

CITY OF PHILADELPHIA

DEPARTMENT OF PUBLIC HEALTH AIR POLLUTION CONTROL BOARD

The meeting of the Air Pollution Control Board was held Thursday, June 2, 2016, in the Municipal Services Building, 1401 John F. Kennedy Boulevard, 16th Floor, Room Z.

Eddie R. Battle, Chairman, presided:

ATTENDING:

MEMBERS:

Eddie Battle, Chair of the APCB
Terry Soule, Member, APCB
Joseph O. Minott, Member, APCB
Thomas Edwards Jr., Member, APCB
Dr. Arthur Frank, Member, APCB
Dr. Caroline Johnson, Department of Public Health Deputy
Commissioner and Member, APCB

STAFF:

Dr. Kassahun Sellassie, Acting Director, Air Management Services, AMS
Edward Braun, Program Manager, AMS
Edward Wiener, Chief, Source Registration, AMS
Rachel Andes, Grants and Voluntary Programs Coordinator, AMS
Jiazheng Li, Environmental Engineer II, AMS
Keith Lemchak, Administrative Engineer, AMS
Patrick O'Neill, Environmental Counsel for the City of Philadelphia
Hallie Weiss, Administrative Engineer, AMS
Carla Krystyniak, Environmental Counsel City of Philadelphia
Thomas Barsley, QA Administrative Engineer, AMS
Dennis Yuen, Environmental Counsel for the City of Philadelphia
Henry Kim, Administrative Engineer, AMS

VISITORS:

Alice Chow, Associate Director Office of Air Monitoring and Analysis, Region
3, EPA
Carol Febbo, Associate Director Office of Air Partnership Programs, Region
3, EPA
Dr. Peter DeCarlo, Professor at Drexel University School of Public Health
Jane Baker, Health Department Chief Of Staff
Dr. Carol Ann Gross-Davis, Environmental Scientist, Region 3, EPA
Dr. Jane Clougherty, Professor at University of Pittsburgh

Longjian Liu, Drexel University Staff
Maria Andrews, Environmental Educator at University of Pennsylvania
Pam Susi, Director, Center for Construction Research and Training

1. WELCOME

The proceedings commenced at approximately 2:00 p.m.

Chairman Battle asked the Board members to introduce themselves.

2. ACTION ON MINUTES

Chairman Battle asked for any additions or corrections to the minutes. Hearing none, he asked for a motion to approve, which was seconded and so moved.

3. PROGRAM UPDATE

Dr. Sellassie introduced himself and offered a PowerPoint presentation of the Air Program's updates (see attached).

Questions/Comments:

Mr. Minott: In terms of the cancer risks, was that done from modeling?

Dr. Sellassie: That is from the 2011 NATA federal database.

Mr. Minott: Modeling based on actual emissions?

Dr. Sellassie: Yes, the basis of the modeling is from NEI emissions.

Mr. Minott: I would have thought that PES (being a large toxic source from a stationary site) would have a higher cancer risk rate.

Alice Chow: That is because there are more people in Center City and the Benzene emissions from mobile sources is weighted by the people that are living in Center City. You're looking at air toxics emissions that are generated by a pretty high level, but because we have missing data we fill the gaps by modeling.

Mr. Minott: That's very helpful, thank you.

Mr. Battle: Who are some of the emissions polluters? Who's on the list?

Dr. Sellassie: From the Philadelphia area, only PES. The rest are in Delaware County.

4. DUST CONTROL REGULATION II SECTION IX FOR APPROVAL BY APCB MEMBERS by Jiazheng Li (see attached)

Mr. Li gave an overview of the proposed regulation changes. Afterwards a motion was made to adopt the general provisions.

The Board members voted and approved the proposed amendments; Regulation I: General Provisions and Air Management Regulation II: Air Contaminant and Particulate Matter Emissions.

5. PRESENTATION ON NY AND PITTSBURGH AIR QUALITY SURVEY AND HOW TO IMPLEMENT IT TO PHILADELPHIA AIR QUALITY SURVEY by Dr. Jane Clougherty (see attached).

Mr. Battle: Any questions/comments?

Mr. Yuen: How many monitoring locations did you use when looking at the Pittsburgh area?

Dr. Clougherty: 2.8 square kilometer area and 36 per year over two years; 72 across the whole area and an additional 36 for the downtown corridor.

Mr. Sosna: Have you compared any of your data with some of the European cities, like London/Paris that have restricted traffic?

Dr. Clougherty: Yes, a number of these studies have; as a matter of fact a colleague of mine who has done the London analysis on this. We are not in the same position to do comparable comparisons right now because we don't have the before and after data yet in Pittsburgh.

Dr. DeCarlo: All of your monitors are located on lamp posts which are by definition right next to the road; do you have any sites that are not on the road?

Dr. Clougherty: Yes. In particular the reference locations are strategically located to be as far away as possible from any nearby sources so that we could have a handful of comparison sites between what you would get roadside, and what you would get as far away as you can be from those sites.

Mr. Liu: Have you done any comparisons in terms of concentrations of the monitors that were close by and those that were sort of medium/on the bias?

Dr. Clougherty: Yes. If you look to the range of our data sets, that would give you some sense of the differences of the concentrations. Also, in our first paper (previous study) we looked at sites that were designated as high traffic vs. low traffic, and looked for mean differences on a few key pollutants between those groups; but of course, those are going to include some that are closer to the median.

Dr. Sellassie: This Pittsburgh data was based on industry & traffic emissions but most of the time emissions come from long distance so how do you consider (downwind area) long distance? Do you have any wind rose to find out direction of wind speed/time of day; I believe that may be the challenging part if Philadelphia were to do this type of study.

Dr. Clougherty: So, at the beginning of the talk I stated that Pittsburgh is immediately downwind of all the power plants in the Ohio Valley, so that's why we have to have a good number of reference sites that run every single session throughout the sampling season; So that is the 1st variable that goes into the model. In the Northeast PM is about 60% of the temporal variance. That is why we are able to have that in the model up front and the additional variance that we're capturing through the GIS modeling is the spatial modeling; which is different for different variables.

The other thing that we are able to do (in dispersion modeling), we are able to look at patterning during different hours associated with different meteorological patterns; for example, those inversion hours. We are also able to look at what is happening meteorologically during each sampling period and use that as a means of improving our prediction of what's happening from the NEI sites where we have reasonable emissions information /annual average; to predict where those fumes are going and embed that into the spatial model as an additional predictor. This is reflecting, what's happening in the meteorology & what's coming from upwind within the spatial model.

So, it's definitely possible to do once you confirm there is a clean difference between temporal variation and spatial variation within that location.

Dr. Frank: Did you pick up any variations for some of these sites during the shutdown periods of certain point sources?

Dr. Clougherty: Retrospectively, potentially yes, but we did week long measurements so it depends on how long things are shut down.

Dr. Frank: I would think a couple of weeks at least but it may be worth it to do a bit more digging to find out because the point sources for certain areas may be rather significant.

Dr. Clougherty: Yes, it would be interesting to see how much would come out in the temporal pattern & how much we would conserve in the spatial pattern.

Mr. O'Neill: How much did the monitors that were mounted on the light posts cost; what was the total cost of the Pittsburgh study?

Dr. Clougherty: Numbers are challenging to assign to studies of this scale of course but, I will tell you is this; the boxes are \$10,000, but there are more cost effective ways to pull together something comparable. The downtown study with Allegheny County Health Department (ACHD) was originally budgeted at \$750,000; that included organic analysis from a private entity.

Mr. Battle: Any other questions? Hearing none, Chairman Battle thanked all the presenters. A motion to end the meeting was made and seconded to end the meeting.

6. NEXT MEETING

The meeting adjourned at approximately 3:35pm. The next meeting will be held Thursday, October 6, 2016 at 2pm, 16th fl. MSB, Room Z.

7. ADJOURNMENT