Public Availability Session

Held for the

Limetree Bay Terminal and Refining

Plantwide Applicability Limit

DRAFT Air Permit

St. Croix, U.S. Virgin Islands

November 7, 2019

Presenters:

U.S. Environmental Protection Agency, Region 2 Office
Air and Radiation Division
Air Programs Branch

Suilin Chan, Environmental Engineer, Chief, Permitting Section
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Why are we here today?

- To provide information to the public regarding a draft permit EPA issued to Limetree Bay Terminals and Limetree Bay Refining on Sept. 20th
- Answer questions about the permit only but not to take comments
- Oral comments are to be presented at the public hearing scheduled for tomorrow 6:30pm – 10pm

What is the purpose of a public hearing?

- Public comment period runs from Oct. 9 – Nov. 25

- Public comment submittal options:
  - Verbally at the hearing or
  - Written format

- After the comment period ends on Nov. 25, EPA will consider all timely comments received in its final permit decision

What does the permit contain?

- Plantwide Applicability Limits for 7 pollutants
- Requirements to monitor, keep records and report emissions of those 7 pollutants
- Requirements to monitor the ambient air quality in 5 locations in the vicinity of Limetree

What is a Plantwide Applicability Limit (PAL)?

- Annual emissions limit placed on total emissions from all emissions units within the facility that emit a specific regulated pollutant
- One PAL per regulated pollutant and there can be one or more PALs in the permit
- Permit that houses the PAL limit is good for 10 years and permittee can apply for renewal

What are the PALs in Limetree's draft Permit?

VOC = 6,094 tons/year

NOx = 5,231 tons/year

CO = 3,248 tons/year

PM2.5 = 399 tons/year

PM10 = 412 tons/year

PM = 466 tons/year

SO2 = 1,482 tons/ year

How is a PAL established?

- Gather Information:
  - Select a consecutive 24-month period in last 10 years
  - Include emissions from all emission units during the 24-month period
  - Allow a different 24-month period for each PAL pollutant

How is a PAL established? (Cont'd)

- Determine the PAL -
  - ➢ Calculate annual average over 24 months of actual emissions
  - ➢ Subtract emissions from shut down units since the selected period
  - ➢ Add emissions for new units that were installed since the selected period
  - ➢ Add a de minimis amount of emissions increase that would not trigger the PSD regulations

What are the PSD De Minimis Amounts?

VOC = 40 tons/year

NOx = 40 tons/year

CO = 100 tons/year

PM2.5 = 10 tons/year

PM10 = 15 tons/year

PM = 25 tons/year

SO2 = 40 tons/year

How is compliance with the PAL monitored?

- Mass balance calculations (for coatings or solvents)
- Continuous Emissions Monitoring Systems (CEMS)
- Continuous Parametric Monitoring Systems (CPMS) or Predictive Emissions Monitoring System (PEMS)
- Calculations using Emission factors

How is compliance determined?

- Facility records actual amount of emissions from all emissions units for a specific PAL pollutant every month
- At the end of each month, facility calculates the total actual emissions of that PAL pollutant for last 12 months and compare it with the PAL
- Calculations are repeated each month to determine compliance with each of the 7 PALs

How is compliance determined? (Cont'd)

- Detailed emissions reports submitted to EPA every 6 months
- Exceedances or deviations reported to EPA within 2 days

Other Requirements?

E.O. 12898 -
Environmental Justice (EJ) Assessment

What is Environmental Justice?

- Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

- In 1994, President Clinton signed an Executive Order (EO) 12898 which directs Federal Agencies, such as EPA, to take steps to prevent “disproportionately high and adverse human health or environmental effects ...on minority populations and low-income populations” when implementing its programs.

- Since this proposed permit is a Federal permit, EPA Region 2 responded to the EO by conducting an environmental justice analysis and holding this public availability session.

Implementing Environmental Justice:

Guidance informs EPA's implementation of Executive Order 12898 during the permit process.

For example:

- EPA Region 2's Interim EJ Policy (2000)
- EJ Plan 2014
- EJ Plan 2020

- Allows Regions to address wide range situations.

- Approaches examine environmental factors and demographics, and combines these for decision making.

- Recommends enhanced public outreach.

Public Availability Sessions

- For cases where the reviewing agency believes there may be potential EJ concerns, public availability sessions are recommended.

- This is part of the enhanced public outreach that goes beyond the normal requirements found in regulations.

- This session is not about receiving comments tonight but rather for us to explain the project, the approach, and to answer questions so that you may make informed written comments during the formal public comment period (which ends November 25, 2019) or verbally at tomorrow night's public hearing.

EJ Assessment and Approach in this case

- The environmental justice assessment and approach consisted of an air quality modeling analysis of pollutants not previously assessed.
    - Nitrogen Dioxide, Particulate Matter (PM2.5), and Sulfur Dioxide.

- It also requires an ambient air quality monitoring network to measure concentrations in the air.
    - This requirement was added as a condition in the draft PAL permit.

National Ambient Air Quality Standards (NAAQS) - Primary Standards

	Averaging Time	Threshold Concentration
Nitrogen Dioxide	1 hour	188 µg/m3
Particulate Matter (PM2.5)	24 hour	35 µg/m3
	Annual	12.0 µg/m3
Sulfur Dioxide	1 hour	196 µg/m3

How can we measure the air quality to ensure compliance with the NAAQS?

There are two methods that may be used to assess air quality concentrations:

- Dispersion Modeling:

  Computer program that simulates pollution travel from a facility. The model may include multiple facilities and these may be existing or proposed facilities that do not yet exist. The computer program may calculate concentrations at many locations.

- Ambient Monitoring:

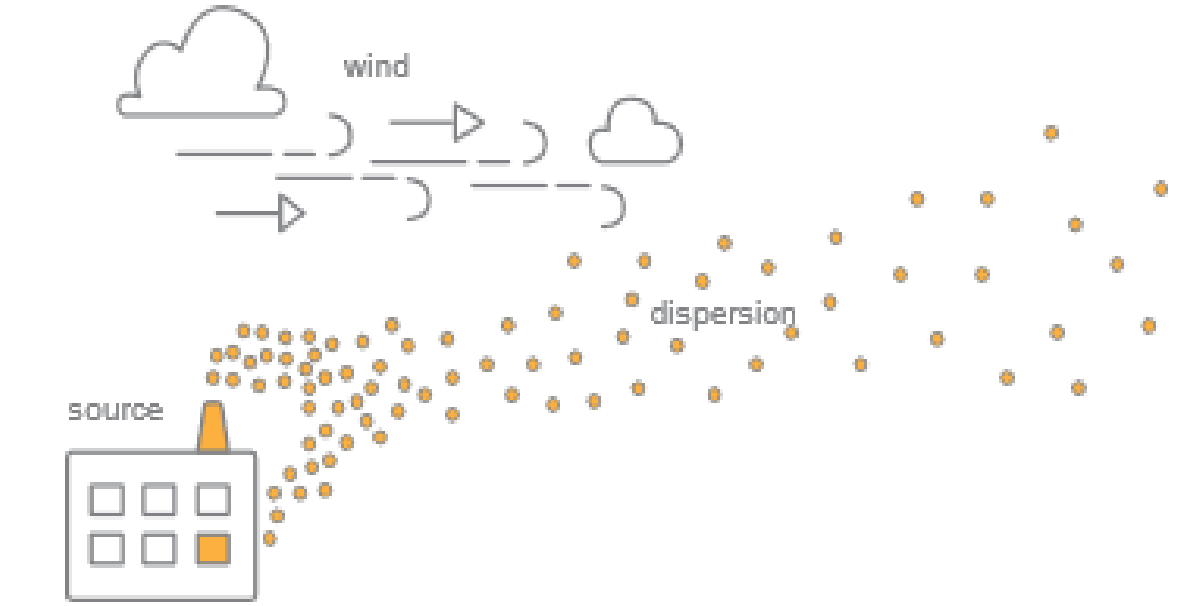
  Instrument placed in the field that measures actual concentrations at that location.

For this permit, we are using both methods.

What is an Air Dispersion Model?

- A computer simulation of the movement of a pollutant through time and space

- Inputs:
  - Emission and stack/fugitive information
  - Pollutant chemical information
  - Meteorological data
  - Topography



- Outputs:
  - Outdoor air concentrations at predetermined distances (receptors), reflecting 1-hour values which can be averaged to longer periods.

AERMOD

- AERMOD is the EPA Preferred Model for Stationary Sources. It was developed jointly by the American Meteorological Society (AMS) and EPA, for regulatory modeling.

- It is EPA's primary regulatory dispersion model since 2005.

- By inputting the emissions, meteorology, and other physical parameters into the model, it can provide concentrations in multiple locations for comparison to the public health standards (i.e., NAAQS).

Ambient Air Monitoring:

The NAAQS may also be assessed with measured ambient monitored data.

- These are instruments placed in the field that measure concentrations of pollutants in the air.
- They must meet EPA siting criteria, and quality assurance and control (QA/QC) requirements.
- The ambient monitors are periodically audited by EPA, State, or independent 3rd parties.
- The data must be validated by monitoring agencies to ensure that the data was properly measured and that there where no instrument issues or exceptional events.
- Monitoring data is uploaded into EPA's Air Quality System (AQS). This data may be accessed by anyone, including yourselves, at the EPA website: https://www.epa.gov/aqs.

This draft PAL permit contains ambient monitoring requirement for NO2, SO2, and PM2.5.

Draft permit and supporting documents are available electronically at the following website:
https://www.epa.gov/caa-permitting/caa-permits-issued-epa-region-2

or physically at the following location, Monday to Friday 8:00 am – 4:00 pm:

Virgin Islands Department of Planning and Natural Resources
Division of Environmental Protection
45 Estate Mars Hill
Frederiksted, U.S. Virgin Islands 00840
Attention: Ms. Verline Marcellin
(340) 773-1082

All written comments should be submitted to the following address, postmarked by Nov. 25, 2019:

U.S. Environmental Protection Agency – Region 2
Air and Radiation Division
Permitting Section
290 Broadway, 25th Floor
New York, New York 10007
Attention: Ms. Suilin Chan
(212) 637-4019

Thank you.

Questions?