CITY OF PHILADELPHIA

DEPARTMENT OF PUBLIC HEALTH
AIR POLLUTION CONTROL BOARD

The meeting of the Air Pollution Control Board was held Wednesday, May 17, 2017, At the Municipal Services Building, 1401 John F. Kennedy Boulevard, 16th Floor, Room X.

Eddie R. Battle, Chairman, presided:

ATTENDING:

MEMBERS:
Eddie Battle, Chair of the APCB
Dr. Arthur Frank, Member, APCB
Joseph O. Minott, Member, APCB
William Miller, Member, APCB
Terry Soule, member, APCB
Dr. Caroline Johnson, Deputy Health Commissioner, PDPH

STAFF:
Kassahun Sellassie, Director, Air Management Services (AMS)
Hallie Weiss, Administrative Engineer, AMS Laboratory
Dennis Sosna, Administrative Scientist, AMS Laboratory
Ramesh Mahadevan, Environmental Engineering Supervisor, AMS
Keith Lemchak, Administrative Engineer, AMS
Henry Kim, Chief Program Services, AMS
Rachel Andes, Voluntary Programs Coordinator, AMS
Edward Wiener, Chief Source Registration, AMS
Thomas Barsley, Administrative Engineer, AMS
Jiazheng Li, Environmental Engineering Specialist, AMS
Patrick O'Neill, Counsel for the City of Philadelphia
Dennis Yuen, Counsel for the City of Philadelphia

GUESTS:
Tran Huynh, Assistant Professor, Drexel University
James Garrow, Director Digital Public Health, PDPH
Mike O'Shea, PhD. Student, UPENN
Ngan Trinh, Student, Drexel University
Ngoc Doan, Student, Drexel University
Craig Johnson, Interpret Green, Owner

1. WELCOME

The proceedings commenced at approximately 2:05 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 both sets of minutes, which was seconded and so moved.

3. PROGRAM UPDATE

Dr. Sellassie presented a PowerPoint of the Air Program's updates and of Philadelphia Air Quality Survey PAQS (see attached).

Dr. Sellassie showed a 1962 picture of London smog from coal burning and spoke about the drastic and detrimental effects it would have on the environment if the United States were to return to coal burning. He also spoke about several current topics in the media such as the Volkswagen settlement, the current Administrations order to reevaluate the Clean Power Plan (CPP) rule; carbon dioxide emissions limits from power plants; and budget cut proposals to state and local air grants. After that, he followed up with air quality (AQ) updates, AMS updates and air monitoring updates.

Questions/Comments:

Mr. O'Neill: Are we back to moderate non-attainment?

Dr. Sellassie: Yes, unfortunately it went back to moderate; that's why I have Jason from our research group working with Dr. Amy Huff of Penn State University to find out more about that area (NE Airport). She gave a presentation last APCB meeting where she concluded: "Forecasters can no longer rely as strongly on synoptic scale patterns to predict high O_3 days".

4. PHILADELPHIA AIR QUALITY SURVEY (PAQS)

For high Ozone/NOx emission, our research group will measure both (NO_2 & NO) at the same time to see how they are related. We purchased two battery/solar powered VALARM sensors for $10,000 thousand; we have 11 sensors from Allegheny County and we plan to purchase another 11 from New York Queens College. In addition, Jason will work with the PDPH epidemiologist, Mr. Raynard Washington to survey how air pollution affects public health.

Questions/Comments:

Mr. Soule: For the Volkswagen settlement, do we know how much money and how that money is going to be distributed to Philadelphia?

From the mitigation plan, Pennsylvania Department of Environmental Protection (PADEP) has already had 120 million set aside; Philadelphia will apply for a portion of that (14 to15 million); the award amount for each county is based on how much NOx reduction is done.

Mr. O'Neill added that Philadelphia should do very well; we are a non-attainment area and we have a large Environmental Justice (EJ) community.

5. PRESENTATION ON AMRXII PARKING GARAGES FOR VOTE by Ramesh Mahadevan (see attached)

Ramesh Mahadevan gave a presentation that reviewed the proposed amendment, which is a permitting *and* licensing requirement to the current regulation, AMR XII. His overview explained the new requirements for the 2 garage technologies: "open & enclosed". Mr. Mahadevan explained the goals and purpose of the amendment, provided definitions, and gave an update on the AMR regulation XII procedures and guidance document.

Questions/Comments:

Dr. Frank: What will one of these licenses cost the garage?

Mr. Wiener: $400 per year

Dr. Frank: So, for an active garage that fee is not going to affect the customer?

Mr. Wiener: No, I would not think so.

Mr. Soule: Have we engaged the stakeholders?

Mr. Mahadevan: We have sent letters/emails out to other garages, hospitals and universities and we have done some outreach.

Mr. Soule: Do they see it to be a drastic change for them?

Mr. Mahadevan: We have not received alot of feedback so maybe it is taking some time for them to realize and for things to sink in.

Chairman Battle asked for any additional comments/concerns. Hearing none, he asked for a motion to approve the proposed amendment, which was seconded and so moved.

6. PRESENTATION ON NAIL SALONS by Tran Huynh, Ph.D. Drexel University Professor (see attached)

Ms. Huynh stated that she is developing an evidenced-based intervention program for Vietnamese nail salon workers in Philadelphia. In an effort to engage as many stakeholders as possible, she reached out to the Department of Public Health. She states that she is also working with Pa. Board of Cosmetology as they oversee licenses and requirements for having a salon. She gave a PowerPoint presentation where she discussed her current work and future direction with this study. Going forward, she is willing to work with an engineer to clarify ventilation requirements and conduct a cost benefit. She stated that the Air Pollution Control Board could assist by overseeing Public Policy stakeholders to develop partnerships to engage and educate salon owners; oversee outreach; and work with the Pa. Board of Cosmetology on health, safety (nail technicians) and ventilation (salon owners) requirements.

Questions/Comments:

Mr. Soule: Are the masks adequate that I sometimes see them wearing?

Dr. Huynh: No, they are surgical masks used by hospitals to prevent biological exposure. They are not for chemicals. The NIOSH (National Institute for Occupational Safety and Health) mask is more protective, but it is very uncomfortable, people do not like to use it. The stronger filter makes it harder to breathe.

Mr. Minott: In terms of average level of pollutants in the air, my sense is that it may be off because the work is being done so close to the pollutants (what might be in the room as opposed to what the person is being exposed to). Secondly, it seems like a very exploitive industry in the sense of where the owners take advantage of the workforce by not paying for a two-year apprenticeship. I don't know how education breaks through that cycle of where the worker is disempowered and the owners are disinclined to be fair to their workforce.

Dr. Huynh: Yes. For personal exposure vs. area monitoring (slides 4 and 5), we used data from the California study to capture that; Personal exposure always tends to be higher than area monitoring. For your second question, I did not focus on the exploitative factor. Health and safety had a higher priority & seemed a more important avenue for me to pursue; but I believe in New York the governor addressed the issue by requiring the owners to buy wage bonds.

Dr. Frank: I'd like to address the ventilation issue. Our focus as the Air Pollution Control Board (APCB) is for the general health of the public, and if the numbers show they are affecting the quality of health of Philadelphia. As a Board member, I'd be less concerned with the cost of an individual ventilation system with a filter at each workstation. To me that makes the most sense; an air handling vacuum system with a filter, instead of the worker wearing a respirator with a carbon filter to absorb those chemicals. That way, you're getting rid of it from the workplace and not venting it out onto the street.

Dr. Huynh: From a research/occupational health standpoint, I think the exposure is below what is required in other working conditions, but if you're looking at indoor air qualities & protecting the public, then yes I think this level is higher than what you would typically have at a retail store.

Dr. Sellassie: Most of the time air is moving so it is not only ventilation that is needed. We do not want to affect the outdoor air. You need some sort of control (activated carbon) to absorb those fumes.

Mr. Miller: The musculoskeletal issues that you mentioned are mechanical, not from chemicals that's more of a repetitive motion issue correct?

Dr. Huynh: Yes.

Mr. Miller: My concern includes the workers and the customers. Sometimes the customers are there more than one hour. Another issue is how often the person goes. I think there is a spectrum or gradient of the types of people who are exposed. My comment is that the ventilation system will serve everyone regardless of it is targeted on evaporation of vapors or chemicals on site. There may be an industry level system that could be designed to help drop the price of the cost. As far as using activated carbon filters those can be made to be reusable so it's a self-contained system.

Dr. Huynh: I agree. Initial cost may be high but in the long term, engineering controls are preferred so that it will be more cost effective.

7. PRESENTATION ON DUSTS ON STREETS OF PHILADELPHIA, by Michael O'Shea, UPENN Ph.D. student

Mr. O'Shea spoke about a study he did on open road dust, which is also known as open road sediment. He describes it as anything that accumulates on the streets of Philadelphia or any urban area and one of the reasons we study open road dust is that it is a good representation of the science of the total environment. Whereas, almost everything we do will be represented in the road dust. Specifically, we interact with it from inhalation, ingestion and epidermal contact and it arrives from a variety of sources that may be from local industries or local geologic formations. His concern is with the Public Health impact of urban road dust because it has been linked with many public health concerns.

To begin his analysis, he wanted to get a sense of the composition of the dust; particle size, mineral content, organics, and chemical composition so he could determine how to interact with it and what the overall effects are. He stated that some sampling parameters were varying traffic patterns and varying geographies. He kept the sampling size to 30 sites because of the fact that seasonal changes are very prevalent in road dust and the collection at these sites needed to be done one after another (time constrain). He states collection was done by vacuuming the streets curb to curb and done at least one week after rainfall (particle size distribution changes whether there is rain or not). Next step was to sieve it to 872 microns to lose any particles that were smaller than medium sands. Next we ashed it, which helps to determine the organic percentage. Then looked at mineral phases present in the road dust (XRD scan). He states that this is not a typical XRD scan. It shows tremendous variability with about 50 species appearing once, some industrial, some natural. The scale for all sites were X-axis (phases) and Y-axis (frequency of appearance) with about 12 phases accounted for in trace. Many of the common rock forming

minerals are present throughout. Going forward further analysis of magnetite is needed to determine the type and the potential sources. This is currently an area of active research of my advisor. Next step was to determine composition (what are the elements present within the road dust). The two tools for this were x-ray fluorescence (XRF) and inductively coupled plasma optical emissions spectrometry (ICPOES). Both of these are used to determine elemental composition. The highlights of what was found is that there were very high levels of lead throughout every sample. There were 8 sites where lead reached the threshold and above for soil; and 11 breached EPA standards (Southwest Philly had 8,000ppm).

Finally, we are very interested in performing this research where AMS is doing there PM 2.5 research so we can compare it to get a total picture.

Questions/Comments:

Mr. Soule: Have you compared it to any rural areas?

Mr. O'Shea: Yes, it is quite different, showing tremendous variation. Again, the surrounding geological formations as well as local industry define road dust.

Mr. Miller: Did you speciate the heavy metals in slide?

Mr. O'Shea: Yes. We did not find any Cadmium, Arsenic or Mercury but as stated quite a bit of lead.

Mr. Sosna: Is most of this, air particulates that have deposited over time or is it also mechanical action vehicles on road services? Could the street sweeping have caused some of the numbers?

Mr. O'Shea: Yes. All of the above.

8. OLD BUSINESS

There was no old business.

9. NEW BUSINESS

There was no new business.

10. ADJOURN

The meeting adjourned at approximately 4:00 pm.