



Former Philadelphia Refinery Public Information Session – Natural Minor Operation Permit

PRESENTED BY

Geosyntec Consultants &
Philadelphia Air Management Services (AMS)

HOSTED BY

Evergreen and Hummingbird Firm

December 15, 2021

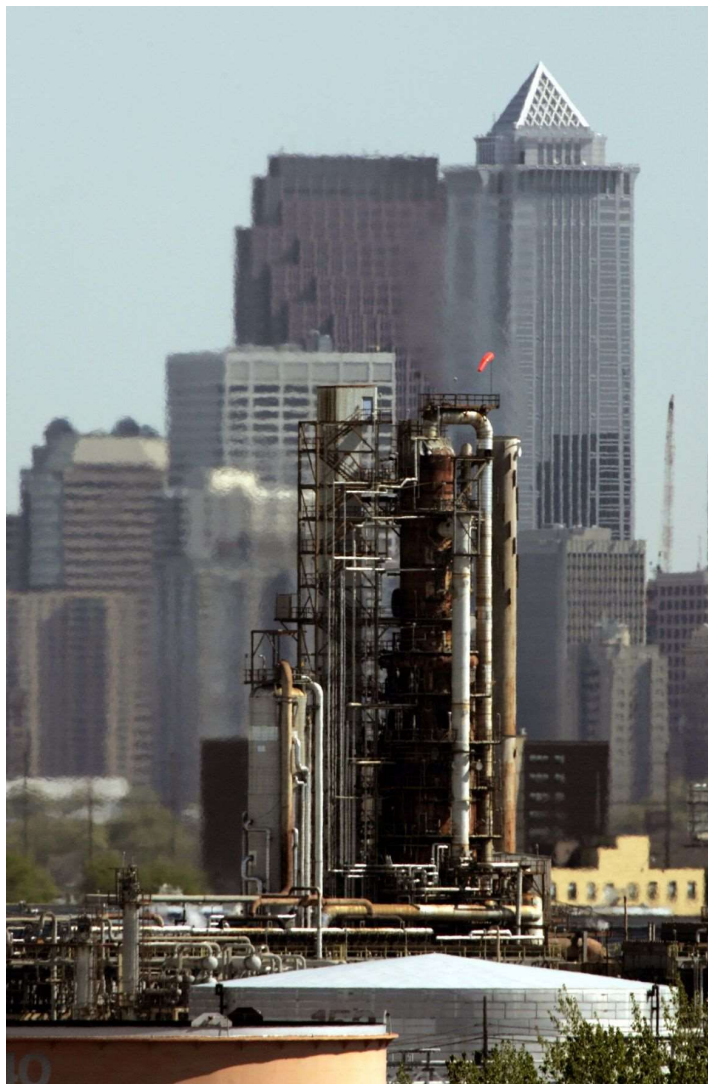
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Meeting Etiquette

1. There will be a Q&A period at the end of the meeting.
2. Feel free to add questions to the chat throughout the meeting.
3. Given that this is a Philadelphia AMS meeting, questions should be related to the topics of air and air monitoring systems.
4. If you would like to ask your question verbally, raise your hand or enter your question in the chat box, and indicate that it is a “verbal question.”
5. For the most part, questions will be answered in the order in which they are received. However, we want to prioritize the voices of residents. If you are a resident who would like your question prioritized, include the name of your neighborhood when you submit your question. We will also prioritize those who have not had a chance to ask a question.
6. Be respectful and honor different points of view. Be mindful that what you write in the chat will be monitored and that those being disrespectful or making inappropriate comments will be removed from the meeting.
7. If we do not get to your question during the meeting, we will answer it after the meeting.
8. This meeting is being recorded and will be posted on the website. We will also post a PDF version of the presentation and Q&A output, and attendee list.





Agenda

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- Introductions (All)
- Objective
- Site Status
- AMS Permit Process (AMS)
- Anticipated Permitting Timeline (AMS)
- Natural Minor Operating Permit Definition
- Equipment to be Covered in Permit
- Potential Emissions
- Anticipated Applicable Requirements
- Q&A (All)



Introductions

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City of Philadelphia – Air Management Services (AMS)

Ed Wiener (AMS) – Chief of Source Registration

MaryJoy Ulatowski (AMS) – Environmental Engineering Supervisor

Patrick O’Neill (Law Department) – Divisional Deputy City Solicitor

India McGhee (Law Department) – Assistant City Solicitor



Evergreen Resource Management Operations

Tiffani Doerr (Evergreen) – Remediation Oversight

Denise Smith (Hummingbird) – Public Engagement

Kate Graf (Geosyntec) – Air Quality Engineer

Derek Jelinek (Geosyntec) – Remediation Design Engineer

Andrew Bradley (Stantec) – Remediation System Operation, Maintenance, & Compliance



Objective

- Objective
 - To provide information to the public regarding the AMS permitting process and the Natural Minor Operating Permit for Evergreen's remediation activities at the Former Philadelphia Refinery



Site Status

- **Refinery Operations**
 - Ceased in 2019
 - Property redevelopment ongoing
- **Remedial Activities**
 - Cleanup has been on-going for decades
 - Additional information at phillyrefinerycleanup.info
 - Multiple remedial systems



Definitions

- **Remediation Technologies**

- Remediation - the process of addressing environmental contamination that is present above a cleanup standard
- Total Fluids Recovery System – remediation technology that extracts groundwater and oil from below the ground surface for treatment
- Vapor Recovery System – remediation technology that recovers contaminant vapors for treatment

- **Treatment Technologies**

- Best Available Technology (BAT) - technology approved by legislators or regulators for meeting output standards for a particular process, such as pollution abatement
- Control device – a treatment technology used to remove contaminants from a vapor stream prior to discharging the treated stream to the atmosphere
 - CatOx – catalytic oxidizer, control device used for the destruction of contaminants from vapor streams
 - Granular Activated Carbon (GAC) – control device that removes contaminants via adsorption through treatment media
 - Biofilter – control device that uses microorganisms within a mulch substrate to biologically degrade contaminants



Definitions, cont.

- **Vapor Treatment Terminology**

- Influent – vapor stream entering control device
- Midfluent – vapor stream between two control devices (typically between two GAC vessels)
- Effluent – vapor stream exiting control device
- Breakthrough – measurement of vapors in midfluent or effluent vapor stream to determine effectiveness of control device
- Passive Venting – technique used to recover vapors accumulating in other treatment media, usually for treatment via control device

- **Permit Types**

- Major Source - Facilities that have a potential to emit that exceeds the Title V emission levels
- Synthetic Minor - Facilities with a potential to emit that exceeds the Title V emission levels unless they accept a limit and/or restrictions
- *Natural Minor - Facilities that are truly minor (have emissions below Title V emission levels) without requiring a federally enforceable emission limit

- **Emissions Terminology**

- Potential Emissions – contaminants that could be discharged to the atmosphere if no control device were in place
- Emissions Limit – contaminants that could be discharged to the atmosphere while complying with permit
- Actual Emissions – Pollutants discharged from control device

*** Evergreen will be operating under a Natural Minor permit**



- Applicable to most proposed permits with emission increases that are “major”
 - Not the case with this permit
- Can be applicable to other proposed permits
 - We decided to follow EJ due to public interest
- Enhanced notification during permit process
 - More places
 - More information



- **Pre-Construction Permit**
 - Usually for an individual project.
 - Lists air pollution requirements.
- **Operating Permit**
 - Covers the entire facility.
 - Compiles air pollution requirements from pre-construction permits and applicable regulations.



Operating Permit Process

1. Informational Meeting
2. Public Notice
3. Public Comment Period
4. Public Hearing
5. Determination on Permit



Informational Meeting (Today's Meeting)

- Only required for EJ permits
- Facility can present information about facility and/or project
- AMS explains permitting process
- Public can ask questions
- The public can not submit formal comments at this time



Public Notice

- Notification of proposed permit
- Published in PA Bulletin (All)
- Published in Philadelphia Inquirer or Daily News (Major Facilities)
- Published in Neighborhood Newspapers (EJ Permits)
 - Additional permit materials available



Public Comment Period

- 30 days beginning date of the public notice
- Public can submit written comments on proposed permit
- Public can request a public hearing
- AMS must evaluate and respond to comments prior to issuing the permit



Public Hearing

- Formal meeting where the public can submit comments verbally as well as in writing
- Not an informational meeting
- AMS does not respond to comments at the public hearing



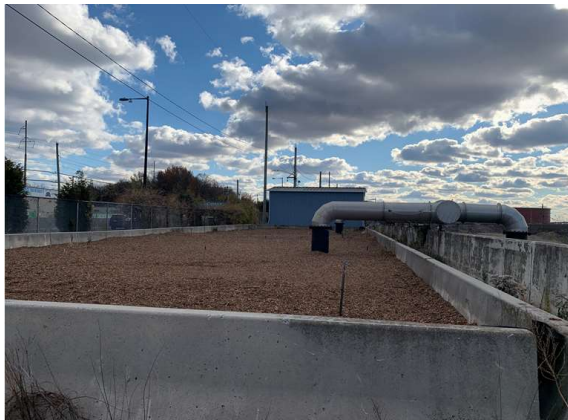
Determination on Permit

- AMS must compile and respond to all comments received during the comment period and public hearing
 - Comment Response Document
- AMS issues or denies permit
 - Can decide to modify permit conditions.
 - Commenters receive copy of permit and Comment Response Document



Equipment to be Covered in Permit

- Two (2) Total Fluids Recovery Systems
 - Recovers groundwater and oil from below ground
 - One with Granulated Activated Carbon (GAC) vessels (55-gallon drums) to control emissions
 - One with a Catalytic Oxidizer (CatOx) control device



- Two (2) Vapor Recovery Biofilter Systems
 - Recovers vapors from onsite sewer lines
 - Both use biomass treatment beds (or biofilters) to control emissions



Operating Requirements

Total Fluids Recovery Systems

- Emissions from remedial systems required to be sent to a control device (carbon vessels, CatOx) to reduce emissions prior to release to atmosphere
- Monitoring is required to demonstrate that control equipment is operating effectively and reducing emissions
 - Carbon vessels – monitor for breakthrough
 - CatOx – monitor temperature for complete combustion of VOC
- No noise or odor is allowed offsite



CatOx – Catalytic Oxidizer





Biofilter – mulch substrate

- **Biofilter Systems**

- Installed, operated and maintained to maximize odor reduction
- No nuisance odors beyond the property boundary
- Conduct annual smoke test to confirm proper distribution and treatment
- Perform routine maintenance
- Monitor inlet gas temperature, pressures, and filter media pH
- Maintain records of temperatures, maintenance, pressures, pH, humidity



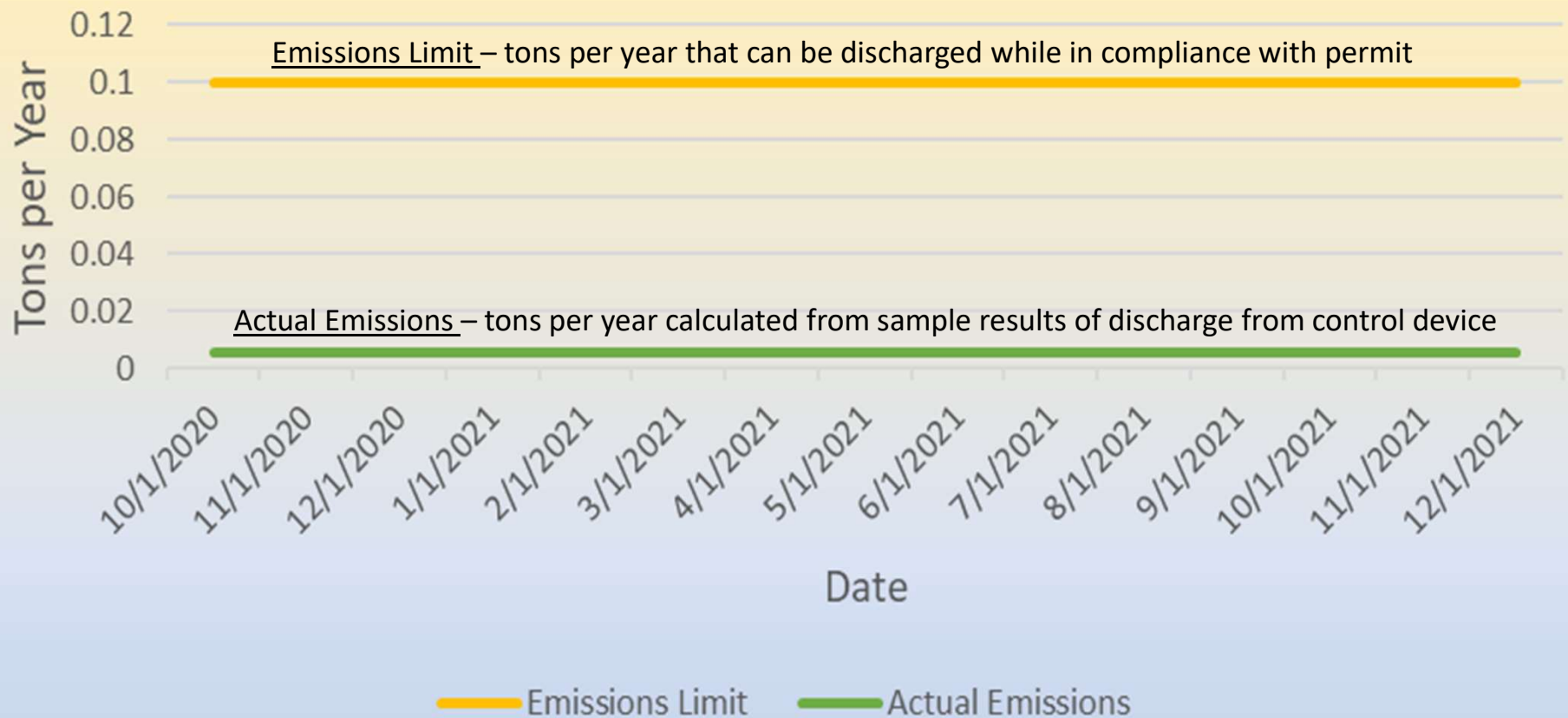
Emission Limits

Emission Source	VOC Emission Limit	Additional VOC Limitations	HAP Emission Limit	Actual Emissions
Total Fluids Recovery System 1	0.1 tons per year	Effluent concentration <200 ppmv or reduced by 95%	0.1 tons per year	0.0000006 tons / year VOC 0.0000002 tons / year HAP
Total Fluids Recovery System 2	0.5 tons per year	Effluent concentration <200 ppmv or reduced by 95%	0.5 tons per year	0.005884 tons / year VOC 0.005919 tons / year HAP
Biofilter 1	NA	None	NA	0 ppm
Biofilter 2	NA	None	NA	0 ppm

The emission limit of 0.1 ton per year is equivalent to the VOC emissions that are released from 30 people filling their car with gasoline over the course of a year



Potential Emissions vs. Actual Emissions



Key Applicable Requirements

- Operate source as described in the permit
- Obtain approvals for design/engineering changes
- Monitor emissions to demonstrate compliance
- Monitor CatOx operating temperatures
- Maintain records of monitoring data
- Verification by AMS via routine inspections



Questions?

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