



Company Name:	New-Indy Catawba LLC	Permit Writer:	Katharine K Buckner
Agency Air Number:	2440-0005	Date:	July 22, 2024
Permit Number:	CP-50000175 v1.0		

DATE APPLICATION RECEIVED: March 16, 2023

PROJECT DESCRIPTION

New-Indy plans to install a new dry ash handling system as allowed under this construction permit. The new dry ash handling system will consist of a new ash silo equipped with a fabric filter for filtration of emissions resulting from conveying the ash from each combination boiler. The ash collection system will use enclosed conveyors to deliver the collected ash from each combination boiler (TV EU ID 08, equipment IDs 2605 and 3705) to the new ash silo. The new ash silo will discharge into the ash conditioning system where the ash will be moistened using a conditioning agent. The conditioned ash will then be loaded into a container in the ash collection structure. The ash collection structure will protect the conditioned ash from becoming airborne during windy conditions while loading into containers. Once a container is loaded it will be tarped prior to leaving the ash collection structure to minimize dust emissions from the container during transport to the disposal location.

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.



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(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
 - This construction permit does establish PSD avoidance (synthetic minor) limits for PM, PM₁₀, 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.

EMISSIONS

Emissions are based on the maximum amount of ash that can be collected and conveyed through the system on a per hour basis.

- Combination Boiler No. 1, No. 7 conveyor to fly ash silo = 3,100 lb/hr
- Combination Boiler No. 2, No. 6 conveyor to fly ash silo = 5,800 lb/hr
- Total Ash Silo throughput = 8,900 lb/hr

Emission factors are from AP-42, Section 11.12 for Concrete Batching. Fly ash is an ingredient in the cement used to make concrete. Table 11.12-2 provides uncontrolled and controlled emission factors for PM and PM₁₀ for cement supplement (fly ash) pneumatic unloading to elevated silos. PM_{2.5} emissions are assumed to equal PM₁₀ since there are no factors for PM_{2.5} in the referenced AP-42 table. Factors in AP-42 Table 11.12-8 are used to estimate emissions of trace metals in the fly ash.



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PROJECT EMISSIONS

Particulate Matter Emissions from the Dry Ash Handling System

Maximum throughput of ash:		8,900	Lb/hr	38,982	Tons/yr	
Pollutant	Uncontrolled Emission Factor ^(a)	Uncontrolled Emissions		Controlled Emission Factor	Controlled Emissions	
	Lb/ton	Lb/hr	Tons/yr	Lb/ton	Lb/hr	Tons/yr
PM	3.14	13.973	61.20	0.0089	0.04	0.173
PM ₁₀	1.10	4.895	21.44	0.0049	0.022	0.096
PM _{2.5} ^(b)	1.10	4.895	21.44	0.0049	0.022	0.096

Notes:

- (a) Uncontrolled and controlled emission factors for PM and PM₁₀ come from AP-42, Ch. 11, Table 11.12-2 - Concrete Batching, cement supplement (fly ash) unloading to elevated silo (pneumatic).
- (b) PM_{2.5} emissions assumed equal to PM₁₀ emissions.

HAP/TAP Metal Emissions from the Dry Ash Handling System

Pollutant	CAS Number	Controlled Emission Factor	Controlled Emissions ^(a)		Uncontrolled Emissions ^(b)	
		Lb/ton	Lb/hr	Tons/yr	Lb/hr	Tons/yr
Arsenic	7440-38-2	1.00E-06	4.45E-06	1.95E-05	4.45E-02	1.95E-01
Beryllium	7440-41-7	9.04E-08	4.02E-07	1.76E-06	4.02E-03	1.76E-02
Cadmium	7440-43-9	1.98E-10	8.81E-10	3.86E-09	8.81E-06	3.86E-05
Chromium	7440-47-3	1.22E-06	5.43E-06	2.38E-05	5.43E-02	2.38E-01
Lead	7439-92-1	5.20E-07	2.31E-06	1.01E-05	2.31E-02	1.01E-01
Manganese	7439-96-5	2.56E-07	1.14E-06	4.99E-06	1.14E-02	4.99E-02
Nickel	7440-02-0	2.28E-06	1.01E-05	4.44E-05	1.01E-01	4.44E-01
Phosphorus	7782-49-2	3.54E-06	1.58E-05	6.90E-05	1.58E-01	6.90E-01
Selenium	7723-14-0	7.24E-08	3.22E-07	1.41E-06	3.22E-03	1.41E-02
Total HAPs	---	---	4.00E-05	1.75E-04	4.00E-01	1.75

Notes:

- (a) Controlled emission factors for HAP Metals come from AP-42, Ch. 11, Table 11.12-8 - Concrete Batch Plant Metal emission factors, cement supplement (fly ash) silo filling w/fabric filter.
- (b) Uncontrolled emission rates are back calculated from the controlled rates using a control efficiency of the fabric filter of 99.99%.

REGULATIONS

Applicable - Section II(E) (Synthetic Minor)

This facility is a major source in accordance with SC 61-62.5, Std No. 7 - PSD. The uncontrolled emissions from the new Dry Ash Handling System are greater than the significant emission rates in Std No. 7. In the application, the



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facility cited the limitation for PM from Std No. 4 as being federally enforceable and that the fabric filter used to comply with the limit should be considered as part of the design of dry ash handling system as allowed by the definition of PTE in Std No. 7. Std No. 4 is included in SC's SIP making the calculated emission limit federally enforceable, not the control device. The calculated limit from Std No. 4 is 11.15 lb PM/hr, which is still greater than the significant emission rates in Std No. 7. Therefore, additional limitations are necessary on PM, PM₁₀, and PM_{2.5} to limit the PTE from the dry ash handling system to below the significant rates for each pollutant. Monitoring of the fabric filter will be required along with keeping records of the total ash collected monthly from the Combination Boilers to calculate the 12 month rolling sum to demonstrate compliance with these synthetic minor limits.

Synthetic Minor Limits					
Permit ID	Equipment ID	Permit Issue Date	Pollutant	Emission Limit (TPY)	Explanation
CP-50000175 v1.0	3790	This Permit	PM	25.0	Although limits under Std No. 4 are federally enforceable, the PM emission limit from this regulation is 11.15 lb/hr. The tpy emission rate derived from this limit is still above the significant emission rate for PSD. Therefore PM, along with PM ₁₀ and PM _{2.5} , are being limited to less than the PSD significant emission rates of 25.0 tpy, 15.0 tpy, and 10.0 tpy, respectively.
CP-50000175 v1.0	3790	This Permit	PM ₁₀	15.0	
CP-50000175 v1.0	3790	This Permit	PM _{2.5}	10.0	

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

The Powerhouse Dry Ash Handling system is subject to:

- an opacity limit of less than or equal to 20% based on the installation date of this source. (Section IX.B.)
Semiannual visual inspections will be required.
- a PM limit as shown in the table below (Section VIII.B.)

Process	Max Process Weight Rate (tons/hr)	PM Allowable at Max (lb/hr)	Uncontrolled Emissions PM (lb/hr)	Controlled Emissions PM (lb/hr)	Monitoring
3790	4.45	11.15	13.973	0.04	Monitoring of the pressure drop across the fabric filter will be required.

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

New-Indy is a major source under this regulation. The uncontrolled TPY emission rates from the new Dry Ash Handling System are greater than the significant emission rates for PM, PM₁₀, and PM_{2.5}. However, the facility is taking limitations on PM, PM₁₀, and PM_{2.5} emissions to avoid being subject to this regulation. Therefore, this regulation does not apply.



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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))

Not Applicable

None of the subparts of Part 60 apply to ash or ash handling systems.

40 CFR 61 and 61-62.61 (National Emission Standards for Hazardous Air Pollutants (NESHAP))

Not Applicable

The Dry Ash Handling System does not have any emissions of asbestos, coke oven emissions, radio nuclide, radon, vinyl chloride, benzene, and mercury. The system does emit beryllium and arsenic contained in the ash, however, these emissions are not from the types of industries or sources covered by the Part 61 NESHAPs.

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

Not Applicable

None of the subparts of Part 63 apply to ash or ash handling systems.

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) before controls and the pollutant has applicable limitations. Although emissions are controlled by a fabric filter, the dry ash handling system does not have the PTE greater than 100.0 TPY for PM, PM₁₀, nor PM_{2.5}, nor does it have the PTE greater than 10.0/25.0 TPY for HAPs (HAP metals). Therefore, this regulation does not apply.

AMBIENT AIR STANDARDS REVIEW

Applicable - Standard No. 2 (Ambient Air Quality Standards)

For the Dry Ash Handling System, the controlled emission rates for PM₁₀ and PM_{2.5}, and the uncontrolled emission rate for Lead are below the exemption thresholds for performing an air dispersion analysis. Therefore, no modeling is required.

Pollutant	CAS Number	Controlled Emissions	Exemption Threshold
		Lb/hr	Lb/hr
PM ₁₀	N/A	0.022	1.14
PM _{2.5}	N/A	0.022	1.14
Lead	7439-92-1	2.31E-06	0.114



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

The Dry Ash Handling System manages the ash from the boilers and contains several metals that are TAPs. However, the controlled emission estimates of these metals are below the de minimis rates requiring modeling. Therefore, no modeling is required for the Dry Ash Handling System.

Pollutant	CAS Number	Controlled Emissions		De minimis
		Lb/hr	lb/day	lb/day
Arsenic	7440-38-2	4.45E-06	1.07E-04	0.012
Beryllium	7440-41-7	4.02E-07	9.65E-06	0.000
Cadmium	7440-43-9	8.81E-10	2.11E-08	0.003
Chromium	7440-47-3	5.43E-06	1.30E-04	0.030
Manganese	7439-96-5	1.14E-06	2.73E-05	0.300
Nickel	7440-02-0	1.01E-05	2.44E-04	0.006
Phosphorus	7782-49-2	1.58E-05	3.78E-04	0.006
Selenium	7723-14-0	3.22E-07	7.73E-06	0.012

Notes:
- To arrive at lb/day rates, multiply the lb/hr by 24 hr/day.

PERIODIC MONITORING					
ID	Regulatory Requirement	Measured Parameter	Required Monitoring Frequency	Reporting Frequency	Monitoring Basis/ Justification
3790	20% Opacity	Visual Inspections	Semiannual	Semiannual	Periodic Monitoring as a Title V source.
3790	PM less than 25.0 tpy	Total tons dry Ash collected from the Combination Boilers ^(a)	Monthly	Semiannual	To demonstrate compliance with the limits
3790	PM ₁₀ less than 15.0 tpy	Total tons dry Ash collected from the Combination Boilers ^(a)	Monthly	Semiannual	To demonstrate compliance with the limits
3790	PM _{2.5} less than 10.0 tpy	Total tons dry Ash collected from the Combination Boilers ^(a)	Monthly	Semiannual	To demonstrate compliance with the limits
3790	Opacity, PM, PM ₁₀ , and PM _{2.5} limits	Pressure drop across fabric filter	Daily during source operation	Semiannual	Report exceedances of operational ranges



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PERIODIC MONITORING					
ID	Regulatory Requirement	Measured Parameter	Required Monitoring Frequency	Reporting Frequency	Monitoring Basis/Justification
^(a) Total tons dry Ash collected will be calculated from the monthly number of trucks loaded multiplied by constant factors developed for the amount of conditioning agent applied to the dry ash material and the total weight of conditioned ash per truck.					

PUBLIC NOTICE

This construction permit has undergone a 30-day public notice period in accordance with SC Regulation 61-62.1, Section II(N) and to establish SC Regulation 61-62.1, Section II(E) limits on PM, PM₁₀ and PM_{2.5}. 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.

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.