

**CITY OF PHILADELPHIA**

**DEPARTMENT OF PUBLIC HEALTH**

**AIR POLLUTION CONTROL BOARD**

The meeting of the Air Pollution Control Board was held Thursday, January 23<sup>rd</sup> 2020, at the Municipal Services Building, 1401 John F. Kennedy Boulevard, 16<sup>th</sup> Floor Room Z.

**Eddie R. Battle, Chairman, presided:**

**ATTENDING:**

**MEMBERS:**

Eddie Battle, Chair of the APCB  
Thomas V. Edwards, Jr., Member, APCB  
Dr. William C. Miller, Member, APCB  
Joseph O. Minott, Member, APCB  
Dr. Caroline Johnson, Member, APCB  
Dr. CarolAnn Gross-Davis, Member, APCB  
Terry Soule, Member, APCB

**STAFF:**

Dr. Kassahun Sellassie, Director, Air Management Services (AMS)  
Hallie Weiss, Program Manager, AMS Laboratory  
Haeng Ri (Henry) Kim, Program Services Chief, AMS  
Edward Wiener, Source Registration Chief, AMS  
Thomas Barsley, Fac, Comp & Comp Chief, AMS  
Maisha Wheeler, Acting Administrative Scientist, AMS Laboratory  
Jiazheng (Jason) Li, Environmental Engineering Specialist, AMS  
Richard Annunziato, Asbestos Manager, AMS  
Kyle Robinson, Analytical Chemist Supervisor, AMS Laboratory  
Patrick O'Neill, Divisional Deputy City Solicitor, Environmental Law  
Dennis Yeun, City Solicitor, Environmental Law

James Garrow, Communications, Health Commissioners Office

**GUESTS:**

Jack Kelly, On-Scene Coordinator, EPA Region 3

Dr. Marilyn Howarth, CEET, UPENN

Isabella Pabon, Student, UPENN

Meghan Perez, Student, UPENN

Rebecca Bean, Student. UPENN

Georgia Ray, Student, UPENN

Peter Winslow, Citizen, ASC

Matt Walker, Clean Air Council

Robert Helverson, ATSDR CDC

Dr. Richard Pepino, UPENN

Adrian Wood, CEET, UPENN

Terri White, Public Affairs Manager, USEPA

**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 additions or corrections to the minutes of November 14<sup>th</sup> 2019. Chairman Battle asked for a motion to approve, which was seconded and so moved.

**3. PROGRAM UPDATE**

Presented by Air Management Services Director Kassahun Sellassie

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

Air Quality - The air quality (AQ) from October 1<sup>st</sup> – December 31<sup>st</sup> 2019 – 68 (74%) good days, 24 (26%) moderate days and 0 (0%) bad. From January 1<sup>st</sup> – December 31<sup>st</sup> 2019 – 244 (67%) good days, 115 (31%) moderate days and 6 (2%) unhealthy days. Philadelphia has been classified as a marginal nonattainment area for the 2008 8-hour ozone standard (standard = 0.075 ppm). The 2017 – 2019

design value at NEA is 0.075 ppm which is the highest value in Philadelphia. In 2019, the fourth highest 8 hour ozone value @ NEA is 0.071 ppm (in 2018 it was 0.079 ppm).

SIP – December 5, 2019, EPA published in the Federal Register (84 Fed. Reg. 66,612) a final action finding that 7 states have failed to submit complete interstate transport (“Good Neighbor”) State Implementation Plans (SIPs) for the 2015 8-hour Ozone (NAAQS). December 6, 2019 EPA finalized and released the *State Implementation Plan (SIP) Lean Toolkit for Collaboration Between EPA and air Agencies*, a guidance document that provides non-binding tools for state and local air agencies to support coordination and collaboration with EPA during the development of SIPs.

EPA Updates – November 20, 2019, EPA released its FY 2019 *Environmental Justice Progress Report*, in which it highlights activities over the past year that helped to protect and assist vulnerable and overburdened communities. November 26, 2019, EPA issued final guidance narrowing its interpretation of “adjacency” for purposes of New Source Review (NSR) and Title V permitting under the Clean Air Act for all industries. December 10, 2019, EPA amends Diesel Fuel Regulations to facilitate compliance with 2020 Global Marine Fuel Standard.

City Updates – December 4, 2019, Philadelphia City Council passed Bill No. 190636-A on November 14, 2019 to amend the City Code Section 3-207.

Other updates – November 4, 2019, the U.S. State Department notified the United Nations that the U.S. will withdraw from the Paris Agreement. November 20, 2019, four Veterans Affairs researchers who conducted a 10-year (2006 – 2016) cohort study of over 4.5 million veterans, mostly white males, found that of the approximately 1.65 million veterans who died during the course of the study, the cause of death of nearly 200,000 of them was exposure to PM<sub>2.5</sub>. December 17 & 19, 2019, Congress adopted legislation to fund the federal government in FY2020.

AMS Laboratory Chemistry updates– Open Path Community Scale Monitoring – The system is currently inactive at PHA. We will make decisions about future deployments. Village Green Monitor – The Village Green monitors continue to collect continuous meteorological, ozone and particulate data at 6<sup>th</sup> and Arch Streets. National Air Toxics Trends Site (NATTS) – The Laboratory continues to provide sampling cartridges and analysis for carbonyl compounds for the EPA Region III NATTS site in Washington DC. Toxics Monitoring – the Laboratory continues to collect Volatile Organic Carbon (VOC) canisters at four sites in Philadelphia along with carbonyl sampling and analysis at these sites. Sampling occurs on a one-in-sixth day frequency. TSA – Audit was conducted in Summer 2019 and EPA evaluation for AMS was the highest that was stated at the EPA Region III meeting in September 2019. EPA approved the Philadelphia annual air Monitoring network Plan for 2019 – 2020 on October 28, 2019. The 2019 Technical System’s Audit to evaluate AMS’ ambient air quality monitoring program final report was received on October 22, 2019. Numerous Lab staff attended the MARAMA Air Monitoring Workshop in Swarthmore, PA in November 2019.

Review of PAQS PM<sub>2.5</sub>, NO<sub>2</sub> and O<sub>3</sub>.

Regulatory Services Activities – From October 1<sup>st</sup> 2019 – December 31<sup>st</sup> 2019, AMS: issued 363 permits serviced 164 citizen complaints, performed 1053 inspections, observed 21 vehicles at 14 locations, issued 7 citations for violations of the City’s anti-idling rules, issued 130 new NOVs and collected \$32,798. From January 1<sup>st</sup>, 2019 – December 31<sup>st</sup> 2019, AMS: issued 897 permits, serviced 859 citizen complaints, performed 5553 inspections, observed 98 vehicles at 78 locations, issued 22 citations for violations of the City’s anti-idling rules, issued 528 new NOVs, resolved 493 NOVs and collected \$369,500 in Fines and Penalties.

Questions / Comments:

Dr. Miller: Are you still using TO14 gases?

Der. Sellassie: We are using TO15.

Guest: What percentage of the permits are new?

Dr. Sellassie: These are all new permits.

Guest: For the outreach, was that one person or two?

Dr. Sellassie: One person.

Dr. Gross-Davis: Is there a plan for notifying the public for their input regarding the network plan? There needs to be more than just a public notice in the newspapers.

Dr. Sellassie: There will be advance contact with community leaders and universities.

Dr. Gross-Davis: Can you provide a quick update on the health risk assessment regarding the refinery fire.

Dr. Sellassie: The risk assessment is almost finalized. It is being worked on. The plan is to have the report finalized and present it at the next APCB meeting.

Mr. Minott: A correction needs to be made to the November minutes, it needs to be added as an attendee because he was there.

Mr. Battle: The correction will be made.

Dr. Haworth: 678 air permits sounds like a lot. How do they break down? Are most of them tiny things?

Dr. Sellassie: Most of them are minor sources, emergency generators, boilers, dust control and garages.

Mr. Wiener: The compliance unit has been finding a lot of non-industrial facilities that had not been permitted. Approximately 300 of those permits are for small boilers.

Guest: There was report referencing benzene emissions. Will the public be notified of the significance of the report?

Dr. Sellassie: For a rolling year, the benzene readings must average a maximum of 9 parts per billion. If this is the case, the facility must do a root cause analysis and take corrective actions. They have 45 – 50 days to do this. The report was in May 2019 and the refinery explosion was in June. PES was doing what they needed to do and were not in violation of the rule. In PES' root/cause analysis, it determined all of the benzene was not coming from their facility.

Mr. Minott: The plant said, "not me". The community wants to know where else the benzene could be coming from.

Dr. Sellassie: Kinder Morgan and other facilities are in the area.

Mr. Soule: Why was nothing said when the report came out?

Dr. Sellassie: Because root cause analysis and corrective actions had to be taken. A facility has 45 – 50 days.

Mr. Minott: The public is unaware and doesn't understand. So with information not being released to the public, it gives the appearance there is something to hide. The City and EPA have a perception problem

Mr. Garrow: With the refinery sector rule, you need 1 year of data, at minimum, to determine if there has been an infraction. Why didn't the City or EPA say anything? Because there is no law that says they have to.

Mr. Kelly: The refinery blew up and then they closed down. Benzene is emitted from other sources, ex. smoking, gas stations and traffic. It is also found in homes.

Mr. Soule: With the refinery being closed, is the refinery still being monitored?

Mr. Kelly: EPA continues to monitor the site.

Mr. Garrow: The levels of benzene and other toxins that have been discovered, it has been determined that there is no threat to public health.

Dr. Howarth: 190 was reported

Dr. Sellassie: There is no threat. We take the average for a year.

Mr. Battle: There are 2 more presentations, so we must move on.

#### **4. Presentation about the Reg III Banning of Heavy Fuel Oil**

Presented by Air Management Services Program Services Chief Henry Kim

Mr. Kim offered a PowerPoint presentation of the proposed amendments to Air management Regulation III – Control of Sulfur Compound Emissions (see attached).

Bill No. 190636-A passed by City Council 11/21/2019, Mayor signed 12/4/19. As of 4/1/20, no person shall store, offer for sale, sell, deliver for use or exchange in trade, No.4 or heavier fuel for use in Philadelphia. Facilities with pre-existing stocks of heavy fuel have until 7/1/24 to use up fuel, can be extended to 2029 on a case by case basis. Changes to Section I to adopt changes to Philadelphia Code 3-207. Added Section III.E. to establish standards for continued use of No.4 or heavier fuel oil beyond 7/1/24. Minor changes to Section III.A. and III.D. to update citations from Philadelphia code 3-207. Decrease emissions of NOx, SOx, and Particulate matter (PM). Prevent switching to dirtier No.4 and heavier fuel oil if it becomes cheaper than alternatives.

#### Questions / Comments:

Board Member: Are we voting on this today?

Dr. Sellassie: The vote will be done at the next meeting.

Mr. Minott: Is it a standing exemption?

Mr. Kim: They have until July 2024 to use what is already in their tank.

Mr. O'Neill: The facilities must submit a request for an extension beyond that.

Dr. Miller: 2 and 6 are mixed to make 4 or something else. Is #4 going to be transported into the City? #4 is not a base.

Dr. Sellassie: Only #2 can be burned. #4 is being phased out. #4, #5 and #6 are banned. #2 is the only one that can be burned.

Mr. Minott: To clarify, the heavier fuel oils can be stored and sold outside of the city, they just can't be used inside the city?

Dr. Sellassie: Yes.

Dr. Miller: Glad to see it can be sold to facilities outside of the city.

Mr. O'Neill: Code amendment has already passed. This goes into effect April 1.

## **5. Presentation about PES HF Modeling**

Presented by EPA Dr. Carol Ann Gross-Davis and Jack Kelly

Dr. Gross-Davis and Mr. Kelly offered a PowerPoint presentation titled IMAAC\* Modeling at PES Refinery (see attached).

What is IMAAC? IMACC provides a single point for the coordination and dissemination of Federal atmospheric dispersion modeling and hazard prediction products that represent the Federal position during actual or potential incidents involving hazardous material releases. IMAAC provides emergency responders with predictions of hazards associated with atmospheric releases to aid in decision making to protect the public and the environment. Is led by the Department of Homeland Security and supported by 7 other federal agencies. The Defense threat Reduction Agency (DTRA) serves as the Technical Operations Hub of the IMAAC. DTRA is a combat support and defense agency with a mission to counter threats posed by CBRN (chemical, biological, radiological and nuclear) weapons.

How to activate the IMAAC? IMAAC is activated for current or potential real-world emergencies involving significant hazardous atmospheric releases. IMAAC can provide support for exercises. Any Federal, State, Tribal Territorial and Local official can request the activation of IMAAC.

How EPA got involved at the Refinery? EPA On Scene Coordinator (OSC) was made aware of explosion and fire on TV news, soon receives call from EPA Duty Officer.

What is EPA involvement at the PES Refinery? EPA checked HR readings and offered to have EOA ERT conduct HR-specific monitoring in anticipation of estimated 3+ week HR neutralization.

What was IMAAC's involvement? To conduct HF emissions modeling for: worst case release during HR acid transfer from PES RAD tank to other tanks during neutralization and "after the fact" modeling for the HF release and fire/explosion on 6/21 using information obtained from PES. 5 – 8 sensors used for monitoring.

HF neutralization model facts and results: Worst case scenario suggested by PES during transfer of HF from RAD tank. PES provided needed input data based on their knowledge of refinery processes. IMAAC used Acute Exposure Guideline Levels (AEGSs) for comparison of modeled HR concentrations

(AEGL1, 2 and 3). Forecasted weather with a separate model was run every 3 hours over a five day period in September for a total of 41 model runs. Calculated the area within the AEGL-2 contour for the best and worst case runs. Worst case areal extent was well within refinery boundaries.

HR release/fire and explosion model results: IMAAC was asked to model the incident after the fact. IMAAC used incident videos, available weather information, PES HF sensor information, terrain and building data. IMAAC modeled 2 scenarios; the first 2 minutes (4:00am – 4:02am) and subsequent fire (4:02am – 4:23am). First 2 minutes conclusion – significant HF was unlikely to have crossed the facility perimeter. After the fact conclusion - significant HF was unlikely to have crossed the facility perimeter.

#### Questions / Comments:

Guest: How do you define “disabled”?

Dr. Gross-Davis: OSHA standards looking at the concentration levels.

Board Member: What’s the difference between the levels? I assume red means the most dangerous and yellow means less dangerous?

Dr. Gross-Davis: This is worst case scenario and you are seeing the maximum and minimum exposure cases.

Guest: Is the only exposure information used in the model that one air monitoring information? You mentioned there was one monitor that took a reading before it was destroyed by the fire. Is that the only exposure information? Or is the total volume that the Chemical Safety Board said was released, does that have a place in the model?

Mr. Kelly: Videos, weather information and all other information that could be obtained were used in the model.

Mr. Minott: Is it correct that we lucked out because it went straight up instead of out?

Dr. Gross-Davis: Yes, that’s what the modeling shows.

Dr. Miller: For example, when they show it, they show this huge yellow thing but for only a few seconds, so in my mind these are low things. So, I would imagine if they had a preference, those molecules would want to shoot straight up because they’re much lighter than average air molecules.

Board Member: Not HF, there was a cloud on the ground.

Mr. Kelly: When PES submitted their information to FEMA and the City, they also out of the 5,000 something pounds, about half of it they believe went down into the sewer system. Plus, with the firemen hitting it with water and its own drenching system, it got diluted out significantly. When water was sampled, there was slightly elevated levels of fluoride.

Mr. Minott: Was the sewer system on site or on the City?

Mr. Kelly: It was onsite.

Dr. Miller: In the 90s, on Penrose Avenue, an air monitor was put in the sewer because there was so much material being released into the white space of the large water main systems. There was and may still be gas leakage into the ground water.

Mr. O'Neill: There is a treatment system for that, and it was related to infiltration from ground water into the sewer system. The City required Sunoco to create a control system that put treatment centers onsite which continue to operate today. They also had a system in the sewer.

Dr. Howarth: Was the water suppression system that was in place, was it damaged during the explosion and fire or did it remain operational for the first 20 – 30 minutes?

Mr. Kelly: I don't know. I didn't go down to where the fire was. The firemen were putting water on the fire.

## **6. NEW BUSINESS**

The City changed how it interprets its ethics program. Due to being politically active, Mr. Minott will be resigning from the APC Board. He hopes not before the next APCB meeting. He has made some suggestions to Dr. Sellassie. But in his last statement he mentioned that he will stay as a board member because he is no more being in a political activity.

## **7. ADJOURN**

The meeting adjourned at approximately 4:00pm.