



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2**

FACT SHEET

Draft Plantwide Applicability Limit Permit

EPA – PAL -VI-001/2019

**Limetree Bay Terminals and Limetree Bay Refining
St. Croix, U.S. Virgin Islands**

September 2019

What is a Plantwide Applicability Limit?

A plantwide applicability limit (PAL) is an annual emission limit, in tons per year, for a specific pollutant emitted from all the emissions units at a facility. The PAL permit would allow Limetree the flexibility to make changes within its facility while limiting emissions increases to levels that do not trigger the Clean Air Act's Prevention of Significant Deterioration (PSD) permit requirements at 40 CFR §52.21, as long as the facility complies with the PALs established in the PAL permit. A PAL permit does not supersede any other federal or state regulations. If finalized, the PAL annual emission limits and the associated compliance requirements will be incorporated into a title V permit by the Virgin Islands Department of Planning and Natural Resources when the permittee's title V permit is renewed.

General Information

The Limetree Bay Terminals and Limetree Bay Refining facility ("Limetree") is a complex, integrated petroleum refinery, located in St. Croix, U.S. Virgin Islands, consisting of refinery process units and various supporting operations including sulfur recovery plants, steam and electric power generation via boilers and gas turbine cogeneration units, wastewater treatment, and a marine terminal. The facility has historically been capable of receiving and processing many types of crude oil from all over the world. The refinery consists of three separate processing complexes as follows: the West Refinery ("West-Side"), constructed in the mid and late 1960s; the East Refinery ("East Side"), constructed in the early 1970s; and the Deep Conversion Complex, which includes the Fluid Catalytic Cracking Complex and the Delayed Coker Unit Complex, constructed in 1993 and 2002, respectively. The Limetree Bay Terminals and Refining facility is located on the south side of the island of St. Croix. The Universal Transverse Mercator ("UTM") coordinates for the center of the facility property are approximately 314404.64 km East and 1958853.31 km North (Zone 20).

Limetree requested the EPA to establish PALs for seven pollutants in its PAL permit application in accordance with 40 CFR §52.21(aa). Pursuant to this request, EPA is issuing this Draft Permit which contains the PALs and requirements that ensure Limetree's compliance with the PAL.

Legal Authority

The PAL provisions of 40 CFR §52.21(aa) constitute a portion of the PSD regulation codified at 40 CFR §52.21 which was promulgated under Part C of the Clean Air Act, 42 U.S.C. §§7470-7492. The U.S. Virgin Islands does not have an approved or delegated PSD Program, therefore, EPA retains the authority to issue permits under 40 CFR §52.21, including PAL permits (40 CFR §52.2779).

Public Notice Procedure

The EPA has followed the requirements at 40 CFR Part 124 ("Procedures for Decision Making") in issuing this permit under the authority of 40 CFR §52.21(aa). In accordance with those

procedures, EPA is providing notice of a public hearing and comment period on the PAL as well as a public availability session. Details on the procedures for reaching a final decision on the draft permit, including the public comment period, hearing, and public availability session, are provided in the public notice.

PAL Application

Limetree submitted a PAL application that meets the requirements at 40 CFR §52.21(aa)(3). The required information and the location of this information within this permit application are as follows:

(i) A list of all emissions units at the stationary source designated as small, significant, or major based on each unit's potential to emit for each regulated PAL pollutant. In addition, the application indicates which, if any, Federal or State applicable requirements, emission limitations, or work practices apply to each unit. This information is provided in Sections 2.0 and 3.0 of the permit application, respectively. Supporting information for the unit-by-unit size designations is provided in Appendix B of the permit application.

(ii) Calculations of the baseline actual emissions (BAE) with supporting documentation. The BAE include emissions associated not only with operation of the emissions unit, but also emissions associated with startup, shutdown, and malfunction. This information is provided in Section 4.0 and Appendix C of the permit application.

(iii) The calculation procedures that Limetree proposes to use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month. This information is provided in Section 6.0 of the permit application.

PAL Permit

The PAL permit meets the permit content requirements of 40 CFR §52.21(aa)(7). The required contents and the location of the contents within the PAL permit are as follows:

(i) The PAL emission limits for all the PAL pollutants, Volatile Organic Compounds (VOC), Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Particulate Matter (PM_{2.5}, PM₁₀, PM) and Sulfur Dioxide (SO₂), are provided in Section I of the permit.

(ii) The general permit conditions related to compliance demonstration, permit renewal, permit reopening, recordkeeping and reporting are listed in Section II of the permit.

(iii) All monitoring requirements for existing PAL emissions units and any new or modified future units can be found in Sections III and IV of the permit.

(iv) A requirement to conduct performance stack testing for major PAL units is listed in Section V of the permit.

(v) The recordkeeping and reporting requirements are provided in Sections VI and VII of the permit, respectively.

(vi) Ambient monitoring requirements are provided in Section VIII of the permit.

Summary of the PAL Permit

Limetree seeks to establish PALs for Volatile Organic Compounds (VOC), Nitrogen Oxides (NOx), Carbon Monoxide (CO), Particulate Matter (PM2.5, PM10 and PM) and Sulfur Dioxide (SO2). The proposed PALs are listed in Table A below. Pursuant to the procedures in 40 CFR §52.21 (aa)(6), Limetree's plantwide applicability limits were based on the sum of the actual emissions, by pollutant, for each emissions unit at the plant during a baseline period plus the applicable significant level (as defined at 40 CFR §52.21(b)(23)) for each pollutant. The actual emissions of the baseline period were averaged over a 2-year period in 2009 and 2010.

Table A

Pollutant	Plantwide Applicability Limit tons/year
VOC	6,094
NOx	5,231
CO	3,248
PM2.5	399
PM10	412
PM	466
SO2	1,482

PAL Monitoring, Testing, Recordkeeping and Reporting

This PAL permit includes monitoring, testing, recordkeeping, and reporting requirements for each PAL pollutant listed in Table A to ensure compliance with the plantwide applicability limits.

Limetree must show, for each PAL pollutant, that the sum of the monthly emissions from all emissions units for the previous 12 consecutive months is less than the PAL. In order to demonstrate compliance, Limetree is required to employ an emissions monitoring system that, at a minimum, must use one of the four general monitoring approaches listed at 40 CFR §52.21(aa)(12)(ii):

- 1) Continuous Emissions Monitoring Systems (CEMS);
- 2) Continuous Parametric Monitoring Systems (CPMS) or Predictive Emissions Monitoring Systems (PEMS);
- 3) Emission factors; or
- 4) Mass balance calculations for activities using coatings or solvents.

The PAL regulations at 40 CFR §52.21(aa)(12)(iii) through (ix) provide further detail on the minimum requirements for each of these four methods of the PAL emissions monitoring system. Consistent with this provision, the PAL permit sets specific emissions monitoring requirements for the units at the facility. In addition, testing is required within 6 months of issuance of the PAL to validate emission factors used for significant emissions units, and re-validation of all emission factors is required once every 5 years.

Additional PAL provisions include the requirement that the owner or operator maintain all records necessary to determine compliance with the PAL for 5 years from the date of the record, including a copy of the PAL application and each annual title V compliance certification. The owner or operator must also submit semi-annual emissions monitoring reports that include a list of all emissions units modified or added during the preceding reporting period, deviation reports, and any results of a re-validation test or method within three months of completion.

PAL Permit Lifetime, Reopening, Renewal, and Expiration

If finalized, the PAL permit will be valid for a 10-year period, beginning on the effective date of the permit. Any re-opening of the PAL permit during the 10-year period must be done in accordance with 40 C.F.R. 52.21(aa)(8).

If Limetree seeks to renew the PAL, it must submit an application in accordance with 40 CFR §52.21(aa)(10)(iii). The application must be submitted at least six months prior to, but not earlier than 18 months from, the date of permit expiration and the proposed renewal would be subject to public participation requirements. If the permit is not renewed in accordance with the procedures in 40 C.F.R. 52.21(aa)(10), the PAL permit expires.

Environmental Justice Analysis

Summary of Region 2's Environmental Justice Analysis for Limetree Bay Terminals and Refining (Limetree) PAL Permit

Environmental justice (EJ) 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. Executive Order 12898, entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations" (February 11, 1994), directs federal agencies to make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories. It should be noted that all EJ analyses are tailored to the unique situation depending on the issues at hand (Region 2 Interim Environmental Policy, Dec. 2000).

Community Context and Air Quality Modeling

The area in south central St. Croix where Limetree Bay Terminals and Refinery (Limetree) is located is an industrialized area that also includes residential communities. There are several schools, a hospital, and other locations that include sensitive populations. In addition to the expected emissions from Limetree's restart of the former HOVENSA refinery and the proposed PAL, the community is already affected by air emissions and other environmental impacts from nearby industrial and other facilities.

The industrialized nature of south central St. Croix in the vicinity of the Limetree facility stands in contrast to the rest of the Island of St. Croix and even more broadly, the rest of the U.S. Virgin Islands, which is not as industrialized. The Island was severely damaged during Hurricanes Maria and Irma in 2017, leaving many areas surrounding Limetree's location, as well as the rest of St. Croix, in much need of attention to its environmental recovery.

Therefore, given the mandate of the EO and knowledge that there are known EJ communities within St. Croix that potentially suffer a disproportionate environmental burden particularly in this south central section of the island, an EJ analysis was undertaken to ensure that public health and environmental concerns in the area are addressed within this federal permit decision. Limetree first performed a modeling analysis to assess the effects on the National Ambient Air Quality Standards (NAAQS) for the 1 hour average NO₂, 1 hour average SO₂, and the 24 hour and annual average PM_{2.5} established by EPA to protect public health and welfare, and EPA then considered the modeling results in our EJ assessment (see Region 2's September 2019 EJ Assessment Report). While modeling assessments are not typical of PAL permits, given the nearby EJ communities, Region 2 believes it is important to ensure that the emissions from the restart would not contravene these new NAAQS and further burden the communities.

Given the comparatively low income population within the vicinity of Limetree that existed at the time of the 1990 census, these communities and the largely minority population of St. Croix, in particular, the south central portion of the Island, EPA concludes that there are communities of concern located near the facility. In addition, the industrial nature of this part of St. Croix, compared to other parts of the Island and the rest of the US Virgin Islands, has potentially resulted in a disproportionate burden on these low income and minority residents in the vicinity of Limetree. The air quality modeling analysis was performed to ensure, upfront, prior to issuance of the PAL permit, that the permit would not add to that burden by contravening the NAAQS. While the modeling analysis revealed no violation of the 1 hour average NO₂, the 1 hour average SO₂, and the 24 hour and annual average PM_{2.5} NAAQS, it is important to ensure that the operation of this facility under the flexibility allowed by the PAL, and the assumptions in the modeling and background concentrations, will not contribute to a disproportionately high and adverse public health or environmental effect on the community.

Due to the unavailability of short-term data and because of all the assumptions that had to be made in the modeling, Region 2 is requiring Limetree to resume and upgrade an ambient air monitoring network that will measure NO₂, SO₂, and PM_{2.5}. This is consistent with EPA's obligations under Executive Order 12898, in light of the burden already experienced by the nearby low income and minority populations. In particular, EPA is proposing PAL permit conditions requiring that four SO₂ monitors be located at existing monitoring stations and one at a new location. EPA is also proposing conditions requiring two new NO₂ monitors, and a new PM_{2.5} monitor to capture peak short-term concentrations which will supplement an existing PM_{2.5} monitor operated by DPNR in Bethlehem Village. This network will ensure that any exceedance or violation of the health-based NAAQS, if it occurs, will not go unnoticed and action to protect the public health of the community can thereafter be identified. In the event that the ambient monitoring data measures an exceedance or a violation of any of the NAAQS, the permit requires Limetree to contact Region 2 and DPNR within 15 days so that the agencies are made aware of the exceedance or violation and can take appropriate action.

Enhanced Public Outreach and Public Participation

To further address the environmental justice mandate that calls for "greater public participation," Region 2 is enhancing its public outreach on this project¹. In addition to the 30-day public comment period required by 40 CFR Part 124.10, Region 2 is opting to hold an educational presentation about the permit during the public availability session, which are not required by the regulations, prior to the formal public hearing. Region 2's decision to exercise its discretion to hold a public hearing and a public availability session is informed by environmental justice goals. The public availability session is an open forum where the public is welcome to ask EPA representatives questions face to face on an informal basis. Fact sheets and the administrative record will be made available prior to the public availability session so that participants may come better prepared to ask questions of concern to them. The public hearing, which Region 2 is also opting to hold in this case, will follow. Unlike the public availability session, the public

¹ Executive Order 12898 Section 1-103, 2-2, 5-5 and EPA Region 2 Interim Environmental Justice Policy, Section 3 and 5 (December 2000).

hearing is a formal hearing where comments are heard and officially transcribed. The public hearing comments are a supplement to the written public comments, and both are considered filing comments under 40 CFR §124.19. Region 2 will formally respond to these comments in a public response to comments document pursuant to 40 CFR §124.17. The purpose of the public availability session is to educate the public about the project, answer questions and make it possible for the public to provide more informed comments during the official hearing or written comment period. Statements made by members of the public during the public availability session do not constitute comments under 40 CFR Part 124 and will not be addressed in EPA's response to comments document.

Assuming Region 2 finalizes the PAL permit, the public will have access to ambient air quality data on-line. The draft permit requires that air quality data is collected in accordance with EPA monitoring regulations and is uploaded to the EPA AQS website for Region 2's and DPNR's assessment of the NAAQS and for public information.

For more details on the EJ analysis, the reader is referred to Region 2's September 2019 EJ Assessment Report and Limetree's June 2019 Environmental Justice Analysis Air Modeling Report in the administrative record.

For additional information, please contact:

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