Modeled**

The Department has been involved with Berks County's comments and concerns over insufficient monitoring of fugitive emissions from Exide since at least 2010. The County reiterates the following issues with current monitoring data and the need for additional monitors near Exide:

- 1) Not all fugitive sources from Exide have been identified, either by the Department nor Exide. Although fugitive sources are reasonably expected to be reduced by enclosure of portions of the facility in the future, the Department still has not conducted a sufficiently thorough analysis of fugitive sources.
- 2) Exide fugitive sources have not been inventoried in the Exide Title V permit to date.
- 3) Exide fugitive sources and emissions have never been included in the Department's analysis and location of the DEP Laureldale North monitoring

station, which results in artificially low lead concentrations at the DEP Laureldale North station – the very station that the Department will rely upon to determine attainment in this area.

- 4) The Department should locate a monitoring station on the Exide property, at the fenceline between Exide and the convent/nursing home facility and near the foundry and slag operation buildings at Exide. Such monitoring station would not be measuring ambient air, but instead can assist the Department and Exide in quantifying and/or estimating fugitive lead emissions from Exide.
- 5) The Department should also establish a second DEP Laureldale North station where lead NAAQS compliance can be monitored more accurately. The County has submitted comments on this and related issues numerous times, and has consistently offered to pay to establish, maintain, and run such a monitoring station. That offer remains in place for the Department.

Absent monitoring and emissions data that is reflecting all of the emissions from the Exide facility, the Department's modeling will reflect lower ambient air lead concentrations than what the public is actually exposed to on a daily basis. Additionally, and most relevant to these comments, the Department will ultimately determine attainment based upon monitoring station and stack emission data and modeling – and that determination will be incorrect.

III. Legitimate and Significant Uncertainties Remain

If the Exide plant comes back on line the entire attainment demonstration is based on a set of modeled assumptions, not all of which are completely representative of actual conditions and not all of which can be verified. The fact that the meteorological data used in the dispersion modeling analysis do not account for local topographical influences, the assumptions of fugitive emissions that cannot be verified, the selection of background data that do not account for legacy lead contamination, and the fact that stack emissions are permit limits which are only very infrequently tested, all lead to great uncertainties as to whether or not the area will truly reach attainment with an operating battery smelter. The solution to resolve these issues and provide certainty to the process is the siting and maintenance of a lead sampling network near the points of predicted maximum impact. Based on historical data and the Department's dispersion modeling, at least two samplers must be sited; one at the point of modeled maximum impact and one at the point of the observed maximum historical readings. The Department's refusal to provide for this verification method puts the nearby community at risk of unknowingly being exposed to unhealthful lead levels for as long as the battery smelter operates.

The Department's Laureldale North sampler, if it shows a NAAQS violation, would indicate, based on Department's modeling analysis, that the maximum impact for the ambient air in the community would be approximately 5 times greater than the NAAQS. A "Don't Ask, Don't Tell" program does not provide the public protection required by the Clean Air Act.

Conclusion

The County of Berks appreciates the Department's thoughtful consideration of its comments regarding the proposed North Reading Nonattainment Area Lead SIP. To the extent that the Department has questions or would like to discuss these comments in more detail, we are available to do so.

Sincerely,

STOCK AND LEADER

Alexandra C. Chiaruttini

ACC/jlr

Cc: Berks County Commissioners
Muhlenberg Township
Laureldale Borough
Senator Toomey
Senator Casey