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BAQ Engineering Services Division

Company Name	Resolute FP US Inc. – Catawba Lumber Mill	Permit Writer:	Katharine K. Buckner
Permit Number:	2440-0216-CA	Date:	November 3, 2017

EXPEDITED REVIEW: Accepted April 4, 2017
DATE APPLICATION RECEIVED: March 3, 2017

FACILITY DESCRIPTION

Resolute Forest Products, Inc. owns and operates an existing pulp and paper mill in Catawba, York County, (Catawba Facility). The Catawba Facility is a major stationary source as defined by S.C. Regulation 61-62.70.2(r). The pulp and paper mill at the Catawba Facility currently operates under Part 70 Operating Permit No. TV-2440-0005. Resolute is proposing to install a co-located lumber mill at the existing Catawba Facility and seeks to authorize the operation of the mill under a separate Title V permit.

PROJECT DESCRIPTION

Resolute has submitted an application to construct a lumber mill co-located with the existing pulp and paper mill at the Catawba Facility. The project will include the installation of a log pile, sawmill and debarker, three (3) continuous dual-path direct-fired lumber kilns, and a planer mill. The direct-fired kilns will combust gasified green sawdust and chip fines, and will each be rated at 35 million British thermal units per hour (MMBtu/hr). The lumber mill will have a potential throughput of 312.5 million board feet of finished lumber per year (MMBF/yr). Emission sources will include the sawmill, the debarker, the direct-fired kilns (including startup emissions), the planer mill, storage silos and bins, and truck and forklift traffic, as well as material handling between sources. Emissions from the planer mill will be controlled by a baghouse. Inherent cyclones on the Kiln Fuel Silos and a bin vent filter on the Planer Mill Shaving Silo will be used to retain material in the silos which will also minimize emissions from the silos.

Log Yard

The log yard, the main raw material storage area, will store the imported logs in an outdoor area near the sawmill. Logs will be delivered to the facility via trucks. The main source of emissions in the log yard will be fugitive dust emissions from vehicle traffic.

Sawmill

Logs from the Log Yard will be sent to the Sawmill to be cut into boards. The logs will first be cut to length then sent to the Debarkers to remove the bark. The debarked logs will then be cut into rough cut, green dimensional lumber. The bark will be transferred by truck to the paper mill for combustion in the boilers.

Chips and sawdust will also be generated by the Sawmill. The sawdust, along with fine material from the pulp mill and lumber mill chippers, will be used as fuel in the direct-fired lumber kilns. This material will be transferred by conveyor to bins adjacent to the sawmill. Chips generated at the Sawmill will be transferred by truck to the pulp mill. Some chips and bark generated by this operation will be stored on two concrete pads near the Sawmill.

Lumber Kilns

Stacked, rough cut, green lumber from the Sawmill will be transferred to one of three direct-fired continuous lumber kilns. Each kiln is rated at 35 million Btu/hr input. The kilns will be fired by gasified green sawdust from the Sawmill and fine material from the chippers at the Lumber Mill. This material will be stored in three fuel storage silos, each equipped with an inherent cyclone. The cyclones are considered inherent to each silo since these are in place to prevent loss of product.



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The kilns are operated continuously, with two opposing entrance and exit points for sized lumber. Dried lumber exiting the kiln will assist in conditioning (pre-heating) wet lumber entering the kiln before passing through the combustion zone in the middle of the kiln. This results in higher efficiency and better quality product than batch kilns. Each exit and entrance point will be equipped with a chimney.

Planer Mill

The dry, rough cut lumber from the kilns will pass through the Planer Mill to obtain finished dimensions required by standards. The Planer Mill will consist of a trim saw, dry hog, planer, shavings silo, and bins. Two cyclones will collect shavings from the trim saw and planer. The cyclones will vent to a baghouse for particulate control. The cyclones are collecting saleable product and are not considered to be control devices in this operating scenario. Shavings removed during planing and hogging will be stored in a Dry Shavings Storage Silo prior to being sold. The Dry Shavings Storage Silo will be controlled by an inherent bin vent filter.

Material Handling

Material Handling involves the transport of various materials (bark, shavings, and chips) throughout the facility on open conveyors to trucks or storage silos.

COLLOCATION DETERMINATION

Resolute FP US, Inc. is proposing to build a new lumber mill, Resolute - Catawba Lumber Mill, on part of the property where the existing Resolute – Pulp and Paper Mill (TV-2440-0005) is located.

When making a collocation determination, there are three rules to consider: PSD/NSR, Title V, and Title III. The criteria to consider if facilities are collocated for Title III is:

- Contiguous area – the lumber mill will be built on the same property where the Pulp and Paper Mill is located.
- Common control – both facilities are owned by Resolute Forest Products.

So these two facilities are collocated for Title III.

PSD/NSR and Title V have three criteria, similar to each other, to consider when determining if facilities are collocated:

- Contiguous or adjacent properties – as mentioned for Title III criteria, the two facilities will be next to each other on land owned by Resolute Forest Products. A railway separates the two properties.
- Control of the same person/common control – again, as with Title III criteria, the same parent company, Resolute Forest Products, owns both facilities.
- Same industrial grouping/single major industrial grouping – typically if the first two digits of the SIC code are the same then that would satisfy this criterion. The lumber mill SIC code is 2421. The SIC code for pulp mills is 2611 and the SIC code for paper mills is 2621. While these facilities do not belong to the same major group, they can be further evaluated in terms of a support facility where a support facility conveys, stores, or otherwise assists in the production of the principle product by sharing materials and byproducts necessary for each facility’s production. Each facility will support the other in the following ways:
 - Pulp Mill – will supply chip fines as fuel to the Lumber mill drying kilns;
 - Lumber Mill – wood chip fines from the sawmill will be used in the pulp mill production. Bark from the debarking operation will be transported to the pulp and paper mill for use as fuel in the boilers.



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Therefore, the Lumber Mill and Pulp and Paper Mill are considered collocated for PSD/NSR and Title V. The facility has requested a separate TV operating permit for the new lumber mill.

SOURCE TEST REQUIREMENTS

An initial source test of the Planer Mill baghouse will be required to demonstrate compliance with the BACT limitations for PM reduction efficiency of 99%.

Resolute – Catawba Lumber was asked for input on testing the continuous lumber drying kilns for VOC and NOx emissions. A limited number of continuous kilns in the US have been tested for VOC emissions. However, the acceptability of the results of the testing are frequently questioned due to the wide range of results from the VOC tests that have been performed. VOC emissions can be dependent on a large array of factors, to include:

- Moisture content of the can vary between the type of wood and the age of the wood;
- Lack of capturing 100% of the exhaust from the kilns;
- Concentration of VOCs emitted from the kiln can vary during the drying cycle along with flow rates;
- The test duration would have to last much longer than 3 1-hour tests in order to accommodate the fluctuating concentrations;

Therefore, it has been decided that testing the kilns for VOC will not be required.

The NOx emission rates are close to the PSD (SC Standard No. 7) significance rate. The NOx emission factor is based on the factor derived from a source test performed at the Bibler Brothers in Arkansas. To be conservative, one standard deviation was added to the Bibler Brothers rate and the kiln manufacturer has guaranteed the emission factor of 0.076 lb NOx/million Btu. Based on this information, the difficulties cited for testing for VOC, along with other factors, it has been decided, on a case-by-case basis, that no testing for NOx emissions will be required.

PROJECT EMISSIONS

Sawmill – The Sawmill will be a source of fugitive PM emissions from the sawing and debarking operations. Emissions from each are based on the estimated throughput of byproduct for each operation. The estimated green sawdust throughput and estimated bark throughput are based on predicted values for each byproduct type based on process knowledge and engineering judgement, in ton/MBF (thousand board feet). PM₁₀ and PM_{2.5} are calculated using AP-42, Ch. 13.2.4 – Aggregate Handling and Storage Piles. The Sawing and Debarking operations will be enclosed. A moisture content of 12% is assumed for green lumber. PM_{2.5} emissions are calculated as a percentage of PM emissions (19%) based on information for U.S. EPA’s PM Augmentation Tool. A control efficiency of 74.7% is applied to activities in a partial enclosure (as referenced in the Klausner construction permit statement of basis (1860-0128-CA) as per Sierra Research "Final BACM Technological and Economic Feasibility Analysis"). The control efficiency is assumed equivalent for PM, PM₁₀, and PM_{2.5}.

POTENTIAL EMISSIONS (PROJECT ONLY)					
ID	Pollutant	Emission Factor (lb/ton logs)	Throughput	Lb/hr	TPY
01	Log Debarking (DB)				
	PM	8.039E-04	125,000 tpy	0.0051	0.013
	PM ₁₀	3.802E-04	125,000 tpy	0.0024	0.006
	PM _{2.5}	1.527E-04	125,000 tpy	0.001	0.002
Saw Mill (SW)					



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POTENTIAL EMISSIONS (PROJECT ONLY)					
ID	Pollutant	Emission Factor (lb/ton logs)	Throughput	Lb/hr	TPY
	PM	8.039E-04	82,140 tpy	0.017	0.044
	PM ₁₀	3.802E-04	82,140 tpy	0.0083	0.021
	PM _{2.5}	1.527E-04	82,140 tpy	0.003	0.008

Kiln Fuel Silos – The Kiln Fuel Silos store the sawdust generated by Sawmill and chip fines from the pulp mill. The PM potential emissions are based on the manufacturer’s guarantee of an outlet loading of 0.01 gr/dscf on the inherent cyclones with which each silo is equipped. PM₁₀ and PM_{2.5} emissions are based on U.S. EPA’s PM Augmentation Tool as PM₁₀ is 35% of PM and PM_{2.5} is 11% of PM.

POTENTIAL EMISSIONS (PROJECT ONLY)				
Kiln Fuel Silos				
ID	Pollutant	Uncontrolled Emissions, total		
		Lb/hr	TPY	
02 – KFS-1, KFS-2, KFS-3	PM	1.80		4.50
	PM ₁₀	0.63		1.58
	PM _{2.5}	0.20		0.50

Three Direct-fired Continuous Lumber Drying Kilns – Potential emissions from the new kilns are evaluated using the maximum potential production capacities of the kilns (million BF/yr) and the burner heat capacities (million Btu/hr). Emission factors are taken from a variety of sources – NCASI, AP-42, and stack testing of similar sources in South Carolina and Arkansas. The total potential annual throughput of the three kilns is 312.5 million BF/yr. The CO emission factor comes from NCASI via publicly available sources. SO₂ emission factor comes from AP-42, Ch. 1.6. Likewise, HAP emission factors are obtained from AP-42 1.6 and NCASI factors. The VOC emission factor was based on the stack test performed at Georgia-Pacific in McCormick, SC, measured as VOC as carbon. The conversion to VOC as (as terpene + methanol + formaldehyde), comes from the EPA document “Interim VOC Measurement Protocol for the Wood Products Industry – July 2007, page 2.” The NO_x emission factor is based on the stack test performed at the Bibler Brothers in Russellville, AR and approved for use as an emission factor by the BAQ on January 18, 2017. PM Filterable factor is based on Bibler Brothers testing and the condensable PM comes from NCASI. Ratios of PM₁₀ and PM_{2.5} emissions to PM are based on the permit issued to Rayonier Wood Product in Swainsboro, GA and AP-42. CO_{2e} emissions are based on factors established in 40 CFR 98, Table C-1 and C-2.

POTENTIAL EMISSIONS (PROJECT ONLY)					
Three Continuous Direct-Fired Lumber Kilns					
ID	Pollutant	Emission Factor (lb/thousand BF)	Throughput	Total Lb/hr	Total TPY
02 - CDK1,	PM	0.14	312.5 million BF/yr	5.04	21.88
	PM ₁₀	0.104	312.5 million BF/yr	3.74	16.25
	PM _{2.5}	0.099	312.5 million BF/yr	3.56	15.47



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POTENTIAL EMISSIONS (PROJECT ONLY)					
Three Continuous Direct-Fired Lumber Kilns					
ID	Pollutant	Emission Factor (lb/thousand BF)	Throughput	Total Lb/hr	Total TPY
CDK2, CDK3	SO2	0.025 lb/million Btu	35 million Btu/hr, each kiln	2.63	11.50
	NOx	0.076 lb/million Btu	35 million Btu/hr, each kiln	7.98	34.95
	CO	0.73	312.5 million BF/yr	26.28	114.06
	Lead, Pb	1.77E-05 lb/million Btu	35 million Btu/hr, each kiln	1.86E-03	8.14E-03
	VOC as VOC	5.82	312.5 million BF/yr	209.52	909.38
	Total HAPs	various	312.5 million BF/yr	10.96	47.61
	CO _{2e}	various	35 million Btu/hr, each kiln	22,003	96,375

Kiln start-up and shutdown emissions are based on the use of the sawdust and chip fines. The startup process takes about 12 hours and sawdust use is approximately 4 tons over an 8-hour period. AP-42, Ch. 1.6 emission factors are used to estimate startup emissions. Startup emissions include the startup of all three kilns with 12 startup events per year.

POTENTIAL EMISSIONS (PROJECT ONLY)					
Startup Emissions - Three Continuous Direct-Fired Lumber Kilns					
ID	Pollutant	Emission Factor (lb/thousand BF)	Throughput	Total Lb/hr, (avg of total start up time)	Total TPY
02 - CDK1, CDK2, CDK3	PM	0.33	35 million Btu/hr, each kiln	275.0	1.65
	PM ₁₀	0.314	35 million Btu/hr, each kiln	261.67	1.57
	PM _{2.5}	0.255	35 million Btu/hr, each kiln	213.18	1.28
	SO2	0.025	35 million Btu/hr, each kiln	20.83	0.13
	NOx	0.22	35 million Btu/hr, each kiln	183.33	1.10
	CO	0.6	35 million Btu/hr, each kiln	500.0	3.0
	VOC	0.017	35 million Btu/hr, each kiln	14.17	0.09
	Lead, Pb	4.80E-05	35 million Btu/hr, each kiln	0.04	2.4E-04



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POTENTIAL EMISSIONS (PROJECT ONLY)					
Startup Emissions - Three Continuous Direct-Fired Lumber Kilns					
ID	Pollutant	Emission Factor (lb/thousand BF)	Throughput	Total Lb/hr, (avg of total start up time)	Total TPY
	Total HAPs	various	35 million Btu/hr, each kiln	3.81	1.9E-01
	CO ₂ e	various	35 million Btu/hr, each kiln	1,568,384	3,137

Planer Mill – Planer Mill emissions are routed to two cyclones for material capture then vented to a baghouse to control particulate emissions. PM Emission factors for the cyclones are based on Oregon DEQ’s Emission Factors Wood Products (August 2011) for a medium efficiency cyclone. One of the cyclones captures the planer shavings while the other captures planer hog material. PM₁₀ and PM_{2.5} are based on U.S. EPA’s PM Augmentation Tool. The Planer Mill Shavings silo has a vendor guarantee of the outlet grain loading of 0.002 gr/dscf. PM₁₀ and PM_{2.5} emissions based on Oregon DEQ’s Emission Factor Wood Products AQ-EF03. The Planer Mill controlled emissions are based on the baghouse control efficiency is 99%.

POTENTIAL EMISSIONS (PROJECT ONLY)					
ID	Pollutant	Uncontrolled, lb/hr	Uncontrolled, TPY	Controlled, lb/hr	Controlled, TPY
03 – PM, PSS	Planer Mill with 2 Cyclones and Baghouse (PM, BF-004)				
	PM	15.91	15.91	0.32	0.32
	PM ₁₀	13.53	13.53	0.27	0.27
	PM _{2.5}	7.96	7.96	0.16	0.16
	Planer Shavings Silo (PSS)				
	PM	1.11	4.88	0.011	0.049
	PM ₁₀	0.39	1.71	0.004	0.017
	PM _{2.5}	0.04	0.19	0.001	0.005

Material Transfers – Emission Factors from AP-42, Ch. 13.2.4 – Aggregate Handling and Storage Piles are used to calculate fugitive particulate emissions from the various material transfers. Material Transfers include:

- Bark Truck Loading for transport to the Pulp and Paper Mill.
- Chips Truck Loading at Sawmill for transport to Pulp and Paper Mill. Sawdust and other chips from Sawmill are conveyed to bins adjacent to the Sawmill.
- Dry Shavings Truck Loading – dry shavings are stored in silos until sold.
- Chips transferred to pile.
- Chips from the Hog to conveyor
- Bark to conveyor.
- Bark transferred to pile.

This AP-42 section is also used to estimate fugitive emissions from chip and bark piles located near the sawmill.



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UNCONTROLLED POTENTIAL EMISSIONS (PROJECT ONLY)

Material Transfer							
ID	Pollutant	PM, lb/hr	PM, TPY	PM10, lb/hr	PM10, TPY	PM2.5, lb/hr	PM2.5, TPY
04 – MT1, MT2, MT3, MT4, MT5, MT6, MT7	Chip Truck Loading	4.58E-02	2.01E-01	2.17E-02	9.49E-02	3.28E-03	1.44E-02
	Bark Truck Loading	1.65E-02	7.23E-02	7.81E-03	3.42E-02	1.18E-03	5.18E-03
	Shavings Truck Loading	8.41E-03	3.68E-02	3.98E-03	1.74E-02	6.02E-04	2.64E-03
	Chips Transfer to Pile	8.03E-02	2.01E-01	3.80E-02	9.49E-02	5.75E-03	1.44E-02
	Chips from Hog to Conveyor	8.03E-02	7.23E-02	7.81E-03	3.42E-02	1.18E-03	5.18E-03
	Bark Transfer to Conveyor, drop #1	2.89E-02	7.23E-02	1.37E-03	3.42E-02	2.07E-03	5.18E-03
	Bark Transfer to Pile	2.89E-02	7.23E-02	1.37E-03	3.42E-02	2.07E-03	5.18E-03

Road Emissions – Fugitive PM Emissions from truck traffic on the roadways are calculated based on estimated vehicle miles traveled (VMT) by trucks and forklifts. AP-42, Ch. 13.2.1 Paved Roads was used to estimate emissions from the roads.

POTENTIAL EMISSIONS (PROJECT ONLY)

Road Emissions			
ID	Pollutant	Uncontrolled Emissions	
		Lb/hr	TPY
05 - ROAD	PM	1.47	6.45
	PM ₁₀	0.29	1.29
	PM _{2.5}	0.07	0.32

FACILITY WIDE EMISSIONS

Pollutant	Uncontrolled Emissions	Controlled/Limited Emissions
	TPY	TPY
PM	56.12	35.70
PM ₁₀	36.32	21.38
PM _{2.5}	26.11	17.79
SO ₂	11.62	11.62
NO _x	36.05	36.05
CO	117.06	117.06
VOC	909.46	909.46
Lead	8.38E-03	8.38E-03
CO _{2e}	99,511	99,511
Total HAPs	47.80	47.80



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OPERATING PERMIT STATUS

This facility does not currently have an operating permit but will be issued a Title V Operating Permit upon start of operation of the facility.

REGULATORY APPLICABILITY REVIEW	
Regulations	Comments/Periodic Monitoring Requirements
Section II.E – Synthetic Minor	This project has potential emissions greater than the major source thresholds and no limits will be taken to avoid being a major source. Therefore, this regulation does not apply.
Standard No. 1	Standard No. 1 applies to fuel burning operations. The definition of fuel burning operations covers the burning of "...any fuel for the purpose of indirect heating in which the material being heated is not contacted by and adds no substance to the products of combustion." The three continuous kilns are direct fired sources; the products of combustion will come in contact with the wood being heated. Therefore, the three drying kilns are not subject to this regulation.
Standard No. 3 (state only)	No waste combustion or reduction will take place as part of this project.
Standard No. 4	All sources at this facility will be subject to a 20% opacity since these sources are being installed after 1985. The process weight rate for the entire facility is governed by the mass of logs entering the facility, 250 tons/hour. This is the process weight rate for the entire facility so one PM limitation will be assigned to the entire facility, from debarking to material transfers, Emission Unit IDs 01-04. The PM limitation is 60.96 lb/hr. Uncontrolled potential to emit (PTE) for the facility has been calculated to be 24.17 (excludes emissions from Roads). The uncontrolled PTE is less than the allowable so no monitoring or recordkeeping is required with respect to this regulation. However, monitoring and recordkeeping is required by other regulations. The Planer Mill is equipped with a baghouse to control particulate emissions for compliance with this regulation. Appropriate monitoring and recordkeeping has been included in the permit.
Standard No. 5	This facility was not in existence at the time the Parts of this regulation became effective. Thus, this regulation does not apply.
Standard No. 5.2	This regulation affects sources that emit NOx from fuel combustion – Lumber Kilns, equipment IDs CDK1, CDK2, and CDK3. The three kilns will combust gasified green sawdust and fine chips. The lumber drying kilns will be new sources since they will be installed after June 25, 2004 and fall under the source type of "Fuel Combustion Sources Not Otherwise Specified" in Table 1 of the regulation. The kilns are required to use low NOx burners or an equivalent technology, either of which shall achieve 30 percent reduction from uncontrolled levels. The AP-42 lists an uncontrolled NOx emission factor of 0.22 lb/million Btu for the combustion of green wood. The emission factor used for the emission estimates from the kilns is 0.076 lb/million Btu. The emission factor was based on stack testing at the Bibler



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REGULATORY APPLICABILITY REVIEW

Regulations	Comments/Periodic Monitoring Requirements
	<p>Bros. facility in Arkansas plus one standard deviation. It was approved for use as an emission factor by the BAQ Source Evaluation Section. This emission factor is more than 30% below the uncontrolled value (0.22 lb/million Btu x 0.7 = 0.154 lb/million Btu).</p> <p>A tune-up plan shall be developed and maintained on site. Periodic tune-ups shall be conducted. Monthly records shall be kept on amounts and types of each fuel combusted. Records of tune-ups and fuels combusted shall be maintained on site.</p>
Standard No. 7	The Catawba facility, consisting of the existing Pulp and Paper Mill and the proposed Lumber Mill, is an existing major source for PSD. The emission increases for PM, PM ₁₀ , PM _{2.5} , CO, VOC, and CO _{2e} from the proposed Lumber Mill exceed the significant emission rates in this rule. Therefore, PSD is applicable to this project. A summary of BACT limits is shown in the table at the end of this document.
61-62.6	The fugitive PM emissions will be minimized so as not to create an undesirable level of air pollution.
40 CFR 60 and 61-62.60	<p>Subpart Dc - Small Industrial-Commercial-Institutional Steam Generating Units: This regulation applies to steam generating units rated between 10 and 100 million Btu/hr constructed, modified, or reconstructed after Jun 9, 1989. Although the three drying kilns are each rated at 35 million Btu/hr and will be constructed after the specified date, the burners will not generate steam because the combustion gases from the fuel will directly contact the lumber during the drying process. Therefore, this regulation does not apply to the three kilns.</p> <p>Subpart CCCC – Commercial and Industrial Solid Waste Incineration: The direct fired continuous kilns are not subject to this regulation because the fuel for the burners will be green sawdust and chip fines, which are produced at the Catawba facility, are not classified as secondary materials or solid wastes. Therefore Subpart CCCC is not applicable to the drying kilns.</p> <p>Subparts IIII or JJJJ – Internal Combustion Engines: There are no emergency generators or other stationary engines to be located at this facility. Therefore, these regulations do not apply.</p>
40 CFR 61 and 61-62.61	This facility does not emit the pollutants subject to this standard: asbestos, coke oven emissions, radio nuclide, or radon. However, it does emit benzene, beryllium, arsenic, mercury, and vinyl chloride from the direct fired kilns. But these emissions are not from the types of industries or sources or in the amounts that are covered by the Part 61 NESHAPs.
40 CFR 63 and 61-62.63	Subpart DDDD – The Plywood and Composite Wood Products MACT applies to lumber kilns located at any facility. This facility will be a new affected source since it will be constructed after January 9, 2003. As a new affected source, this facility must be in compliance with this regulation upon initial startup. As specified in 40



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REGULATORY APPLICABILITY REVIEW	
Regulations	Comments/Periodic Monitoring Requirements
	<p>CFR §63.2252, there are no compliance options, work practice requirements, performance testing, monitoring, SSM plans, and recordkeeping and reporting to comply with, except for the initial notification requirements in §63.9.</p> <p>Subpart ZZZZ – Reciprocating Internal Combustion Engines: There are no emergency generators or other stationary engines to be located at this facility. Therefore this regulation does not apply.</p> <p>Subpart DDDDD – Major Source Industrial, Commercial, and Institutional Boilers and Process Heaters: This regulation applies to boilers or process heaters. The direct fired lumber kilns do not meet the definition of boiler because the primary purpose of the kilns is not to recover thermal energy in the form of steam or hot water. The lumber kilns act as a dryer by applying heat to reduce the moisture content of lumber. Nor do the lumber kilns meet the definition of process heater because the primary purpose of the kilns is to directly transfer heat to process materials, whereas a process heater indirectly transfers heat or heats transfer material. Therefore, this regulation does not apply to the direct fired lumber kilns.</p>
61-62.68	Resolute – Catawba Lumber Mill does not store, process, or use any of the listed chemicals above the threshold quantity.
40 CFR 64 (CAM)	Although various processes at this facility have the potential to emit greater than 100 tpy for criteria pollutants and greater than 10/25 tpy for HAPs, not all of the processes have add on control devices. Of the sources with add on control devices, the PTE prior to control does not exceed any of the major source thresholds. Therefore this regulation does not apply.

Standard No. 4 – Process Weight and Emission Limitation				
Equipment	Potential PM Emissions, lb/hr	Maximum Throughput, tpy	Maximum Throughput, ton/hr	Allowable PM Emission Rate, lb/hr
Facility Wide, Emission Unit IDs 01, 02, 03, 04	24.17	1,250,000	250	60.96

AMBIENT AIR STANDARDS REVIEW	
Regulations	Comments/Periodic Monitoring Requirements
Standard No. 2	Modeling for PM ₁₀ , PM _{2.5} , and NO _x emissions have demonstrated compliance with this Standard. SO ₂ and CO are exempt from modeling due to low emission levels.
Standard No. 7.c	Full Impact Modeling demonstrated compliance with this Standard for PM ₁₀ and PM _{2.5} emissions.
Standard No. 8 (state only)	All sources that emit TAPs are subject to NESHAP, Subpart DDDD and are exempt from Standard No. 8 demonstration. Methyl ethyl ketone emissions are not covered by the MACT but are below the de minimis threshold.



STATEMENT OF BASIS

BAQ Engineering Services Division

Company Name	Resolute FP US Inc. – Catawba Lumber Mill	Permit Writer:	Katharine K. Buckner
Permit Number:	2440-0216-CA	Date:	November 3, 2017

Resolute FP US Inc. – Catawba Lumber Mill – Summary of BACT

ID	Pollutant	BACT Limit/Emission Rate	Averaging Period	Control Method
Debarking and Log Sawing	Filterable PM	1.0E-03 lb/ton material removed, each	Not applicable	Enclosure of operations and proper maintenance and good operating practices
	Filterable PM ₁₀	3.8E-04 lb/ton material removed, each		
	Filterable PM _{2.5}	1.53E-04 lb/ton material removed, each		
3 Continuous, Direct-Fired Lumber Kilns	Total PM*	0.14 lb/MBF	3-hour average	Proper maintenance and good operating practices
	Total PM ₁₀ *	0.104 lb/MBF	3-hour average	
	Total PM _{2.5} *	0.099 lb/MBF	3-hour average	
	VOC	5.82 lb/MBF	3-hour average	Work Practice Standards
	CO	0.73 lb/MBF	3-hour average	Proper maintenance and good operating practices
	CO ₂	206.79 lb/million Btu	3-hour average	Use of energy efficient design
	CH ₄	1.59E-02 lb/million Btu	3-hour average	
	N ₂ O	7.94E-03 lb/million Btu	3-hour average	
Startup emissions from the three Kilns	Total PM	2.83 lb/ton wood combusted	Not applicable	Good combustion practices
	Total PM ₁₀	2.70 lb/ton wood combusted		
	Total PM _{2.5}	2.22 lb/ton wood combusted		
3 Kiln Fuel Silos	Filterable PM	0.01 gr/dscf, each silo	3-hour average	Proper maintenance and good operating practices
	Filterable PM ₁₀	0.0035 gr/dscf, each silo	3-hour average	
	Filterable PM _{2.5}	0.0011 gr/dscf, each silo	3-hour average	
Planer Mill Shavings Silo	Filterable PM	0.002 gr/dscf, each silo	3-hour average	Proper maintenance and good operating practices
	Filterable PM ₁₀	0.0007 gr/dscf, each silo	3-hour average	
	Filterable PM _{2.5}	0.00022 gr/dscf, each silo	3-hour average	



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ID	Pollutant	BACT Limit/Emission Rate	Averaging Period	Control Method
Planer Mill	Filterable PM	99% reduction as measured by total PM	3-hour average	Fabric Filtration – baghouse and good operating practices
	Filterable PM ₁₀	99% reduction as measured by total PM	3-hour average	
	Filterable PM _{2.5}	99% reduction as measured by total PM	3-hour average	
Material Transfer	Filterable PM	1.16E-03 lb/ton	Not applicable	Proper maintenance and good operating practices
	Filterable PM ₁₀	5.47E-04 lb/ton		
	Filterable PM _{2.5}	8.29E-05 lb/ton		
Paved Roads	Filterable PM	0.13 lb/VMT	Not applicable	Good housekeeping practices
	Filterable PM ₁₀	0.03 lb/VMT		
	Filterable PM _{2.5}	0.01 lb/VMT		

*Since the kiln will operate at temperatures above 85 degrees F, total PM, PM10, and PM2.5 will be required for compliance. Since there are no filterable control devices, total PM provides the most accurate assessment of emissions.

PUBLIC NOTICE

This construction permit(s) will undergo a 30-day public notice period to establish PSD limits in accordance with SC Regulation 61-62.1, Section II.N. This permit was placed on the BAQ website on September 5, 2017. The comment period was open from September 5, 2017 to October 4, 2017. 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.