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BAQ Air Permitting Division

Company Name:New-Indy Catawba LLCAgency Air Number:2440-0005Permit Number:CP-50000051 v1.0

Permit Writer: Date: Katharine K Buckner July 22, 2024

DATE APPLICATION RECEIVED: March 16, 2023

PROJECT DESCRIPTION

As directed by the federal Consent Decree entered in Civil No. 0:21-cv-02053-SAL, United States of America v. New-Indy Catawba, LLC, dated November 16, 2022 (Consent Decree), New-Indy has submitted a construction application to incorporate items in Appendix A of the Consent Decree into a federally enforceable permit. This construction permit will serve as that required federally enforceable permit. The items are as follows:

Foul Condensate Monitoring and Treatment

- A. Operate the existing condensate steam stripper (steam stripper) at all times during which unbleached kraft pulp is being produced and foul condensate is being generated other than for periods of scheduled and unscheduled steam stripper downtime, which shall not exceed 576 hours annually for the first year and 460 hours annually thereafter. Notification shall be provided at least 48 hours prior to any scheduled downtime and within 24 hours of any unscheduled downtime. Monitoring of the existing steam stripper shall be according to parameters consistent with the National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry at 40 C.F.R. Part 63, Subpart S. (Consent Decree, Appendix A.I.a)
 - The first year began on the effective date of EPA's consent decree, which was November 16, 2022.
- B. Maintain and operate a system to chemically treat the unstripped foul condensate before it is discharged into the aeration stabilization basin (ASB) by November 16, 2022. The system shall continuously measure the oxidation reduction potential (ORP) of the foul condensate, automatically control the dosage of a chemical oxidant to maintain a rolling ninety-minute average of the ORP of the foul condensate above 0 millivolts (mV) before it is discharged to the ASB, and treat the maximum amount of foul condensate produced when the existing steam stripper is down. (Consent Decree, Appendix A.I.b., c., d. and Appendix A.VI.a.i)
 - New-Indy currently operates this chemical treatment system. Untreated foul condensates not processed through the existing stripper are directed to the ASB for additional Subpart S treatment through an enclosed pipe (i.e., hard pipe). The chemical treatment with an oxidant (e.g. hydrogen peroxide) reduces the potential for H₂S emissions from the foul condensates discharged to the ASB.

Fence Line Monitoring

- A. Maintain and operate continuous hydrogen sulfide (H₂S) fence-line monitors at three locations identified in Appendix B (Fence Line Monitor Locations) in accordance with the June 25, 2021 EPA-approved Quality Assurance Project Plan, and any subsequent EPA-approved versions. The minimum detection limit, span range, exceedance values have been indicated in the consent decree and are defined in the permit, along with the recordkeeping and reporting requirements. (Consent Decree, Appendix A.II.)
 - New-Indy currently operates the fence line monitoring system as required.



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Wastewater Treatment System

- A. Operate and maintain the wastewater treatment system, consisting of the Primary Clarifier, Equalization Stabilization (EQ) Basin, ASB, No. 1 Holding Pond, Post Aeration Tank (referred to as Post Aeration Holding Tank in the consent decree), and all connected inlets, outlets and ditches in a manner consistent with safety and good wastewater treatment and air pollution control practices with a goal of minimizing emissions of H₂S at the fence line. Several activities are defined in the consent decree as minimum practices for maintaining the wastewater treatment system. (Consent Decree, Appendix A.III.)
 - The wastewater treatment system is designed to treat process effluent to meet the requirements of the National Pollutant Discharge Elimination System (NPDES) permit. The wastewater treatment system also is currently used as one of the treatment components to meet the pulping process treatment requirements under 40 CFR 63, Subpart S. New-Indy will perform the activities as defined in the consent decree as included in the permit.
- B. Pre-Clarifier Solids Removal One of the defined activities is to discontinue the practice of adding solids to the clarifier. (Consent Decree, Appendix A.III.a.iv.)

Post Aeration Tank Cover

- A. Prior to January 15, 2023, New-Indy submitted a plan for EPA approval to install a cover on the Post Aeration Tank that utilizes a carbon filtration system to ensure no detectable emissions of volatile organic compounds (VOCs) (defined as 500 ppm total VOC above background). Before the date of March 16, 2023, New-Indy is required to install, maintain, and operate the cover and carbon filtration system on the Post Aeration Tank consistent with the EPA-approved plan. (Consent Decree, Appendix A.IV.)
 - The Post Aeration Tank follows the holding pond located after the ASB and is used to oxygenate the final effluent prior to discharge into the receiving stream. Initially, New-Indy installed a carbon filtration system including a temporary cover over the Post Aeration Tank, a collection system, a carbon adsorption tank containing activated carbon, a blower, and a vent to atmosphere. A permanent carbon filtration system and cover over the Post Aeration Tank was installed and placed into operation on June 29, 2022.

Black Liquor Storage Tank Secondary Containment

A. Before April 23, 2023, New-Indy shall install, maintain, and operate a containment system (i.e., containment constructed of materials impervious to pulping liquors) using sumps, sewer systems, etc. to prevent any uncontrolled black liquor overflows or releases from reaching the ASB. Before November 16, 2023, New-Indy shall install, maintain, and operate a containment system (i.e., containment constructed of materials impervious to pulping liquors) equivalent to the volume of the largest tank plus sufficient freeboard for precipitation to prevent any uncontrolled black liquor overflows or releases from reaching the ASB. (Consent Decree, Appendix A.V.)



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- An application for a Black Liquor Spill Tank was received by the Department on January 27, 2023, to satisfy these requirements from the Consent Decree. The tank was approved by the Department through an exemption on March 15, 2023, due to the emissions being less than the thresholds that require a construction permit. The tank has been installed and began operation on October 24, 2023. This tank is included in this construction permit to make the requirements to maintain and operate it federally enforceable.

FACILITY DESCRIPTION

SIC CODE: 2611 - Pulp Mills, 2621 - Paper Mills, 2631- Paperboard Mills

NAICS CODE: 322110 - Pulp Mills, 322120 - Paper Mills, 322130 - Paperboard Mills

New-Indy Catawba LLC (New-Indy) operates an integrated pulp and paper mill located in Catawba, South Carolina. The original pulp mill was constructed in 1959. Previously, the facility produced bleached pulp and operated 3 paper machines and one pulp dryer. In 2021, the pulp production was converted from bleached to unbleached and utilizes one paper machine and one pulp dryer. A second paper machine at the mill is currently idled. New-Indy Catawba is comprised of seven distinct process areas that include the following: the woodyard area, the kraft pulp mill area, the paper mill area, the chemical recovery area, the utilities area, the waste treatment area, and a miscellaneous area.

OPERATING PERMIT INCORPORATION

Incorporation of this construction permit into the Title V Operating Permit may be done as a minor modification as the change meets the criteria in SC Reg 61-62.70.7(e)(2)(i)(A):

- (1) Do not violate any applicable requirement;
- The added equipment and conditions will not violate any applicable requirement.
- (2) Do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;
- No changes will be made to existing MRR. Some new MRR conditions will be added along with adding the new equipment to existing MRR conditions.
- (3) Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
- No such changes will be made.
- (4) Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - (A) A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the Act; and



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- This construction permit does establish PSD avoidance (synthetic minor) limits for PM, PM_{10} , and $PM_{2.5}$. However, as relayed to the Environmental Protection Agency, in a letter dated August 20, 2003, the Department will incorporate construction permits, including synthetic minor construction permits, into the Title V operating permit as a minor modification.
- (B) An alternative emissions limit approved pursuant to regulations promulgated under Section 112(i)(5) of the Act;
- The project is not subject to a Part 63 NESHAP regulation.
- (5) Are not modifications under any provision of Title I of the Act; and
 - The construction permit is for the installation of new equipment. It does not involve any changes to existing equipment that could potentially be subject to NSPS or NESHAP. Due to the establishment of synthetic minor limits, this project is not a modification under PSD/NA-NSR.
- (6) Are not required by the Department to be processed as a significant modification;
 - The department does not have requirements to incorporate construction permits as significant modifications.

OTHER CHANGES

• Foul Condensate Collection Tank (EU ID 09, equipment ID 9800) – The facility relayed, via email on June 13, 2023, that this tank had been replaced. The replacement tank was installed in 2000 and has a 40,000 gallon capacity. The old tank was 180,000 gallons and was taken out of service in 2000. The capacity and installation date of this tank will be corrected in the TV operating permit when this construction permit is incorporated.

SPECIAL CONDITIONS, MONITORING, LIMITS

In the Consent Decree, Section VI Paragraph 5 requires semiannual reports to be submitted by July 31st and January 31st and defines the reporting periods as the previous 6 months. For consistency, this construction permit will require the same reporting periods and submittal times. Visual inspections for opacity will be reported based on the reporting schedule established through the Department's approved electronic permitting system.

EMISSIONS

• Foul Condensate Monitoring and Treatment

The chemical treatment system reduces the potential release of H_2S from the untreated foul condensate discharged to the aeration stabilization basin (ASB) by oxidizing the compounds to elemental sulfur, sulfate ion. Emission calculations have not been prepared to quantify any emissions decreases.

- Fence Line Monitoring
 - The fence line monitoring equipment does not generate any emissions.
- Wastewater Treatment System

There will be no change in emissions based on the activities outlined for this source.



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Pre-Clarifier Solids Removal
 There will be no change in emissions for this source.

Post Aeration Tank Cover

The Post Aeration Tank Cover and carbon filtration system reduces the potential release of TRS and VOC compounds from the Post Aeration Tank. Emission calculations have not been prepared to quantify any emissions decreases.

Black Liquor Storage Tank Secondary Containment
 Emissions from this tank were calculated and presented in the January 27, 2023 application. Here is the summary of the emissions estimated from this tank:

Emissions from the Black Liquor Storage Tank Secondary Containment (b)									
Pollutant	Uncontrolled		Controlled ^(a)		PTE				
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY			
Hydrogen Sulfide	9.50E-03	4.16E-02	N/A	N/A	9.50E-03	4.16E-02			
Methyl Mercaptan	4.50E-03	1.97E-02	N/A	N/A	4.50E-03	1.97E-02			
TRS as H₂S	5.84E-02	2.56E-01	N/A	N/A	5.84E-02	2.56E-01			
TRS as TRS ^(d)	8.80E-02	3.85E-01	N/A	N/A	8.80E-02	3.85E-01			
Total VOCs (as VOC) (c)	0.37	1.60	N/A	N/A	0.37	1.60			
Total HAPs	0.032	0.14	N/A	N/A	0.032	0.14			
Highest HAP - Methanol	0.03	0.13	N/A	N/A	0.03	0.13			

NOTES:

- (a) N/A under controlled columns means not applicable since there is no control device on the tank.
- (b) Emission factors used come from NCASI Technical Bulletin No. 858, Table 10A Weak Black Liquor Tanks, median factors. The emission factors used were 50% of the NCASI factor to account for diluted weak black liquor (less than 5% solids) collected in the spill tank compared to weak black liquor (14%-18% solids).
- (c) VOC as carbon emission factor adjusted to VOC as VOC based on the molecular weight of the predominate species.
- (d) TRS as TRS is the sum of dimethyl disulfide, dimethyl sulfide, hydrogen sulfide, and methyl mercaptan emissions.

PROJECT EMISSIONS									
Pollutant	Uncontrolled		Controlled		PTE				
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY			
Hydrogen Sulfide	9.50E-03	4.16E-02	N/A	N/A	9.50E-03	4.16E-02			
Methyl Mercaptan	4.50E-03	1.97E-02	N/A	N/A	4.50E-03	1.97E-02			
TRS as H₂S	5.84E-02	2.56E-01	N/A	N/A	5.84E-02	2.56E-01			
TRS as TRS	8.80E-02	3.85E-01	N/A	N/A	8.80E-02	3.85E-01			
Total VOCs (as VOC)	0.37	1.60	N/A	N/A	0.37	1.60			
Total HAPs	0.032	0.14	N/A	N/A	0.032	0.14			



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REGULATIONS

Not Applicable - Section II(E) (Synthetic Minor)

This facility is a major source in accordance with SC Regulation 61-62.5, Std No. 7 – PSD. However, the emissions from this project are not greater than the significant emission levels and no limitations to avoid being subject to Std No. 7 are needed. Therefore, this regulation does not apply.

Applicable - Standard No. 4 (Emissions from Process Industries)

The new Black Liquor Storage Tank Secondary Containment Spill Tank (equipment ID 2490) is subject to an opacity limit of 20% since it has been installed after December 31, 1985. Semiannual visual inspections are required.

Not Applicable - Standard No. 7 (Prevention of Significant Deterioration)

New-Indy is a major source under this regulation. None of the emissions from this project are greater than the significant emission levels. Therefore, this regulation does not apply.

Applicable - 61-62.6 (Control of Fugitive Particulate Matter)

This facility will be subject to the state-wide requirements. No fugitive (PM) dust emissions are expected.

40 CFR 60 and 61-62.60 (New Source Performance Standards (NSPS))

Subpart BB (Kraft Pulp Mills)

Subpart BBa (Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013)

These Subparts regulate opacity, TRS, and PM from the affected sources listed in these regulations.

Applicable

- The existing condensate steam stripper is subject to the requirements of 40 CFR 60, Subpart BBa. No changes to the applicability will occur with this permit. Any changes will be addressed under the construction permit for the new steam stripper.

Not Applicable

- The hard pipe and ASB are not included in the definition of condensate steam stripper system under either regulation.
- The chemical treatment of the unstripped foul condensate is not an affected source under either regulation.
- The Wastewater Treatment Systems and the Post Aeration Tank Cover and Carbon Filtration System are not affected sources under either of these regulations.
- The Black Liquor Storage Tank Secondary Containment Spill Tank is not an affected source under these regulations.



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Not Applicable - project does not have any emissions of asbestos, benzene, beryllium, coke oven emissions, arsenic, mercury, radio nuclide, radon, or vinyl chloride.

40 CFR 63 and 61-62.63 (National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories)

Subpart S (NESHAPs from the Pulp and Paper Industry (MACT S))

Subpart S regulates emissions of HAPs from pulping, bleaching, and condensate handling operations located at pulp and paper mills that are a major source of HAPs.

Applicable

- The existing steam stripper is an affected source under this regulation and is already subject to the requirements of this regulation. No changes to the applicability will occur with this permit. A condition has been included in this permit, from the consent decree, re-iterating the monitoring that shall occur in accordance with this regulation.
- Wastewater Treatment System is used as one of the treatment components to meet the pulping process requirements under this regulation. Based on this permit, there are no changes to how the Mill complies with the current requirements of this regulation.

Not Applicable

- The chemical treatment system is not designed to treat HAPs and no change in the HAP emissions is expected due to the operation of the chemical treatment system.
- The Post Aeration Tank is not designed or operated as a biological treatment system, and there is negligible biological activity occurring at the Post Aeration Tank. The Post Aeration Tank is not a component of the pulping system and therefore the permanent cover and collection system are not subject to the enclosures and closed vent systems under 40 CFR 63.450. Thus, the Post Aeration Tank is not covered by Subpart S.
- The Black Liquor Storage Tank Secondary Containment Spill Tank is not subject to this regulation since there are no specific requirements for black liquor spill tanks.

Not Applicable - 61-62.68 (Chemical Accident Prevention Provisions)

This project does not include any chemicals specified by this regulation above the threshold quantities required to trigger applicability to this regulation.

Not Applicable - 40 CFR 64 (Compliance Assurance Monitoring)

CAM applies to a process when the PTE exceeds Title V threshold limits (PTE greater than 10.0/25.0 TPY HAP or greater than 100.0 TPY criteria pollutants), but not after controls, and the pollutant has applicable limitations. The new Black Liquor Storage Tank is not equipped with any control device and emissions are uncontrolled. Therefore, this regulation does not apply.

AMBIENT AIR STANDARDS REVIEW



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Not Applicable - Standard No. 2 (Ambient Air Quality Standards)

There are no criteria pollutants, other than VOCs, that are emitted from the new Black Liquor Spill Tank (equipment ID NEWSPLTK). Modeling is not required for VOC emissions. Therefore, this regulation does not apply.

Applicable - Standard No. 8 (state only) (Toxic Air Pollutants)

Standard No. 8 regulates emissions of toxic air pollutants (TAPs) from new and existing sources, except for fuel burning sources that burn only virgin fuel or specification used oil. Section I.D.(1) exempts sources subject to a Federal NESHAP. Section I.D(2) exempts non-NESHAP sources after a facility-wide risk analysis is completed. New-Indy is subject to several Federal NESHAP for the pulp and paper industry (Subparts S and MM), industrial boilers (Subpart DDDDD), and reciprocating internal combustion engines (Subpart ZZZZ). The Residual Risk Analysis for Subpart S was published December 27, 2011, and for Subpart MM was published December 20, 2017. Therefore, all existing emission sources of TAP are exempt from Standard No. 8 modeling, except as follows:

- New-Indy submitted a compliance demonstration for all sources at the facility for H₂S and TRS emissions to the Department on October 27, 2021. An additional modeling demonstration was performed by the Department in September 2022 for all sources of H₂S and methyl mercaptan, which showed these pollutants were below the maximum 24-hour acceptable ambient concentrations (MAAC). Therefore, no new modeling is required for this project.
- Black Liquor Storage Tank modeling was performed as part of the exemption request for this tank and demonstrated compliance with this regulation. See modeling summary dated March 15, 2023.

PUBLIC NOTICE

This construction permit has undergone a 30-day public notice period in accordance with SC Regulation 61-62.1, Section II(N). Also, the requirements of the consent decree are required to be included in a federally enforceable non-Title V permit. The comment period was open from May 13, 2024 to June 20, 2024 and the draft permit was placed on the BAQ website during that time period. Comments were received during the comment period.

DOCUMENTS REFERENCED IN THE CONSTRUCTION PERMIT

The following documents were referenced in the construction permit and are included in the public notice package and permit record.

- Civil No. 0:21-cv-02053-SAL, United States of America v. New-Indy Catawba, LLC, dated November 16, 2022 (Consent Decree)
 - Appendix A (Work to Be Performed)
 - Appendix B (Fence Line Monitor Locations)
 - Appendix C (Wastewater Treatment System Diagram)
- EPA approved plan for the Post Aeration Tank Cover and Carbon Filtration System
- June 25, 2021, EPA-approved Quality Assurance Project Plan (QAPP), or updated EPA-approved versions. The current version is October 12, 2022.
- EPA's May 13, 2021, CAA Section 114 Request



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CHANGES AFTER THE PUBLIC NOTICE PERIOD

- A new condition, B.13, has been added to the construction permit requiring the documents referenced in the construction permit be kept on site and readily available at all times. The referenced documents are listed above.

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.