Revised Preliminary Comments on Pb NAAQS Monitoring
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1. Charge questions, attachment 1, Options for Lead NAAQS Indicator: Monitoring Implications: *Considering issues such as sampler performance, size cuts, operator maintenance, integration with other measurement systems, and usefulness as the measurement system for the indicator, please describe the advantages and disadvantages of sampling and analysis of Pb-TSP versus sampling and analysis of Pb-PM10.*

As I commented in reviewing the Lead ANPR, I prefer changing the Pb NAAQS indicator to Pb-PM10. This option takes advantage of current technology to make a more precise measurement, it would allow states to make better use of existing monitors, and the technology allows sequential measurements to be made automatically. While it will not capture the fraction of Pb on very large (>10 um) particles, I believe that it is possible to account for this in a reasonable way by incorporating a scaling factor into the standard. The uncertainty or variability introduced with this scaling factor is probably not significantly greater than that introduced by the TSP monitor itself, by virtue of its varying size cut with wind speed and direction.

Is it appropriate to monitor for Pb-PM10 near Pb sources? And if so, under what conditions?
Yes, it is appropriate to monitor for Pb-PM10 near Pb sources. Elevated Pb will show up in PM10 if it shows up in TSP. I can't imagine a scenario where TSP could show levels of Pb at or near the standard and PM10 would not. As noted above, incorporating a scaling factor into the standard would provide an adequate margin of safety to account for possible PM-Pb distributions that were skewed toward the >10 um particles.

One indicator option suggests using scaling Pb-PM10 monitoring data up to an equivalent Pb-TSP level in lieu of Pb-TSP monitoring data. Under what circumstances would it be appropriate to scale data (e.g., non-source oriented sites, low concentration sites) and when would it not be appropriate to scale data?

I don't think the data should be scaled, I think the standard should be set for Pb-PM10 at a level that is sufficiently protective of human health to account for possible ultra-coarse particles not collected by the sampler. That is, the scaling factor should be built into a PM10 standard, not applied to adjust PM10 data for comparison with a TSP standard. While I would prefer to see additional data on Pb-PM10—Pb-TSP relationships, I think EPA has sufficient information at the moment to make a reasonable estimate of that relationship, as shown in the memorandum from Kevin Cavender.

We have limited data collocated Pb-P10 and Pb-TSP monitoring data. What types and "scaling factors" are appropriate to create using this data (e.g., non-source oriented, source oriented) ? What levels are appropriate for the types of scaling factors identified in the white paper?

It would be helpful to see the Pb-PM10—Pb-TSP relationship for a variety of sources and monitor sites – smelters, mines, roadways, other industrial sites, etc. However, I know this type of data is very limited. If time permits, EPA might attempt to collect additional data to better characterize the relationship.

2. Charge questions, attachment 2, Draft FRM and FEM criteria (memo from Joann Rice):
ls it appropriate to use the low-volume PM10 FRM sampler as the Pb-PM10 FRM sampler?
Yes.

What other PM10 samplers should be considered as either FRM or FEM for the Pb-PM10 FRM?
EPA should consider allowing TSP monitors to be compared to the Pb-PM10 NAAQS when (unadjusted) values are below the new Pb-PM10 standard. This would be conservative – concentrations from the TSP would be biased high relative to PM10 – and would allow the states/locals some flexibility in turnover to the newer technology.

Is XRF an appropriate Pb-PM10 FRM analysis method?
Yes, it improves the detection limit and has acceptable costs and thus should be permitted. The fact that it is nondestructive is a bonus.

Have we selected appropriate precision, bias, and method detection limit requirements for FEM evaluation?
All the proposed changes to the FRM and FEM criteria were reasonable.

3. Charge questions, attachment 3, Ambient Monitoring Network: *What types of monitoring sites should be emphasized in the network design (e.g., source oriented monitors, population monitors, near roadway monitors)?*

Concentrations near sources are elevated so the initial focus should be there; the requirements for which sources, based on emission limits, will clearly depend on the level of the standard. The roadway data are pretty limited and I'm not sure we have adequate information to make a determination yet about the extent of monitoring needed there; this will also depend strongly on the level of the new standard. Population monitors seem the least critical. Presumably the NCore network will be making Pb-PM10 measurements; can those be designated as the Pb population monitors as well?

We are considering proposing requirements for monitoring near sources exceeding an emissions threshold and discuss a number of options for determining this threshold in the white paper. What options should be considered in establishing an emissions threshold?
We are considering proposing requirements for non-source oriented monitoring in large urban areas to provide additional information on ambient air concentrations in urban areas.
Considering other monitoring priorities and a potential requirement for Pb monitoring near sources, what size of a non-source oriented Pb network is appropriate?

What factors should we base non-source oriented monitoring requirements on (e.g., population, design value) ?

I don't think non-source oriented monitoring needs to be a priority for this pollutant. It is clear that near-source exposures are the ones that are most relevant. I'd be content with measurements from NCore, if all ~75 sites make speciated PM10 measurements. Between these measurements and the PM2.5 speciation network, there would be a respectable national data set to assess typical non-source concentrations in urban and rural environments.

We are considering proposing requirements for Pb monitoring near roadways and interstates. Is it appropriate to include separate monitoring requirements for near roadway monitoring, or should near roadway monitors be a part of the non-source oriented monitoring requirement?

I haven't seen enough data on how Pb varies with roadway type, traffic counts, or other factors to make a recommendation on this. I really think we need to collect more data before making this a requirement.

Under what conditions would it be appropriate to waive the monitoring requirements for either source or non-source oriented monitors?

If several years of monitoring data (PM-10 or TSP) demonstrate compliance or if a comprehensive modeling analysis for a source shows no potential for exceedances. However, it seems like some kind of maintenance monitoring should be required for sources that have the potential for exceedances, even if their monitoring data show compliance for a particular period.

4. Charge questions, attachment 4: Sampling Frequency Options:

What sampling frequency would be appropriate if the Pb NAAQS is based on a monthly average?
Is it appropriate to relax the sampling frequency in areas of low Pb concentration? If so, at what percent of the Pb NAAQS?
Is it appropriate to relax the sampling frequency in areas considerably higher than the NAAQS? lf so, at what percent of the Pb NAAQS?

I'm not totally convinced that monthly averages are a necessity, but if the averaging time does change to 1 month, then the sampling frequency does need to increase to 1/3 day. As above, if monitors show attainment with the standard it is definitely reasonable to relax the frequency requirement. The 30% figure proposed was fine. I'm not sure I see the rationale to relaxing frequency in areas above the NAAQS. Presumably there will be actions taken to reduce concentrations, which we would want to document with measured values, and particularly with improved precision as we approach the standard.