INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

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December 6, 2011

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Ms. Cheryl Newton
US EPA, Region 5
77 West Jackson Blvd.
Chicago, IL 60604

Dear Ms. Newton:

Re: 114 Letter – Bear Run Mine

This letter outlines some of the concerns we see with the 114 letter recently sent to Peabody Energy.

We have received complaints from 13 individuals since February 5, 2010 regarding the Bear Run Mine. Those complaints have been investigated by IDEM and we are aware that there are fugitive dust issues with dust settling on complainant's properties, but we have not found violations of fugitive dust leaving the Bear Run Mine property. IDEM issued Peabody a warning letter on April 21, 2011 to address dust from loading of open storage piles and to address inadequacies in the fugitive dust control plan to minimize fugitive dust. IDEM encourages Peabody to address citizen complainants and minimize dust from the mining operations.

The first major issue with the 114 letter is the request to model impacts from the mine with AERMOD. Back in the late 1990s EPA headquarters (Office of Air Quality Planning and Standards (OAQPS)) did a modeling study in the Powder River Basin of Wyoming. This study was done at the request of Senator Simpson to address whether air models could accurately predict concentrations from surface mines. The study concluded that models could not accurately predict short-term concentrations from surface mines. I contacted EPA-OAQPS (Chet Wayland) last week and asked if this policy had been revised. He did not believe that it had. The model tested at the Powder River Basin was not AERMOD, but there have been no additional studies that I am aware of to show that AERMOD will perform for surface mines.

Therefore, EPA should not be requiring anyone to model emissions from surface mines to predict short term peaks for purposes of locating monitors. This can be done based solely on wind rose data without the need for any modeling.

The next issue is with concerns over lead concentrations. The PM-10 annual standard was 50 µg/m3. Typical lead concentrations in Indiana coal are 10.9 parts per million (PPM) according to the Toxic Release Inventory guidance for Coal Mining Facilities. The expected concentration of lead would be: 50 µg/m3 x 10.9/ 1,000,000 = 0.000545 µg/m3

While we can argue that the annual PM-10 level is not equivalent to a rolling 3-month average for lead and that the percent of lead is of total (not PM-10), the bottom line is that it would take annual PM-10 levels to be approximately 275 times the standard before lead levels would be exceeded. This assumes that the entire concentration is due to coal dust. If, as is normally the case, the dust is due to other non-coal related activities, such as haul roads, the lead would be even less. Thus we do not see the need for including lead in any analyses.

The third issue is with requiring the use of continuous FEMs. There are questions regarding how accurate these samplers are in comparison with the federal reference methods (FRMs). EPA has yet to determine the reason for the difference between the two methods, but on an annual basis the FEMS appear to be biased high. We do not see good agreement between the two sets of instruments at the approximately 12 sites where we have concurrent sampling being conducted in Indiana. These are based on PM-2.5 results, but the same problems would be present for PM-10.

FEMs are expensive to purchase or lease and are difficult to operate. Given that there is no hourly standard for PM-10, why should FEMs be required?

A more reasonable monitoring strategy would be to deploy two or three filter based FRM monitors for a short duration to determine whether there was a problem or not. These could be run on a once in every three or six day schedule. The ideal time would be to start this in late spring when we get the least precipitation and would expect the highest concentrations. Putting out samplers now when winter is just beginning is unlikely to result in high concentrations.

How long is the sampling to continue? The 114 letter states at least one year. I may be wrong, but it seems inappropriate to be establishing new requirements on sources through a 114 letter. This should be done through the permitting process, if necessary. The intention of a 114 letter is to gather information in order to make a determination of compliance, not to require monitoring forever.

The 114 letter states "Peabody must install a meteorological tower…." The request does not specify the height of the tower. We would expect that this would be 10 meters, but EPA should specify the height.

What is the ultimate use of this data? We believe that this is to compare to the 24-hour PM-10 standard since EPA is alleging potential violations of a NAAQS. However, if high readings are found how will Peabody or EPA know who was the culprit? There are unpaved roads in the areas (not on Peabody property). There are also other seasonal activities in the area that may lead to elevated PM-10 readings.

In general we believe that this 114 letter is overkill and will not necessarily provide the appropriate information to address complainants' concerns or demonstrate compliance/noncompliance with National Ambient Air Quality Standards. It requires Peabody to spend a large amount of money to prove that it is meeting the National Ambient Air Quality Standards. We think a more reasonable approach is to do a short term study using filter based samplers during the summer on a one in three or one in six day schedule to first determine whether elevated PM-10 readings are even found. It they are then other more extensive measures, such as meteorological sampling and continuous sampling for PM-10 can be considered. We do not think any analysis for lead is warranted.

I hope that this information provides some assistance in outlining the problems we see with the 114 letter. If you have further questions, please contact me at (317) 232-8222.

Sincerely,

Keith Baugues

Keith Baugues
Assistant Commissioner

KB/ams