United States Environmental Protection Agency
Region 10, Air & Radiation Division
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Permit Number: R10TNSR01803
Issued: October 14, 2021
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AFS Plant I.D. Number: 16-009-00001

Permit Analysis

Minor New Source Review Permit
Permit Revision No. 3

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PotlatchDeltic Land and Lumber, LLC – St. Maries Complex

Coeur d'Alene Reservation
St. Maries, Idaho

Purpose of Permit and Permit Analysis

Title 40 of the Code of Federal Regulations, 49.151-165, establish a federal new source review program in Indian Country that, among other things, establishes (a) a preconstruction permitting program for new and modified minor stationary sources and minor modifications at major sources to meet the requirements of Section 110(a)(2)(C) of the Clean Air Act; (b) a mechanism for otherwise major sources (including major sources of hazardous air pollutants) to voluntarily accept restrictions on potential to emit to become synthetic minor sources; and (c) a mechanism for case-by-case maximum achievable control technology determinations for those major sources of HAPs subject to such determinations under Section 112(g)(2) of the Clean Air Act.

This document, the permit analysis, fulfills the requirements of 40 CFR 49.157(a)(3) and (4) by describing the reviewing authority's analysis of the application. Unlike the minor new source review permit, this Permit Analysis is not legally enforceable. The Permittee is obligated to comply with the terms of the permit. Any errors or omissions in the summaries provided here do not excuse the Permittee from the requirements of the permit.

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1. Introduction and Project Summary

On May 6, 2021, EPA Region 10 received a request for an administrative revision to the permit to change the name of the plant manager from Steve Henson to Larry Branson. On August 12, 2021, EPA Region 10 received the test results submitted by PotlatchDeltic for testing done on power boilers PB-1 and PB-2. As explained in more detail below, EPA Region 10 is administratively revising the permit to change the plant manager's name, to revise the emission limits and factors based upon the test results and to remove obsolete, one-time testing conditions that have been satisfied. Table 1-1 lists in chronological order actions related to this minor NSR permit originally issued for the construction of LK-6, along with construction and startup milestones.

Table 1-1 – LK-6 Permitting Chronology and Startup Milestones

Date	Action
06/21/19	Region 10 issues PSD permit R10PSD00100 and minor NSR permit R10TNSR01800 (referred to as the "June 2019 permit" where the context requires), authorizing construction and operation of LK-6
07/22/19	PotlatchDeltic commences construction of LK-6
10/10/19	Region 10 issues R10PSD00101 and minor NSR permit R10TNSR01801 (referred to as the "October 2019 permit" where the context requires), revising June 2019 permits
10/16/19	PotlatchDeltic starts operating LK-6
10/21/19	Region 10 issues R10PSD00102, revising the PSD permit a second time
03/18/21	Region 10 issues PSD permit R10PSD00103 and minor NSR permit R10TNSR01802
06/14-15/21	PotlatchDeltic conducts PM2.5 source tests of PB-1 and PB-2
08/12/21	PotlatchDeltic submits test reports to EPA via CDX/CEDRI
10/14/21	Region 10 issues minor NSR permit R10TNSR01803

2. Administrative Permit Revisions

Under the applicable rules of the Federal minor NSR program in Indian Country, 40 CFR 49.151 to 49.164, "administrative permit revisions" are not subject to the permit application, issuance, public participation or administrative and judicial review requirements of these sections. 40 CFR 49.159(2). Under 40 CFR 49.159(f)(1)(ii), an administrative revision includes a revision that identifies a change in the name, address or phone number of any person identified in the permit or provides a similar administrative change at the source. A change in the name of the permit manager, as requested here, qualifies as an administrative permit revision.

Under 40 CFR 49.159(f)(1)(v), an administrative revision also includes a revision that establishes an increase in an emissions unit's annual allowable emissions limit for a regulated NSR pollutant, when the action that necessitates such increase is not otherwise subject to review

under major NSR or under this minor NSR program. Under 40 CFR 49.159(f)(1)(vi), any other type of change that the permitting authority has determined to be similar to administrative permit revisions specified in 40 CFR 49.159(f)(1)(i) through (v) also qualifies as an administrative permit revision. The changes to the emission limits and emission factors being made in this permit action are not subject to review under the major or minor NSR programs and incorporate a type of change that is similar to the administrative permit revision specified in 40 CFR 49.159(f)(1)(v). The existing permit includes daily and annual allowable emission limits to protect ambient air quality based on the emission estimates relied on in the ambient air quality analysis supporting issuance of the June 2019 permit. This permit revision corrects those daily and annual allowable emission limits for PB-1 and PB-2 to reflect operation of the PotlatchDeltic facility at the time it applied for the June 2019 permit for LK-6 and to continue to protect the PM2.5 NAAQS.

This permit action also removes test-derived emision factor implementation requirements in Section 3 of the existing permit and unit-specific testing requirements in Section 4 of the existing permit that have been completed and are therefore obsolete. Removing requirements that have been completed is a ministerial action similar to the types of actions specified in 40 CFR 49.159(f)(1)(i) through (v) and also qualifies as an administrative permit revision.

The technical basis for updating and correcting the emission factors and emission limits and for removing the completed test-derived emision factor implementation and testing requirements is further explained below; the specific permit wording changes are presented in Section 4 of this Permit Analysis.

Revised PM2.5 Emission Limits and Emission Factors

From 2016 through 2018, air quality in the vicinity of the PotlatchDeltic facility was 89 and 78 percent of the 24-hour and annual PM2.5 NAAQS, respectively. Because there was reason to be concerned that construction of the project would cause or contribute to a violation of the 24-hour and annual PM2.5 NAAQS without appropriate emission limitations, Region 10 requested PotlatchDeltic to provide an AQIA for primary PM2.5 as provided in 40 CFR 49.151(e)(4) and 154(d)(1) as part of the application for the June 2019 permit.

The AQIA supporting the June 2019 permit demonstrated that the PM2.5 NAAQS would be protected if the Permittee limited its daily and annual emissions to the levels specified in the permit, including the PM2.5 emission limits for PCWR-PM-SH (controlled by BH-2), PCWR-PM-SD (controlled by BH-3), PB-1 (controlled by MC1-ESP1) and PB-2 (controlled by MC2-ESP2) in Tables 3-1 and 3-3 of the June 2019 permit. Such a demonstration typically includes modeling the source at those “allowable” emission rates and adding their impacts to an ambient background concentration not influenced by the source’s current emissions. If the resultant ambient concentrations are less than the NAAQS, the AQIA has demonstrated that the project will not cause or contribute to a NAAQS violation. The AQIA supporting the June 2019 permit, however, used a different approach because the ambient background concentration was influenced by the source’s existing emissions, as further explained in Section 2.1 of Appendix C of the June 2019 Permit Analysis. To avoid “double counting” the impacts from the source’s existing emissions, the difference between proposed allowable emissions and actual emissions was modeled as explained in Section 3.4 of Appendix C of the June 2019 Permit Analysis. See Appendix D of the June 2019 Permit Analysis for calculation of the emission rates that were modeled. The modeled impacts were added to the background concentration, and the resultant

ambient concentrations were determined to be less than the PM2.5 NAAQS. The resultant annual concentration that included existing source emissions (in the form of a background concentration) and proposed project emissions was 11.78 μg/m3, just under the 12 μg/m3 annual PM2.5 NAAQS, and the resultant 24-hour concentration was 34.79 μg/m3, just under the 24-hour 35 μg/m3 PM2.5 NAAQS.

As illustrated in Appendix D to the June 2019 Permit Analysis, permit or "allowable" emission limits to assure protection of the NAAQS for existing emission units were calculated by adding the estimated pre-project actual emissions to modeled emissions. Each unit's estimated pre-project actual emissions reflect its estimated contribution to the ambient background concentration used in the AQIA. As provided in PotlatchDeltic's application for the June 2019 permit, PB-1 and PB-2 actual PM2.5 emissions (0.01488 and 0.00722 lb/mlb steam, respectively) were estimated based upon unit-specific condensible particulate matter (CPM) and RM5 PM testing and estimated unit-specific filterable PM2.5/RM5 PM ratios. See further discussion beginning on page 20 of the June 2019 Permit Analysis.

Because Region 10 was concerned about the representativeness of the original emission factors used in the AQIA and required by the permit to be used in calculating daily and annual emissions, Region 10 required, in Condition 4.2 of the June 2019 permit, PotlatchDeltic to perform emissions testing to develop emission factors that reflect representative operating conditions for PCWR-PM-SH, PCWR-PM-SD, PB-1 and PB-2. Baghouses BH-2 and BH-3 serving PCWR-PM-SH and PCWR-PM-SD, respectively, were tested in March 2020 to measure filterable PM2.5 using RM201A and satisfy the permit requirement.[1] The minor NSR permit was revised in March 2021 to reflect the test results by decreasing the associated emission factors and emission limits as explained in the Permit Analysis supporting that permit action. In June 2021, PotlatchDeltic conducted RM201A/202 testing of PB-1 and PB-2 to measure PM2.5 emissions and satisfy the permit requirement. That testing showed that PB-1 emits roughly three-fifths (0.00913 lb/mlb steam) of the rate assumed at the time the June 2019 permit was issued. That testing also showed that PB-2 emits roughly five-fourths (0.00897 lb/mlb steam) of the assumed rate. As provided in Conditions 3.8, 3.9 and 3.11 of the March 2021 permit, the revised emission factors from the June 2021 emission testing are now used to determine compliance with the emission limits even without a permit revision. Region 10 is revising the permit to reflect and incorporate the new emission factors into the permit. See the revised emission factors and emission limits for PB-1 and PB-2 in Tables 3-1 and 3-3 of the revised permit.

Because the PM2.5 emissions from PB-1 measured during the June 2021 source testing are substantially lower than estimated at the time of issuance of the June 2019 permit, the existing emission limits for this unit do not ensure protection of the PM2.5 NAAQS when the emission factor from the June 2021 testing is used to calculate emissions for comparison to the emission limits. This results from the modeling approach that supported issuance of the June 2019 permit. The AQIA demonstrating compliance with the 24-hour NAAQS modeled an increase in PM2.5 emissions from the project of 4.30 lb/day for PB-1. Based on the June 2021 source test, the pre-project actual emissions from this emission unit (contributing to the background concentration) was 6.79 lb/day and not 11.07 lb/day as was assumed in the AQIA. This means that the emission limit, based on the AQIA, should be 11.09 (4.30 + 6.79) lb/day for PB-1, and not 15.37 (4.30 + 11.07) lb/day. Similarly, the AQIA demonstrating compliance with the annual NAAQS modeled

[1] Although RM5 measures particle matter with an aerodynamic diameter up to approximately 50 micrometers, RM201A measures only a subset with an aerodynamic diameter no greater than 2.5 micrometers.

an increase in PM2.5 emissions from the project of 1.50 tpy for PB-1. Based on the June 2021 source test, the pre-project actual emissions from this emission unit (contributing to the background concentration) was 0.48 tpy and not 0.78 tpy as was assumed in the AQIA. This means that the emission limit, based on the annual NAAQS AQIA, should be 1.98 (1.50 + 0.48) tpy for PB-1 and not 2.28 (1.50 + 0.78) tpy.

Because the PM2.5 emissions from PB-2 measured during the June 2021 source testing are substantially higher than estimated at the time of issuance of the June 2019 permit, the existing emission limits for this unit unnecessarily constrain emissions beyond that required to ensure protection of the PM2.5 NAAQS when the emission factor from the June 2021 testing is used to calculate emissions for comparison to the emission limits. This results from the modeling approach that supported issuance of the June 2019 permit. The AQIA demonstrating compliance with the 24-hour NAAQS modeled an increase in PM2.5 emissions from the project of 1.90 lb/day for PB-2. Based on the June 2021 source test, the pre-project actual emissions from this emission unit (contributing to the background concentration) was 18.74 lb/day and not 15.09 lb/day as was assumed in the AQIA. This means that the emission limit, based on the AQIA, should be 20.63 (1.90 + 18.74) lb/day for PB-2, and not 16.98 (1.90 + 15.09) lb/day. Similarly, the AQIA demonstrating compliance with the annual NAAQS modeled an increase in PM2.5 emissions from the project of 1.53 tpy for PB-2. Based on the June 2021 source test, the pre-project actual emissions from this emission unit (contributing to the background concentration) was 2.06 tpy and not 1.66 tpy as was assumed in the AQIA. This means that the emission limit, based on the annual NAAQS AQIA, should be 3.59 (1.53 + 2.06) tpy for PB-2 and not 3.19 (1.53 + 1.66) tpy.

To ensure the permit continues to assure compliance with applicable NAAQS requirements but not unnecessarily constrain the facility's operations, Region 10 is correcting the daily and annual allowable emission limits for PB-1 and PB-2 to reflect operation of the PotlatchDeltic facility at the time it applied for the June 2019 permit for LK-6 and to continue to protect the PM2.5 NAAQS. See Appendix A of this Permit Analysis for the calculations supporting the revised 24-hour and annual PM2.5 emission limits.

Obsolete Testing and Test-Derived Emission Factor Implementation Requirements

With completion of the June 2021 testing, PotlatchDeltic has satisfied all of the permit's testing requirements, which were designed to determine emission factors representative of operations at the time PotlatchDeltic applied for the June 2019 permit. With the issuance of this permit revision, the relevant emission factor and emission limits have been revised to reflect the test results. Any future required testing would be used to verify and, if necessary, revise the emission factor to reflect then current operations because the emission factor is used to determine compliance with the limit. Future testing will not be used to further revise the emission limits because future test-derived emission factors reflect emissions at the time of testing and are not reflective of emissions at the time PotlatchDeltic applied for the June 2019 permit.

Conditions 3.11 and 4.1 of the March 2021 permit (requirements to test PB-1 and PB-2 and implement test-derived emission factors) are being deleted because the testing has been completed and associated emission factors developed and updated in the permit. These conditions are therefore now obsolete.

3. Additional Analyses

EPA Trust Responsibility. As part of the EPA Region 10's direct federal implementation and oversight responsibilities in Indian Country, Region 10 has a trust responsibility to each of the 271 federally recognized Indian tribes within the Pacific Northwest and Alaska. The trust responsibility stems from various legal authorities including the U.S. Constitution, Treaties, statutes, executive orders, historical relations with Indian tribes and, in this case, the 1873 Executive Order and subsequent series of treaty agreements. In general terms, the EPA is charged with considering the interest of tribes in planning and decision making processes. Each office within the EPA is mandated to establish procedures for regular and meaningful consultation and collaboration with Indian tribal governments in the development of EPA decisions that have tribal implications. Because the emission increase allowed by this administrative permit revision would not otherwise be subject to review under major NSR or this minor NSR program and because it is intended to provide only for the increase in emissions, based on the AQIA, anticipated at the time the permit was originally issued in June 2019, Region 10 has determined that this permit revision does not have tribal implications. Region 10's Air and Radiation Division has nonetheless discussed this administrative permit revision with Tribal environmental staff before finalizing this revision.

Statutory and Policy Requirements. Given the limited scope of this permit revision, Region 10's findings related to the Endangered Species Act, National Historic Preservation Act and Environmental Justice Policy remain unchanged from those reached in support of issuance of June 2019 minor NSR permit authorizing construction of LK-6.

4. Permit Changes

The changes to the permit are explained below in the order that the permit is organized:

Permit Section:	Title Page
Permit Section:	Permit History
Permit Section 1:	Source Information and Project Description
Permit Section 2:	General Requirements
Permit Section 3:	Emission Limitations and Work Practice Requirements
Permit Section 4:	Monitoring and Recordkeeping Requirements
Permit Section 5:	Reporting Requirements

All changes are transcribed below. New text appears in underlined font, deleted text appears in ~~strikeout~~ font. To the extent necessary, permit conditions have been renumbered to accommodate proposed revisions to the permit.

Permit Section – Title Page

Replace listing of company contact from Steve Henson to Larry Branson pursuant to May 6, 2021 PotlatchDeltic request.

Permit Section – Permit History

As discussed in Section 2, Region 10 is revising Permit History section of the permit to add this administrative permit revision as follows:

Permit Action Date	*Permit Number*	*Permit Action Description*
10/14/2021	*R10TNSR01803*	*Revision No. 3 – administrative permit revision to change the company contact, update emission limits and emission factors for PB-1 and PB-2, and delete obsolete testing and test-derived emission factor implementation requirements*

Permit Section 1 – Source Information and Project Description

No revisions.

Permit Section 2 – General Requirements

No revisions.

Permit Section 3 – Emission Limitations and Work Practice Requirements

As discussed in Section 2, Region 10 is revising Conditions 3.8 and 3.9 of the permit as follows to update emission factors and emission limits based upon June 2021 PB-1 and PB-2 testing.

Permit Condition 3.8:

> *Emissions shall not exceed the daily emission limits in Table 3-1. ~~Unless otherwise required in this permit, c~~Compliance with these limits is determined by multiplying each emission factor in Table 3-1 (pounds per unit of operation) by the daily operation specified in Table 3-1~~, except as required in Condition 3.11~~.*

Table 3-1 – Daily PM2.5 Emission Limits, pounds per day

Emission Unit	*Emission Limit*	*Emission Factor, units*	*Operation*
PB-1	*~~15.37~~11.09*	*~~0.014880~~0.009 13 lb/mlb steam*	*Condition ~~4.4.14~~4.3.1*
PB-2	*~~16.98~~20.63*	*~~0.007220~~0.008 97 lb/mlb steam*	*Condition ~~4.4.14~~4.3.1*

Permit Condition 3.9:

> *Emissions shall not exceed the annual emission limits in Table 3-3. ~~Unless otherwise required in this permit, c~~Compliance with these limits is determined by multiplying each emission factor in Table 3-3 (pounds per unit of operation) by the annual operation specified in Table 3-3~~, except as required in Condition 3.11~~.*

Table 3-3 – Annual PM2.5 Emission Limits, tons per year

Emission Unit	*Emission Limit*	*Emission Factor, units*	*Operation*
PB-1	*~~2.28~~1.97*	*~~0.014880~~0.009 13 lb/mlb steam*	*Condition ~~4.4.14~~4.3.1*
PB-2	*~~3.10~~3.59*	*~~0.007220~~0.008 97 lb/mlb steam*	*Condition ~~4.4.14~~4.3.1*

Region 10 is deleting Condition 3.11 of the existing permit because the test-derived emission factors associated with testing required by this permit are being incorporated into the permit. Permit has been updated throughout to reflect the resultant change in numbering to remaining conditions in Section 3.

Permit Section 4 – Testing, Monitoring and Recordkeeping Requirements

Region 10 is deleting Condition 4.1 of the existing permit because the testing requirements have

been completed and these conditions are obsolete. Permit has been updated throughout to reflect the resultant change in numbering to remaining conditions in Section 4.

Permit Section 5 – Reporting Requirements

No revisions.

5. Public Participation

As discussed in Section 2 of this Permit Analysis, EPA Region 10 is administratively revising the permit under 40 CFR 49.159(f). As provided in 40 CFR 49.159(f)(2), an administrative permit revision is not subject to the permit application, issuance, public participation or administrative and judicial review requirements of the minor NSR program.

6. Abbreviations, Acronyms and Symbols

AQIA	Air quality impact analysis
Bf	Board feet
Btu	British thermal units
CAA	Clean Air Act [42 U.S.C. section 7401 et seq.]
CFR	Code of Federal Regulations
CO	Carbon monoxide
EF	Emission factor
EJ	Environmental Justice
EPA	United States Environmental Protection Agency (also U.S. EPA)
ESA	Endangered Species Act
ESP	Electrostatic Precipitator
EU	Emission Unit
F	Fahrenheit
FARR	Federal Air Rules for Reservations
FDP	Fugitive Dust Plan
HAP	Hazardous air pollutant
Hr	Hour
Lb	Pound (lbs = pounds)
M	Thousand
Mm	Million
MACT	Maximum Achievable Control Technology (40 CFR Part 63)
mNSR	Minor New Source Review program
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants (40 CFR Parts 61 and 63)
NHPA	National Historical Preservation Act
NO_X	Nitrogen oxides
NSPS	New Source Performance Standard
PM	Particulate matter
PM10	Particulate matter less than or equal to 10 microns in aerodynamic diameter
PM2.5	Particulate matter less than or equal to 2.5 microns in aerodynamic diameter
PSD	Prevention of significant deterioration
PTE	Potential to emit

Region 10	U.S. EPA, Region 10
RM	EPA Reference Method, as in EPA RM 5
SIC	Standard Industrial Code
SO_2	Sulfur dioxide
Tpy	Tons per year
VOC	Volatile organic compound