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Submitted via email to *R6AIR_ARHaze@epa.gov*
Attn: Docket ID No. EPA–R06–OAR–2015–0189

Mr. Guy Donaldson, Chief
Air Planning Section (6PD-L)
United States Environmental Protection Agency
1445 Ross Avenue #1200
Dallas, TX 75202-2733

***SUBJECT:***
**State of Arkansas Regional Haze and Interstate Visibility Transport Federal Implementation Plan, Proposed Rule, 80 Fed. Reg. 18944 (April 8, 2015); Attention Docket ID No. EPA–R06–OAR–2015–0189**

Dear Mr. Donaldson:

Domtar A.W. LLC Ashdown Mill (the Ashdown Mill) appreciates the opportunity to provide written comments on the U.S. Environmental Protection Agency (EPA) proposal on the Federal Implementation Plan (FIP) to address certain regional haze and visibility transport requirements for the State of Arkansas. The proposal was published in the April 8, 2015 Federal Register. The nature of our comments focuses on the proposed BART determinations for the Ashdown Mill Power Boiler 1 and Power Boiler 2. The first section addresses concerns associated with the lack of a statutory basis for imposing BART on the Ashdown Mill, as the purported visibility improvements asserted by the Agency are so insignificant as to fall within the CALPUFF model's Ashdown Mill specific margin of error. As such the purported visibility improvement cannot be reasonably anticipated. *See* 42 U.S.C. § 7491(g)(2); *Nat'l Parks Conservation Ass'n v. EPA*, No. 12-73710, 2015 WL 3559148 (June 9, 2015). (The supporting report and analysis will be submitted during the reopened comment period.) Without waiving the significant legal issues with the BART proposal, the second section of the comments focuses on specific issues and concerns with the proposed BART requirements for the Ashdown Mill. Our comments conclude with a recommendation that the proposed BART requirements for the Mill not proceed or, alternatively, the Agency defer any action on BART for 5 years until the Mill completes its re-purposing project. Based on the actions taken with respect to Power Boilers 1 and 2, BART may be mooted.

The Ashdown Mill is part of Domtar Corporation (Domtar). Domtar is a designer, manufacturer, marketer and distributer of a wide variety of wood fiber-based products including communication papers, specialty and packaging papers and absorbent hygiene products. The

foundation of Domtar's business is a network of fiber converting assets that produce papergrade, fluff and specialty pulps. While most of our pulp production is consumed internally to manufacture paper and consumer products, we are also one of the United States' largest volume exporters. Domtar is the largest integrated marketer of uncoated freesheet paper in North America. Domtar operates pulp and paper Mills and personal care facilities in the US, Canada, Spain and Sweden. In the US we operate in the following states: Arkansas, Kentucky, Georgia, Michigan, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas and Wisconsin.

The Ashdown Mill operates in very dynamic, changing and competitive global markets. The global marketplace is very competitive, and as such, managing costs is a key component, especially in a business where the ability to pass through costs to customers is limited. Our products are sold on the basis of cost, quality and service. We continue to see increased competition from "lower" cost imports, with about a 20% increase in imports last year alone. In addition, due to the digital revolution, the traditional paper markets continue to shrink rapidly. To a significant extent, the market is transitioning away from traditional, higher profit margin paper products to newer but lower profit margin items. The ability to maintain operational flexibility and be cost effective is essential for the Ashdown Mill to be able to quickly adjust to the changing markets and maintain economic viability.

**Extension of Comment Period**

In response to the recent June 9, 2015 decision of the 9th Circuit Court of Appeals in *Nat'l Parks Conservation Ass'n v. EPA*, No. 12-73710, 2015 WL 3559149 (9th Cir. June 9, 2015), the Ashdown Mill engaged a study to determine if the visibility improvement claimed to be derived from the proposed BART FIP can be reasonably anticipated. Since the 9th Circuit decision became available late in the public comment period for the proposed Arkansas Regional Haze FIP and in order to complete the full study for the Ashdown Mill, Domtar requested a short, limited extension of the comment period to allow for a full and complete analysis for the Ashdown Mill to be performed and submitted to the Agency.

We understand the Agency will be reopening the comment period. The full report will be submitted during the reopened comment period. We appreciate accommodating our request and believe the additional analysis will be very useful and informative in the Agency's review of the Mill's situation. In particular, the analysis will show that the purported visibility improvement for the Ashdown Mill is within the Mill specific margin of error for the CALPUFF model, and as such, visibility improvements cannot be reasonably anticipated to occur. *See* 42 U.S.C. § 7491(g)(2); *Nat'l Parks Conservation Ass'n v. EPA*, No. 12-73710, 2015 WL 3559148 at *8 (9th Cir. June 9, 2015).

**No Demonstration of Reasonably Anticipated Visibility Improvement**

In the record supporting the proposed BART FIP for the Ashdown Mill, there is no demonstration by the Agency that the purported visibility improvements can be reasonably anticipated to occur as required by 42 U.S.C. § 7491(g)(2). As noted by the court in *Nat'l Parks Conservation Ass'n*, the Agency needs to show that the anticipated improvement from the imposition of BART is within the CALPUFF model's capability to measure and not in the model's margin of error. If the model cannot predict visibility gains that are capable of being measured by the CALPUFF model, then the Agency fails to show that visibility improvements

can be reasonably anticipated – a crucial statutory prerequisite to proceeding with the BART FIP for the Ashdown Mill.

No analysis exists in the record of the model's margin of error with respect to the Ashdown Mill's alleged visibility improvement. Without such an analysis, there is no means of knowing if the predicted values are within the model's ability to predict or in the model's margin of error.

**No Reasonable Anticipated Visibility Improvements will Occur**

The Ashdown Mill will be submitting its full analysis showing that the purported visibility improvements associated with the proposed Ashdown Mill BART requirements are within the Mill specific margin of error for the CALPUFF model, and as such, there is no reasonably anticipated visibility improvement achieved by the imposition of BART on the Ashdown Mill. The report will be provided during the reopened comment period.

**Ashdown Mill Specific Comments on the Proposed BART FIP**

The following comments address the specifics of the proposed BART FIP for the Ashdown Mill. These comments assume EPA proceeds to finalize the FIP and are intended to address Mill specific concerns with the proposed rule. By providing these specific comments, the Mill does not waive its significant concerns with the Agency's basis for proceeding with its BART FIP as set forth above.

**The Ashdown Mill is Being Re-purposed and is in a State of Transition**

Late last year significant changes to the Domtar Ashdown Mill were announced. The Ashdown Mill is undergoing a major re-purposing project to realign the Mill's manufacturing processes with the changing pulp and paper market. This project takes the Mill in a new direction by converting an existing paper machine that manufactures high quality, value-added paper to a fluff pulp line. The fluff pulp will be used in absorbent personal care products. While the fluff pulp to be produced will be high quality, the profit margin is substantially less than with the production of paper. As such, the economic profile of the re-purposed Mill is important to continued operations.

The re-purposing project will require reconfiguration of the Mill and will affect or require major changes to many of the Mill's systems including the power boilers used to produce steam for the paper machines, the converted fluff pulp equipment and other Mill process systems. Most significantly for purposes of BART involving Power Boiler 1 and Power Boiler 2, this reconfiguring of the Mill and the ultimate product mix is expected to substantially alter steam demand from No. 1 and No. 2 Power Boilers. Once the re-purposing and re-configuration of the Mill systems is complete and fully operational, the final state of Mill operations is anticipated to require changes in steam production from Power Boiler 1 and Power Boiler 2. In addition, the Mill is also initiating other projects that will improve process efficiencies and may also affect steam production needs. The machine conversion portion of the re-purposing project is scheduled to startup in the third quarter of 2016. The next phase will be a shakedown period in 2017 where the Mill will obtain a greater understanding of the fluff pulp production process and the Mill's steam needs. Following this shakedown, 2018 will be the first year of full production.

Key to understanding steam demand needs and correspondingly the changes in the use of Power Boilers 1 and 2 is running the boilers through both the shakedown period and first full production

year. This schedule allows the Mill to determine the effects of seasonal weather changes (winter conditions) and the inherent variability that occurs when operating (and learning) a new production process. The Mill needs to have sufficient time to re-balance the Mill operations in its newly reconfigured state. For that reason, data from 2017 and 2018, including the winter seasons, is essential for the Mill in making the decision as to whether to continue full or intermittent operation of Power Boilers 1 and 2 and, if so, using what fuels, at what cost, or to retire or mothball one of these units.

Related to the re-purposing of the Mill and future post-project operations are the non-condensable gas ("NCG") and bark feed systems. Currently, NCG gases are incinerated in Power Boiler 2 (as required by other Clean Air Act rules). In addition, both Power Boilers 1 and 2 share a common bark feed system. Changes in steam needs, changes in utilization or retirement of Power Boilers 1 or 2 will affect these interrelated systems. Assuming EPA proceeds in finalizing BART for the Ashdown Mill, a 5-year compliance schedule for achieving the $SO_2$ and NOx BART requirements for Power Boiler 2 is essential, given the integrated nature of the Mill and the complexities resulting from the re-purposing project.

For BART compliance plan purposes, the first unknown that needs to be resolved (once the project is fully completed and operating during 2017 and 2018) is the Mill's steam needs. Understanding whether Power Boilers 1 and 2 will be required to operate and, if so, whether one or both will fully operate, only need to operate intermittently or not at all is essential. In addition, to determining which boilers will operate and how they will be operated, a decision on fuel mix also will need to be made. The project schedule sets these key decision(s) to be made in late 2018. Once the decision on Mill steam needs and boiler utilization occurs, the BART compliance schedule needs to allow additional time for implementation of the boiler scenario option selected by the Mill. These scenarios could range from the mothballing or retiring Power Boilers 1 or 2 to shifting fuels. In addition, changes involving the NCG gases, an integral part of the kraft pulping process, and the shared biomass feed system also need to be determined, new systems engineered and environmental permits obtained as required.

We understand EPA is proposing BART for the Ashdown Mill as part of the FIP process. However, other major aspects of the Mill, including Power Boilers 1 and 2, are regulated by the Arkansas Department of Environmental Quality (ADEQ) under the Arkansas State Implementation Plan (SIP). Dual regulation over Power Boilers 1 and 2 (key components of the Mill) creates a significant regulatory burden. The dynamic, changing nature of the global pulp and paper market requires flexibility in implementing changes at the Ashdown Mill in order to remain competitive. Being required not only to change permit requirements with ADEQ but also potentially modify the Mill-specific FIP rule likely will delay the ability to react quickly to changing market conditions and customer demands and can seriously affect future Mill operations.

Assuming EPA proceeds with BART for the Ashdown Mill, we believe EPA should work with ADEQ to convert EPA's current FIP approval process into an approved ADEQ SIP. Doing so is consistent with cooperative federalism built into the Clean Air Act and will avoid the delays, costs and likely inconsistencies that will result from regulating Power Boilers 1 and 2 by both Arkansas under the SIP and EPA under the FIP. Also, given the requested compliance schedule and the ongoing conversion project, allowing ADEQ the time to develop a SIP will not adversely affect the Agency's BART timetable for the Ashdown Mill. Finally, information in Arkansas

DEQ recently released 5 year Regional Haze Progress Report[1] shows Arkansas as meeting or exceeding its glide path so additional time to develop a SIP will not affect Arkansas' ability to meet its 2018 reasonable progress goals.

The Ashdown Mill takes its environmental compliance obligations very seriously. At the same time, the need to expend funds wisely and to structure flexibility into regulatory compliance programs so that the Mill remains a viable entity in the global market is also essential. Both of these elements need to be incorporated into BART requirements and BART compliance schedule for Power Boilers 1 and 2 to balance environmental obligations with the practical management, engineering and financial issues associated with this and the Mill's re-purposing project.

It is against this backdrop we are offering specific comments regarding the agency's proposed BART Requirements for Power Boiler 1 and Power Boiler 2 at the Ashdown Mill.

**Summary of Key Mill Specific BART Issues**

- 5-year compliance period is essential for Power Boiler 2 $SO_2$ and NOx
- Include alternate compliance options that remove BART limits when no longer applicable (*e.g.*, units are fuel switched, retired, etc.)
- Boiler operating day for Power Boiler 1 and Power Boiler 2 should be defined as a Mill operating day
- Express the $SO_2$ BART limit for Power Boiler 1 in an alternate form of lb/day instead of lb/hr
- Modify the stack testing frequency for demonstrating compliance with the NOx BART limit for Power Boiler 1 to 5 years
- Adjust the $SO_2$ BART limit for Power Boiler 2 and express in an alternate form of lb/hr instead of lb/MMBTU
- Adjust the timeline for adopting a FIP to allow ADEQ to develop and obtain approval of a BART SIP for the Mill.

## I. Description of Boiler Units

A description of the Power Boiler 1 and Power Boiler 2 begins on page 18978 of the proposal. With respect to the description of heat input ratings, the word "maximum" should be used. For Power Boiler 1, the average steaming rate is approximately 130,000 lb/hr and for Power Boiler 2, the average steaming rate is approximately 340,000 lb/hr.

[1] State of Arkansas State Implementation Plan Review for the Five-Year Regional Haze Progress Report, Arkansas Department of Environmental Quality, Air Division Planning Branch, Revised May 2015

## II. Mill Baseline Maximum Emission Rates

Table 43 on page 18979 of the proposal identifies the baseline maximum 24-hour emission rates for the Ashdown Mill. Assuming EPA proceeds with BART for the Ashdown Mill, we agree with EPA that the following are the appropriate 24-hour maximum emission rates and baseline periods to be used for purposes of BART.

| BART Unit | Baseline Period | NOx Emissions (lb/hr) | $SO_2$ Emissions (lb/hr) | $PM_{10}/PM_F$ (lb/hr) |
|---|---|---|---|---|
| Power Boiler 1 | 2009-2011 | 207.4 | 21.0 | 30.4 |
| Power Boiler 2 | 2001-2003 | 526.8 | 788.2 | 81.6 |

However, we disagree with EPA's selection of emission baseline information for the purpose of establishing the $SO_2$ BART limit for Power Boiler 2. Instead of using data from the BART baseline period of 2001-2003 for calculating the BART $SO_2$ limit, EPA arbitrarily selected to use data from the 2011-2013 time period. No changes occurred with respect to Power Boiler 2 that would warrant resetting the baseline period for Power Boiler 2 or otherwise justify the use of 2011-2013 data as a baseline. In the approved portions of the Arkansas SIP, EPA agreed (with respect to the cost of controls) that baseline emissions may reflect past practices. Similarly, in EPA's BART guidelines, reference is made to calculating baseline emissions using on a continuation of past practices (Guidelines, at 39167). By analogy, in determining the BART limit for $SO_2$, the percent reduction also should be applied to the past practice of Power Boiler 2 as reflected in the 2001-2003 timeframe. This approach is consistent with prior EPA BART determinations for pulp and paper facilities. 77 Fed. Reg. 46955 (Aug. 7, 2012) (Response to Comments on BART Baseline) Further discussion and comments on the BART $SO_2$ limit for Power Boiler 2 are included below.

## III. Boiler Operating Day

The July 6, 2005 BART Guidelines final rule states the following:

> For EGU's, specify an averaging time of a 30-day rolling average, and contain a definition of ''boiler operating day'' that is consistent with the definition in the proposed revisions to the NSPS for utility boilers in 40 C.F.R. Part 60, subpart Da.[22] You should consider a boiler operating day to be any 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time at the steam generating unit. This would allow 30 day rolling average emission rates to be calculated consistently across sources.

For purposes of BART for Ashdown's Power Boiler 1 and Power Boiler 2, EPA is defining boiler operating day as a 24-hour period between 12 midnight and the following midnight during which any fuel is fed into and/or combusted at any time in the power boiler, consistent with the guidelines for utility boilers. However, the Ashdown Mill boilers are not utility boilers; they are industrial boilers. The Ashdown Mill defines a Mill operating day to be a 24-hour period between 6 a.m. and 6 a.m. the following day. All of the Mill's systems for Power Boiler 1 and Power Boiler 2 are programmed around this definition of a Mill operating day and to modify these systems requires a significant amount of effort and requires the gathering and maintaining

of multiple sets of records. Assuming EPA proceeds with BART for the Ashdown Mill, the Mill requests that for Power Boiler 1 and Power Boiler 2 a boiler operating day be defined as *a 24-hr period between 6 a.m. and 6 a.m. the following day during which any fuel is fed into and/or combusted at any time in the power boiler*.

Harmonizing the definitions of a boiler operating day and a Mill operating day helps address the inherent management issues that occur with dual EPA and ADEQ regulation of Power Boilers 1 and 2. In addition, harmonizing the definitions does not increase costs for the Mill, reduces confusion for the Mill operators, multiple sets of records will not be required and unnecessary changes to existing monitoring systems will not be necessary. We believe EPA is authorized or can use its discretion to define a boiler operating day for the Ashdown Mill to be consistent with the Mill's boiler operating day definition.

## IV. Power Boiler 1 Proposed $SO_2$ and NOx Bart Limits

### a. Proposed $SO_2$ BART Limit for Power Boiler 1

Assuming EPA proceeds with BART for the Ashdown Mill, the Mill conceptually agrees with the proposed BART $SO_2$ limit for Power Boiler 1 of 21.0 lb/hr on a 30-day averaging basis with no add-on control. However, based on the methodology the Mill uses to determine fuel usage, the limit needs to be expressed in an alternative form to better match with the compliance averaging time of 30 days. The Mill uses monthly fuel usage records and reconciles the monthly usage records based on fuel inventory records at the end of each month. Records of daily fuel usage may be adjusted at the end of the month as part of the reconciliation process. Domtar requests the BART limit of 21.0 lb/hr be expressed as 504 lb/day.

Section 52.173(19)(iii) of the proposed rule requires $SO_2$ emissions for each day are determined by summing the hourly emissions measured in pounds of $SO_2$. Calculating hourly $SO_2$ emissions using hourly fuel throughput information is not a workable approach for Power Boiler 1 where the practice is to use monthly fuel throughput information that is reconciled at the end of each month. The Ashdown Mill requests the requirement referencing summing of hourly $SO_2$ emission be removed. The Mill will track daily $SO_2$ emissions and requests the 30-day rolling averages for compliance purposes be determined within 15 days of the end of each month to allow time for the monthly fuel reconciliation processes to be completed and the daily fuel throughput values adjusted accordingly. After the fuel reconciliation is completed, the 30-day rolling averages for compliance purposes will be determined and the "official" compliance records maintained.

As mentioned above, the Ashdown Mill is requesting a boiler operating day is defined as: *a 24-hr period between 6 a.m. and 6 a.m. the following day during which any fuel is fed into and/or combusted at any time in the power boiler*.

EPA is proposing compliance with the $SO_2$ BART limit for Power Boiler 1 to be effective on the date of the final rule. The Ashdown Mill is requesting the compliance date be changed to 30 calendar days after effective date of the final rule. The 30 days will give the Mill time to prepare the compliance records if there is a short period (*e.g.*, 30 days) between when the rule is promulgated and the effective date, especially if the effective date of the final rule falls on a weekend or a holiday. In addition, if for some reason there is confusion regarding exactly when the effective date is, the cushion of 30 days helps to provide certainty. This extra time will also

be needed if EPA finalizes any changes to definitions or requirements and the Ashdown Mill will need the additional time to adjust recordkeeping systems.

As mentioned above, the Ashdown Mill is in the process of re-purposing and is in a state of transition. Once the re-purposing and re-configuration is complete and the Mill is fully operational, the Mill will need to decide if Power Boiler 1 will continue with full or intermittent operation, if so, what fuels will be used or will be retired. If the boiler is fuel switched to natural gas or the boiler retired, the $SO_2$ BART limit will be unnecessary along with the associated monitoring, recordkeeping and reporting requirements for the $SO_2$ BART limit. The Ashdown Mill is requesting EPA include in the BART FIP final rule an alternate compliance option that removes all of $SO_2$ BART related requirements for Power Boiler 1 if this boiler is fuel switched to natural gas or permanently retired.

**b. Proposed NOx BART Limit for Power Boiler 1**

Assuming EPA proceeds with BART for the Ashdown Mill, the Mill conceptually agrees with the proposed NOx BART limit for Power Boiler 1 of 207.4 lb/hr on a 30-day averaging basis with no add-on control.

The Ashdown Mill agrees with EPA's determination that for Power Boiler 1 the installation of FGR, LNB, Ultra Low NOx Burners (ULNB), OFA, Methane-de-NOx and SCR are technically infeasible. EPA's review of SNCR concludes that the technology is feasible but the high costs on a dollar per ton of NOx removal basis[1] does not justify the purported small visibility improvement ranging from 0.061 dv to 0.136 dv at any single Class 1 area. This level of "improvement," if it even exists, would be imperceptible to the human eye, which cannot detect a change of less than 1.0 dv. Moreover, as shown above, the purportedly visibility increase is within the margin of error of the CALPUFF mode, and any visibility improvements cannot be reasonably anticipated to occur.

The Ashdown Mill disagrees with EPA's determination that SNCR is a feasible technology for Power Boiler 1. We base our conclusion on a study[2] that was performed for Power Boiler 2 but the results are also applicable to Power Boiler 1. *See* **Appendix A**. Both Power Boiler 1 and Power Boiler 2 provide steam for the pulp and papermaking processes at the Mill. Due to large fluctuations in steam demand inherent in the pulp and paper making operations, the boilers require continuous adjustment of fuel firing rates and excess air levels. These boilers are operated to track steam loads required for the pulp and papermaking processes and are not operated under base load conditions as occurs with utility boilers. The study shows furnace temperature tracking steam demand. Due to the combustion on mainly biomass fuels, the furnace temperature in the area where SNCR nozzles would be installed is usually below the temperature needed for the SNCR reaction to take place. Since optimal furnace temperatures cannot be consistently maintained, the urea injection needed for reducing NOx emissions will result in excess ammonia being present. This ammonia will combine with chlorides and sulfides in the combustion gas producing increased corrosion on downstream metal and heat surfaces. In addition, it is known that chlorides in the gas stream will combine with excess ammonia to create

[1] SNCR removal costs estimated to be $12,700 per ton of NOx removed at 20% removal efficiency and $7,640 per ton of NOx removed at 45% removal efficiency and $7,640 per ton of NOx removed at 32.5% removal efficiency.

[2] International Applied Engineering, Inc. Observations of Chartered Steam Rates and Furnace Exit Gas Temperature.

condensable $PM_{2.5}$ particles in the flue gas, thereby increasing $PM_{2.5}$ emissions. With respect to Power Boiler 1, SNCR is not a technically feasible control technology, and its use potentially will result in increased $PM_{2.5}$ emissions which can further affect visibility.

EPA is proposing compliance with the NOx BART limit for Power Boiler 1 to be on the effective date of the final rule. Should EPA proceed with imposing BART limits on Power Boiler 1, the Ashdown Mill requests the compliance date be changed to 30 calendar days after effective date of the final rule. That will give the Mill additional time to prepare the compliance records if there is a short period (*e.g.*, 30 days) between when the rule is promulgated and the effective date, especially if the effective date of the final rule falls on a weekend or a holiday. In addition, if any confusion exists regarding exactly when the effective date is, the cushion of 30 days helps to provide more certainty. This extra time will be needed if EPA finalizes any changes to definitions or other requirements that require the Ashdown to adjust recordkeeping systems.

Proposed Section 52.173(19)(ii) requires compliance with the BART NOx limit for Power Boiler 1 be demonstrated with an annual stack test. We agree, in general, stack testing is an appropriate method for demonstrating compliance. However, the proposed frequency of an annual stack test is not appropriate. Historical NOx stack test data from 2001, 2002, 2003, 2004, 2005 and 2010 for Power Boiler 1 show the NOx emissions to be fairly consistent.

Based on the numerous previous stack tests, conducting stack tests annually is not warranted. Should EPA proceed with BART for the Ashdown Mill, the Mill is requesting the stack testing requirement be modified to require NOx stack testing every 5 years to demonstrate compliance with the BART NOx limit, which is consistent with the Ashdown Mill's Title V permit requirements.

In addition, if Power Boiler 1 is configured to use only natural gas, an alternate compliance option should be developed as discussed below:

> Proposed Section 52.173(16)(iii) requires for both $SO_2$ and NOx, that for each boiler operating day a 30-day rolling average determined by (i) adding together the pounds from that day of $SO_2$ and NOx and the preceding 29 boiler operating days and (ii) dividing the total pounds of $SO_2$ or NOx by the sum of the total number of hours during the same 30 boiler operating day period. The reference to NOx in this section needs to be removed as compliance with the NOx limit is determined with stack testing. In addition, the discussion regarding $SO_2$ in this section can be moved to proposed Section 52.173(16)(i) and proposed Section 52.173(16)(iii) can be eliminated altogether.

As noted above, with the ongoing re-purposing of the Mill, a final determination as to Power Boiler 1's future fuel(s) or its ongoing operation use is yet to be determined. If Power Boiler 1 is fuel switched to natural gas, an alternate compliance option needs to be developed to allow compliance to be based on the use of AP42 emission factors and fuel use records. Requirements for NOx testing need to be removed. If Power Boiler 1 is retired, there is no need to retain the NOx BART limit and the associated monitoring, recordkeeping and reporting requirements for

the NOx BART limit. An alternate compliance option should address this retirement scenario as well.

## V. Power Boiler 2 Proposed $SO_2$, NOx and PM BART Limits

### a. Proposed $SO_2$ BART Limit for Power Boiler 2

Assuming EPA proceeds with BART for the Ashdown Mill, the Mill believes an $SO_2$ limit of 155 lb/hr for Power Boiler 2 is appropriate under the BART five factor analysis. EPA's proposed limit of 0.11 lb/MMBTU is too stringent, is based on the use of an inappropriate baseline and assumes the existing control equipment can continuously operate at the upper range of its capability (90% efficiency) over long periods of time, without supporting data or other documentation.

In addition, EPA's analysis identifies a purported visibility improvement of 0.139 dv. The purported level of visibility improvement will not lead to any reasonably anticipated visibility improvements as this claimed level of improvement is beyond the CALPUFF model's ability to predict with confidence. At the same time, imposing the BART requirement will add $1.96 million per year in additional operating cost for the Ashdown Mill. As noted in *Nat'l Parks Conservation Ass'n*, it is arbitrary and capricious for EPA to compel a facility (such as the Ashdown Mill) to spend millions with no reasonable anticipation of any visibility improvements. (*See* comments discussing the CALPUFF model's Ashdown Mill specific margin of error and the *Nat'l Parks Conservation Ass'n* decision above.)

Moreover, even assuming the purported visibility can be shown to be reasonably anticipated, the predicted visibility improvement is almost 10 times less than what can be perceived by the human eye. While on a dollar per ton removal basis the limit may appear to be cost effective, the significant increase in annual operating expense will adversely affect the Mill's competitiveness in global markets and negatively affect its economic viability. Such a minor incremental visibility improvement, so small as to be insignificant and not perceivable to the human eye, does not justify the very high additional operating expense proposed to be imposed on the Ashdown Mill.

In the methodology to calculate the proposed BART limit, EPA used data from recent years for determining the proposed BART limit, ignoring the more appropriate BART baseline information. No justification is given for not using the baseline, or why the particular years selected by EPA are better than the BART baseline years or legally appropriate. The variety of data sets EPA used is summarized below:

- Baseline $SO_2$ emissions of 2,078 TPY determined using 2001-2003 data for determining tons of $SO_2$ removal for purposes of calculating cost effectiveness
- Scrubber efficiency of 69% determined from 2011-2013 data
- Annual emission rate of 280.9 lb/hr from years 2011-2013 to determine the BART limit

EPA's selection of actual $SO_2$ emission data from 2011-2013 is inconsistent with the method used by EPA to set other BART limits where EPA relied on the BART baseline information. For

example, in a BART matter involving a Georgia-Pacific pulp and paper mill in Wisconsin, the State with EPA concurrence used baseline years of 2002-2004 to establish the BART emission limitations. 77 Fed. Reg. 46955 (Aug. 7, 2012) In the approved portions of the Arkansas SIP, U.S. EPA agreed (with respect to the cost of controls) baseline emissions may reflect past practices (Guidelines, at 39167.). By analogy, the percent reduction in $SO_2$ for the Ashdown Mill also should be applied to past practice as reflected in the 2001-2003 timeline.

Deviating from the BART baseline information is appropriate if significant changes were made to the emission units or permit conditions were imposed that prevent a unit from operating at the BART baseline emission value. However, this is not the case for Power Boiler 2. The BART baseline information is representative of Power Boiler 2's potential operations. The fact that the Ashdown Mill voluntarily elects to operate at a lower $SO_2$ level is not relevant. Moreover, by not utilizing the BART baseline actual emission in establishing the proposed BART $SO_2$ limit, EPA penalizes the Ashdown Mill for its voluntary $SO_2$ emission reductions undertaken on its own initiative since the BART baseline period.

Here, the Mill voluntarily reduced $SO_2$ emissions by over 40% since the BART baseline years. The Ashdown Mill was an early actor and voluntarily reduced $SO_2$ emissions prior to the proposed BART requirements. Using the actual emission data from the BART baseline period of 2001-2003, gives the Mill credit for its early voluntary action. Also, using the earlier baseline appropriately recognizes that the state and federal governments' delay in imposing BART years after it was required to be completed. The Ashdown Mill should not be required to use a later baseline because government agencies were dilatory in implementing the BART program. If the BART program was implemented as contemplated under the EPA's BART rules, the 2001-2003 baseline information would have been used in setting the BART limit.

In addition to the use of an inappropriate baseline year, EPA wrongly applied the maximum rated heat input capacity of 820 MMBTU/hr when it converted from a lb/hr limit to a lb/MMBTU limit. This inaccurate methodology of using emission data and maximum rated heat input to calculate the proposed $SO_2$ BART limit is a significant concern.

Based on monthly $SO_2$ information for the 2011-2013 period, EPA estimated that the $SO_2$ control efficiency for the scrubber on Power Boiler 2 to be approximately 69%. The scrubber is currently operated based on a pH set point and the use of pH controllers to adjust the amount of caustic scrubbing solution needed to maintain continuous compliance with the permitted $SO_2$ emission limit of 1.2 lb/MMBTU. Information the Ashdown Mill provided to EPA indicated the existing scrubber may achieve on a short-term basis an $SO_2$ control efficiency of 90%. However, there is no documentation showing that the scrubber can sustain this maximum performance level on a long term basis.

The Ashdown Mill requests that EPA revise the methodology for calculating the $SO_2$ BART emission rate to use average $SO_2$ emissions from the 2001-2003 baseline period as follows:

- Use the average $SO_2$ emissions in lb/hr from the 2001-2003 BART baseline period
- Assume the existing scrubbers operated at a 69% control efficiency during the baseline period
- Calculate an $SO_2$ emission limit in lb/hr based on baseline actual emissions and a 90% control efficiency (although the Mill believes it is not appropriate to use a short-term very

high control efficiency for a long-term limit; for purposes of this calculation, the Mill will use EPA's assumed long-term control efficiency of 90%)

Based on this approach, the revised $SO_2$ limit for Power Boiler 2 is:

- **No. 2 Power Boiler Average $SO_2$ Emissions**

| Baseline Year | Average $SO_2$ (lb/hr) |
|---|---|
| 2001 | 557.0 |
| 2002 | 475.0 |
| 2003 | 394.0 |
| Average $SO_2$ Emission Rate (lb/hr) | 475.3 |

- **Calculating No. 2 Power Boiler BART SO2 Emission Rate at 90% Control Efficiency**

  475.3 lb/hr at about 69% control efficiency or at 30.7% uncontrolled efficiency
  $\frac{475.3 \text{ lb/hr}}{(0.307)}$ = 1,548.21 lb/hr uncontrolled $SO_2$ emissions

- **$SO_2$ Emission Rate at 90% Control Efficiency**

  1548.21 lb/hr * (1 - 0.9) = 154.8 lb/hr or 155 lb/hr

In summary, the actual average $SO_2$ emission rate in lb/hr for the 2001-2003 period is 475.3 lb $SO_2$/hr. Using EPA's assumption that the $SO_2$ control efficiency for the scrubber during the baseline period is approximately 69% and using the EPA assumed long-term scrubber removal efficiency of 90% equates to an $SO_2$ limit of 155 lb /hr. Thus, The Ashdown Mill requests EPA revise the proposed $SO_2$ limit for Power Boiler 2 from 0.11 lb/MMBTU to 155 lb/hr on a 30-day boiler operating day. As noted above, the Ashdown Mill is requesting a boiler operating day be defined as *a 24-hr period between 6 a.m. and 6 a.m. the following day during which any fuel is fed into and/or combusted at any time in the power boiler*.

The Mill requests any $SO_2$ emission limit for No. 2 Power Boiler be expressed on a lb/hr basis. For EPA's proposed limit, the boiler's maximum heat input rating of 820 MMBTU/hr was used to determine the lb/MMBTU limit. The use of the maximum heat input rating is not representative of average (typical) boiler operating conditions, which are lower than the maximum heat input capability. In this situation, the use of actual emission data and maximum rated heat input to calculate the proposed $SO_2$ BART limit is inappropriate and an inaccurate methodology which creates significant concerns. The actual average heat input during the 2001-2003 baseline period is 586 MMBTU/hr. It is this value that should have been used to calculate a lb/MMBTU limit. However, if EPA expresses the limit on a lb/hr basis as requested, the Mill's concern becomes moot.

With the $SO_2$ limit being expressed on a lb/hr basis, section 52.173(19)(i) needs to be deleted and 52.173(19)( ii) renumbered to 52.173(19)(i) and revised to read as follows:

> NOx and $SO_2$ emissions for each calendar day shall be determined by summing the hourly emissions measured in pounds of NOx or pounds of $SO_2$. Each boiler operating day of the 30-day rolling average for the power boiler shall be determined by adding together the pounds of NOx or $SO_2$ from that day and the preceding 29 boiler operating days and dividing the total pounds of NOx or $SO_2$ by the sum of the total number of hours during the same 30 boiler operating day period. The result shall be the 30 boiler operating day rolling average in terms of lb/hr emissions of NOx or $SO_2$. If a valid NOx pounds per hour or $SO_2$ pounds per hour is not available for any hour for the power boiler, that NOx pounds per hour or $SO_2$ pounds per hour shall not be used in the calculation of the 30 boiler operating day rolling average for NOx or $SO_2$.

EPA is proposing compliance with the proposed $SO_2$ BART limit be determined by using the existing CEM system. In Section 52.173(19)(iii), EPA requires the owner/operator to comply with the CEMs quality assurance procedures in 40 C.F.R. Part 75. Since the Ashdown Mill is an industrial facility, the Mill is complying with the CEM requirements including the quality assurance requirements contained in 40 C.F.R. Part 60. EPA needs to correct this language to reference 40 C.F.R. Part 60 and not 40 C.F.R. Part 75. In addition, any existing CEM systems and associated methods and procedures (*e.g.*, QA/QC, etc.) approved by the State should be adequate and appropriate for use in BART monitoring. No need exists for EPA to review and approve these existing systems when they were previously reviewed and approved by the State.

EPA proposes compliance with the BART $SO_2$ emission limit within 3 years of the effective date of the final rule. With the Mill transformation and re-purposing project and all of the work associated with this huge undertaking, the Ashdown Mill needs a 5-year compliance window from the effective date of the final rule (assuming EPA decides to proceed with BART for the Mill). A 5-year schedule also recognizes the interconnected operations of the Mill in which changes to one system or component requires changes to other interconnected components.

As announced late last year, the Mill is converting a paper machine to produce fluff pulp. This transformation project is being driven by the continued decline in the demand for paper products. Power 1 and Power Boiler 2 are part of the Mill's steam generating components. The steam generating units are operated to produce steam that is needed for the manufacturing of pulp and paper products. Once the re-purposing and re-configuration of the Mill systems is complete and fully operational, the Mill will decide whether Power Boiler 2 will continue with full or intermittent operation, if so, using what fuels, or will it be permanently retired.

In order to make this decision, the Mill will need to go through the startup, initial operation and a shakedown period with the new fluff pulp process. Since this is a significant change for the Mill it is uncertain how long it will take to learn how to operate and to optimize in this newly configured state. The Mill will then need at least 2 winter cycles to understand what the maximum steam demand requirements will be for the newly configured Mill.

In addition, related to the re-purposing of the Mill and future post-project operations is the non-condensable gas (NCG) and bark feed systems. Currently, NCG gases are incinerated in Power Boiler 2 (as required by other Clean Air Act rules) and both Power Boilers 1 and 2 share a

common bark feed system. Changes in the utilization or retirement of Power Boilers 1 or 2 will affect these interrelated systems. Significant time will be required to engineer new or modified systems, obtain environmental permits and implement the changes.

The re-purposing project is scheduled to be completed and the newly configured Mill is anticipated to start-up in late 2016. A current unknown associated with the project is the Mill's steam needs. The Mill will operate through the winter of 2016-2017 and will be learning how to operate and optimize the new process. The winter of 2017-2018 will be the first real indicator of what winter steam demands will be in the re-purposed state. For the purposes of selecting an appropriate BART compliance schedule and future Mill operations, the understanding of how Power Boiler 2 will operate and on what fuels is essential. The project schedule will set these key decision points in late 2018. Once the decision on Mill steam needs and boiler utilization is made, additional time is required to implement the boiler scenario selected by the Mill. These scenarios could range from the mothballing or retiring Power Boilers 1 or 2 to shifting fuels. In addition, changes involving the combustion of the NCG gases and the shared biomass feed system also need to be determined and new systems engineered and permitted, as needed. Another factor to be considered is determining the ability of the existing $SO_2$ scrubber to continuously operate at 90% removal on a long term basis. If Power Boiler 2 continues to use solid fuels, additional time is needed to optimize the existing scrubber to consistently perform at this higher level of control efficiency on a long-term basis.

If Power Boiler 2 is fuel switched to natural gas or retired, there is no need to retain the $SO_2$ BART limit and the associated monitoring, recordkeeping and reporting requirements for the $SO_2$ BART limit. The Ashdown Mill requests EPA include in the BART FIP final rule an alternative compliance option which removes the monitoring, recordkeeping and reporting requirements if the boiler is fuel switched to natural gas or permanently retired.

With respect to a note in the preamble, reference is made to the operations of the Mill's caustic solution system and a set point in the Mill's operational controls for the caustic addition. For clarification purposes, the set point of 0.86 lb/MMBTU is a Mill operating parameter and not an operating requirement.

**b. Proposed NOx BART Limit for Power Boiler 2**

Assuming EPA proceeds with BART for the Ashdown Mill, the Mill agrees with the proposed BART NOx limit for Power Boiler 2 of 345 lb/hr on a 30 boiler operating day averaging basis. However, the preamble discussion on pages 18987-18988 discusses the installation of LNB and further comments that the emission limit of 345 lb/hr (on a 30 boiler operating day rolling average basis) is based on the installation and operation of LNB. As noted in the proposed rule text and in the associated table on page 19003, the limit is not tied to the installation of LNB. EPA needs to correct the preamble discussion to remove the references to installing and operating LNB.

The Ashdown Mill agrees with EPA's determination that MdN for NOx control is not technically feasible. The Ashdown Mill also agrees with EPA's assessment the installation of SNCR on Power Boiler 2 is not appropriate. EPA concludes it is not appropriate due to the NOx control efficiency of SNCR. The Ashdown Mill believes the installation and operation of SNCR on Power Boiler 2 is not technically feasible based on the observations in a study conducted on

Power Boiler 2 by International Applied Engineering[3] (*see* Appendix A). The study concludes that with the large fluctuations in steam demand inherent in the pulp and paper making operations the boilers require continuous adjustment of fuel firing rates and excess air levels. These boilers are operated to track steam loads required for the pulp and papermaking processes and are not operated under base load conditions. The study shows that Power Boiler 2's furnace temperature tracks steam demand. Due to the combustion of biomass fuels, the furnace temperature in the area where SNCR nozzles would be installed is usually below the temperature needed for the SNCR reaction to take place. Since optimal furnace temperatures cannot be consistently maintained, the urea injection needed for reducing NOx emissions will either be too much or too little. When too little, NOx removal will be less than projected; when too much, excess ammonia slip will occur. The excess ammonia will combine with chlorides and sulfides in the combustion gas producing increased corrosion on downstream metal and heat surfaces. In addition, it is known that chlorides in the gas stream will combine with excess ammonia to create condensable $PM_{2.5}$ particles in the flue gas, thereby increasing $PM_{2.5}$ emissions. The Ashdown Mill believes the technical studies show that SNCR is not a technically feasible control technology for Power Boiler 2 and potentially will increase $PM_{2.5}$ emissions.

As with the $SO_2$ BART limit for Power Boiler 2, EPA is also proposing compliance with the NOx BART limit be determined by using the existing CEM system. Section 52.173(19)(iii) is requiring the owner/operator to comply with the CEMs quality assurance procedures in 40 C.F.R. Part 75, similar to the requirement for the existing $SO_2$ CEM system. Since the Ashdown Mill is an industrial facility, the Mill is complying with the CEM requirements including the quality assurance requirements contained in 40 C.F.R. Part 60. EPA should correct this language to reflect 40 C.F.R. Part 60 and not 40 C.F.R. Part 75. In addition, any existing CEM systems and associated methods and procedures (*e.g.*, QA/QC, etc.) approved by the State should be adequate and appropriate for use in BART $SO_2$ and NOx monitoring. There is no need for EPA to review and approve existing systems already reviewed and approved by the State.

EPA is proposing to require compliance with the NOx emission limit within 3 years of the effective date of the final rule. As discussed previously, with the Mill transformation and re-purposing project and all of the work that is associated with the huge undertaking, the Ashdown Mill needs a 5-year compliance window from the effective date of the final rule for Power Boiler 2 NOx and $SO_2$ BART requirements. It is anticipated that this Mill transformation project may significantly affect Mill steam demands reducing the amount of steam needed from Power Boiler 1 and 2. Ultimately, this transformation project may determine future use of Power Boiler 2. Once the re-purposing and re-configuration of the Mill systems is complete and fully operational, the Mill will decide whether Power Boiler 2 will continue with full or intermittent operation, if so, using what fuels, or will it be permanently retired. Given the Mill's interconnected nature as well as the complex aspects of the re-purposing project, a 5-year compliance schedule for achieving the $SO_2$ BART and NOx BART requirements for Power Boiler 2 is essential.

If Power Boiler 2 is fuel switched to natural gas, the BART requirements need to be modified to require compliance based on the use of AP42 emission factors and fuel use records. The requirement to operate and maintain a NOx CEM needs to be removed. If Power Boiler 2 is retired, the BART requirements are unnecessary. The Ashdown Mill requests EPA include alternate compliance options in the BART FIP final rule provisions to address these potential scenarios.

[3] International Applied Engineering, Inc. Observations of Chartered Steam Rates and Furnace Exit Temperature

### c. Proposed PM BART Limit for Power Boiler 2

Assuming EPA proceeds with BART for the Ashdown Mill, the Mill agrees with the proposed BART PM limit of 0.44 lb/MMBTU based on the MACT standard for the "biomass hybrid suspension grate" sub-category contained in the 2013 Boiler MACT final rule. The Ashdown Mill also agrees with EPA's approach of relying on the Boiler MACT standards for PM to satisfy the PM BART requirement. However, for this streamlined BART approach, EPA must also ensure that the monitoring, recordkeeping, reporting requirements for PM BART are consistent with the monitoring, recordkeeping and reporting requirements under Boiler MACT. Deviating from the MACT requirements will result in additional administrative burden for the facility in maintaining "multiple sets of compliance books." It also will create confusion for external stakeholders if different values and information are being reported.

EPA is proposing compliance with the PM emission limit be determined by maintaining the 30-day rolling average wet scrubber pressure drop and the 30-day rolling average wet scrubber liquid flow rate at or above the lowest one-hour average pressure drop and the lowest one hour average liquid flow rate, respectively, measured during the most recent performance test demonstrating compliance with the PM limit according to 40 C.F.R. Part 63 § 7530(b) and Table 7 to subpart DDDDD of Part 63.

EPA is essentially proposing the same methods for demonstrating compliance with the Boiler MACT PM standard be used for demonstrating compliance with the PM BART emission limit. However, several of the definitions in Boiler MACT are different than in the existing BART rules and in this BART proposal. For example, under Boiler MACT the 30-day rolling average is defined to be the arithmetic mean of the previous 720 hours of valid operating data. In contrast, for purposes of BART, EPA defines a 30-day rolling average to consist of 30 consecutive boiler operating days.

Examples of other inconsistencies between BART definitions/requirements and Boiler MACT follow:

- During periods of startup and shutdown, Boiler MACT uses work practices and does not require data collected during startup and shutdown periods to be used in calculating averages. In Boiler MACT Section 63.7500(f) states standards apply at all times the affected units is operating, except during periods of startup and shutdown during which time comply only with the Table 3 work practices. Section 63.7505(a) further states: These emission limits and operating limits apply at all times the affected unit is operating except for periods noted in § 63.7500(f). The proposed BART requirements require continuous emissions monitoring during all periods of operation including periods of startup, shutdown, and malfunction. In addition proposed BART requirements in Section 52.173(27) states: At all times, including periods of startup, shutdown and malfunction, the owner or operator to the extent practical, maintain and operate the unit including air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. In contrast, Boiler MACT requirements allow certain air pollution control equipment to startup up as expeditiously as possible.

- Boiler MACT is Section 63.7540((a)(1) states: Operating limits must be confirmed or reestablished during performance tests. Unlike the BART proposed language in § 52.173(22) that requires the one-hour pressure drop and the one-hour average liquid flow rate measured during each performance test, Boiler MACT only requires confirmation and not re-establishing the pressure drop and flow rate operating limits during performance tests subsequent to the initial performance test.

- Section 63.7540((a)(1) states: "operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operation limits listed in Table 4 of this subpart except during performance tests conducted to determine compliance with emission limits or to establish new operating limits." Under Boiler MACT, a deviation of an operating limit does not mean a violation of the emission standard.

For the final rule, assuming EPA proceeds with BART for the Ashdown Mill, EPA must clarify the PM requirements for BART so these requirements are consistent with the definitions and requirements of Boiler MACT.

EPA is proposing compliance with the PM BART limit for Power Boiler 2 to be on the effective date of the final rule. The Ashdown Mill is requesting the compliance date be changed to 30 calendar days after the effective date of the final rule. The additional 30 days will provide additional time to prepare the necessary compliance records especially if there is a short period between when the rule is promulgated and the effective date or if the effective date of the final rule falls on a weekend or a holiday. In addition, if confusion exists regarding the effective date of the final rule, deferring the effective date helps provide more certainty. This extra time will also be needed by the Ashdown Mill if EPA adopts changes to definitions or requirements, which mandate adjustments to recordkeeping systems.

If Power Boiler 2 is fuel switched to natural gas or retired, there is no need to retain the PM BART limit and the associated monitoring, recordkeeping and reporting requirements for the $SO_2$ BART limit. The Ashdown Mill requests an alternate compliance option stating that the PM BART limit, the monitoring, recordkeeping and reporting requirements will not be effective if the boiler is fuel switched to natural gas or permanently retired.

**Conclusion**

With respect to the proposed BART limits for the Ashdown Mill, the Mill urges the Agency to carefully review the analysis and report (to be submitted during the reopened comment period) which is based on the *Nat'l Parks Conservation Ass'n* decision and shows the purported visibility gains cannot be reasonably anticipated to occur. The purported gains are so low as to be in the Ashdown Mill specific CALPUFF margin of error, and as such, BART should not be applied.

Alternatively, the Ashdown Mill requests EPA defer action on the proposed FIP pending the re-purposing of the Mill. Based on the actions taken with respect to Power Boilers 1 and 2, BART may be mooted. EPA could review the Mill's status after the full conversion is complete and operational in 5 years at which time it is highly unlikely any BART related action will be necessary.

If EPA does proceed to finalize BART limits for the Ashdown Mill, at a minimum, the $SO_2$ limits need to be substantially raised to account for the voluntary actions already undertaken by the Mill. In addition, other changes to the proposed BART requirements are warranted as noted with more specificity in the comments.

We appreciate the opportunity to provide comments on the proposal, and if there are any questions or follow up, please contact me.

Sincerely,

Annabeth Reitter
Corporate Manager, Environmental Regulation

Enclosure