Testimony of Paul Noe for
American Forest & Paper Association
and American Wood Council before
House Committee on Energy and Commerce
Subcommittee on Environment
Oversight Hearing on
"New Source Review Permitting Challenges for
Manufacturing and Infrastructure"
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My name is Paul Noe, and I am the Vice President of Public Policy for the American Forest & Paper Association and American Wood Council. I want to thank the Subcommittee for the opportunity to provide the forest product industry's perspectives on the challenges posed by EPA's New Source Review Program and how it can be improved -- consistent with the twin purposes of the Clean Air Act to promote public health and welfare, as well the productive capacity of the nation.[1]

The American Forest & Paper Association (AF&PA) serves to advance a sustainable U.S. pulp, paper, packaging, tissue and wood products manufacturing industry through fact-based public policy and marketplace advocacy. AF&PA member companies make products essential for everyday life from renewable and recyclable resources and are committed to continuous improvement through the industry's sustainability initiative - *Better Practices, Better Planet 2020*. The forest products industry accounts for approximately four percent of the total U.S. manufacturing GDP, manufactures over $200 billion in products annually, and employs approximately 900,000 men and women. The industry meets a payroll of approximately $50 billion annually and is among the top 10 manufacturing sector employers in 45 states.

AF&PA's sustainability initiative - *Better Practices, Better Planet 2020* - comprises one of the most extensive quantifiable sets of sustainability goals for a U.S. manufacturing industry and is the latest example of our members' proactive

[1] Clean Air Act, Sec. 101(b), 42 USC 7401(b).

commitment to the long-term success of our industry, our communities and our environment. We have long been responsible stewards of our planet's resources. We are proud to report that our members have already achieved the greenhouse gas reduction and workplace safety goals. Our member companies have also collectively made significant progress in each of the following goals: increasing paper recovery for recycling; improving energy efficiency; promoting sustainable forestry practices; and reducing water use.

The **American Wood Council (AWC)** is the voice of North American wood products manufacturing, an industry that provides approximately 400,000 men and women in the United States with family-wage jobs. AWC represents 86 percent of the structural wood products industry, and members make products that are essential to everyday life from a renewable resource that absorbs and sequesters carbon. Staff experts develop state-of-the-art engineering data, technology, and standards for wood products to assure their safe and efficient design, as well as provide information on wood design, green building, and environmental regulations. AWC also advocates for balanced government policies that affect wood products.

Overview

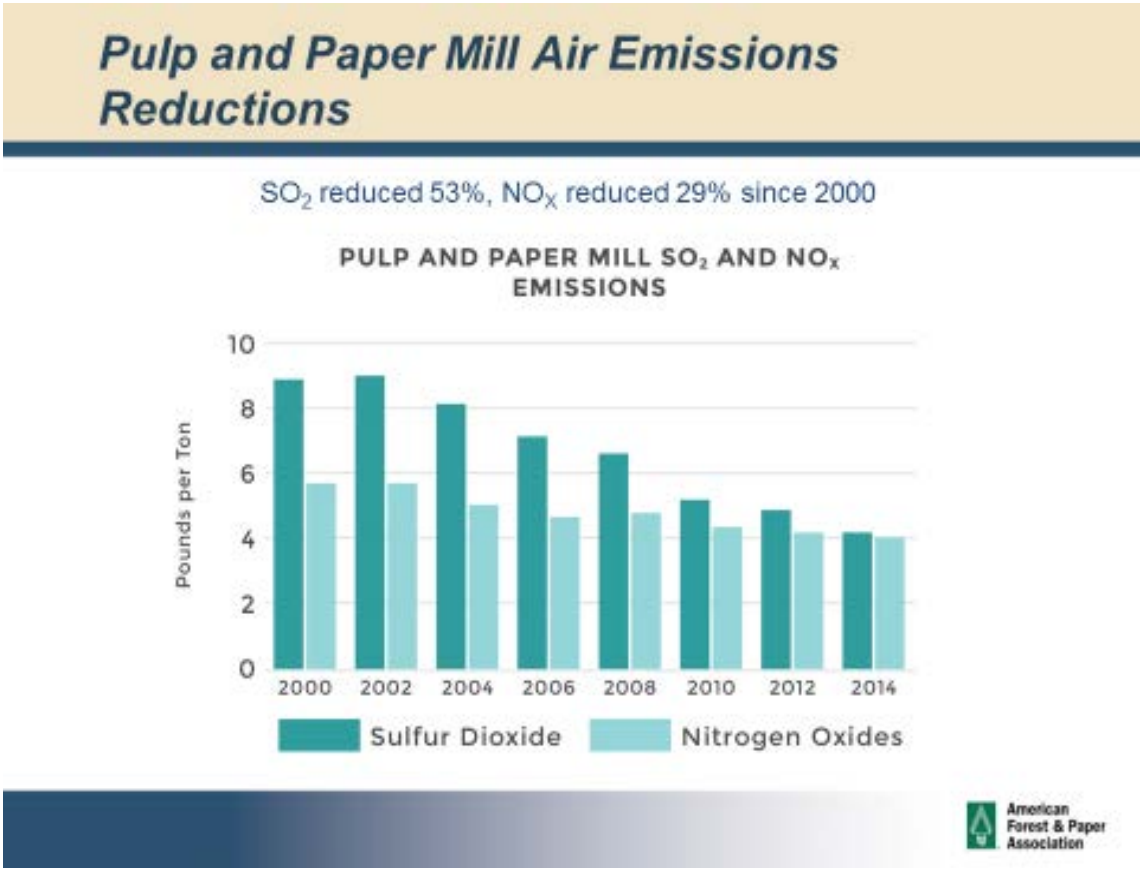
EPA's complex New Source Review (NSR) air permit program affects practically every major manufacturing facility in the United States, and unfortunately, it has become a significant impediment to the modernization and growth of the U.S. manufacturing sector.[2] U.S. air permitting and regulatory requirements are out of date, overly conservative, rigid, and time-consuming. The air quality permitting process for new and modified facilities is slow and cumbersome and relies on unrealistic modeling and assumptions, resulting in unnecessary delays, costs and impediments for projects that would benefit both our economy and our environment.

Recently, this problem has become more acute with substantial tightening of EPA's National Ambient Air Quality Standards (NAAQS) closer to ambient background levels. Simply put, when stringent NAAQS are combined with unrealistic air quality modeling and assumptions, there is little or no "headroom" for new or modified facilities in many areas to show that their residual emissions will not contribute to a violation of the NAAQS, even after the installation of the best available pollution control technology.[3]

[2] See, e.g., Art Fraas, John D. Graham, and Jeff Holmstead, "EPA's New Source Review Program: Time for Reform?," 47 E.L.R. 10026 (Jan. 2017).

[3] Id.

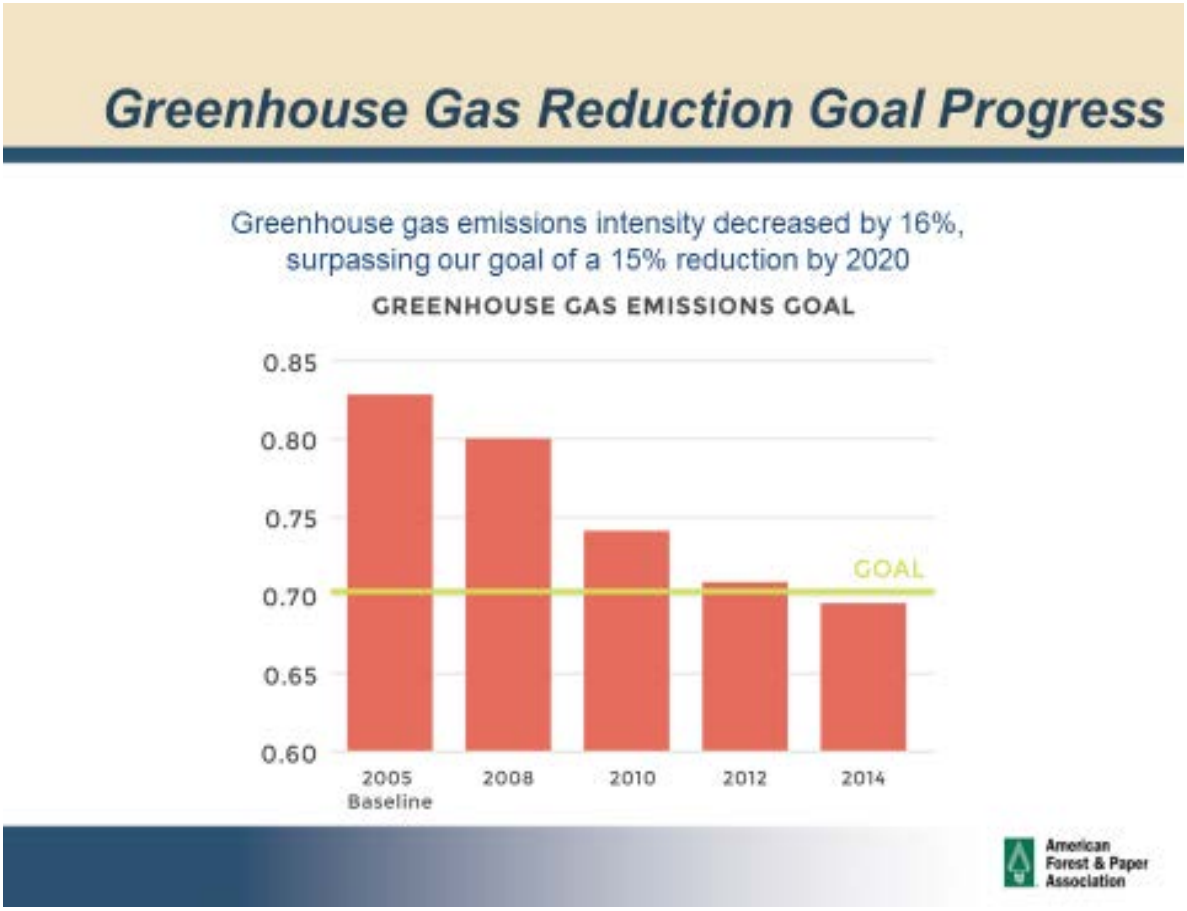
Manufacturing is one of the most heavily regulated sectors in the U.S. economy. Since 1981, manufacturers have been subject to over 2,200 different regulations, and almost half were from EPA.[4] The manufacturing sector has made large investments in air quality improvements. Air quality in the U.S. has improved markedly over the past 30 years, even as the population has grown. In the pulp and paper industry, for example, SO_2 emissions have been reduced by over 50% since 2000, and NOx emissions have been reduced by almost 30% in that same timeframe.



Source: AF&PA 2016 Sustainability Report

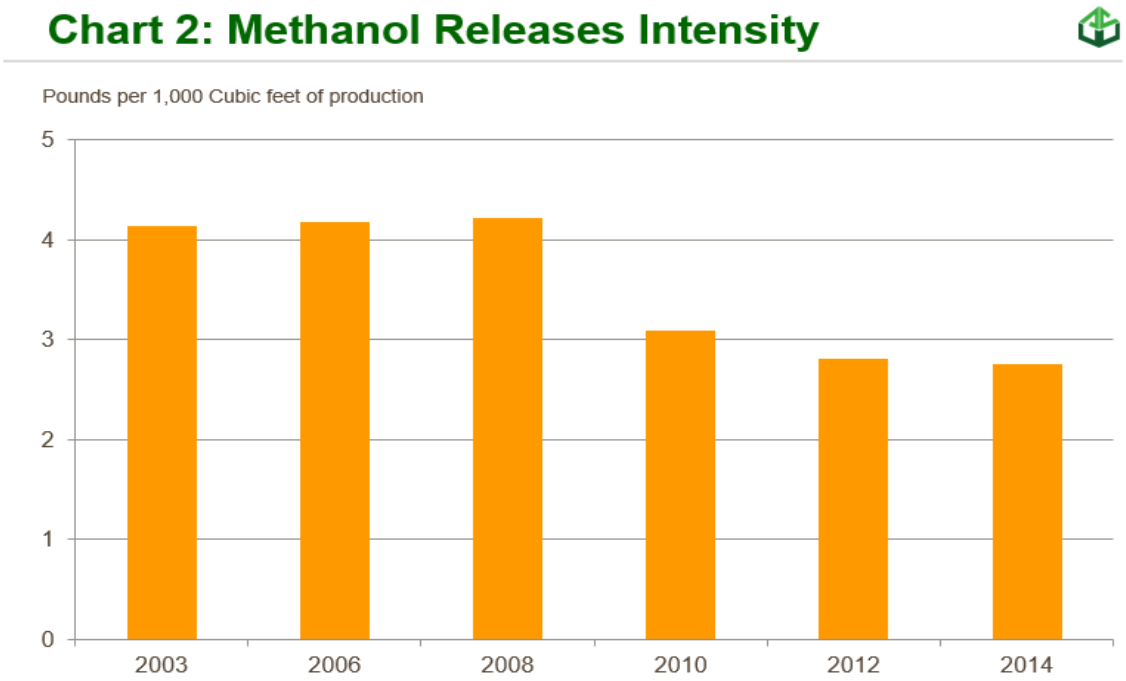
In another measure of environmental progress, AF&PA member companies have already met their voluntary Better Practices, Better Planet sustainability goal to reduce greenhouse gas emissions by 15% from a 2005 baseline -- six years ahead of schedule.

[4] See Paul Bernstein et al., *Macroeconomic Impacts of Federal Regulation of the Manufacturing Sector* (NERA Economic Consulting & Manufacturing Alliance for Productivity and Innovation) 2012



Source: [AF&PA 2016 Sustainability Report]

Methanol emissions intensity, expressed in pounds per thousand cubic feet of wood products produced by AWC member companies, has declined 34% from 2008 to 2014. Formaldehyde emissions have dropped almost 60% from 2006 to 2014.



Source: AWC 2016 Industry Progress Report

These and other emission reductions come at a high cost. The forest products industry has invested about $1 billion to comply with EPA's 2013 Boiler MACT regulation, and those emission reduction benefits will be reflected in future AF&PA and AWC reports. All told, several billion dollars have been spent on Clean Air Act obligations by the forest products industry in the last two decades, contributing to the impressive emissions reductions our nation has achieved.

The NSR permit program was established under the Clean Air Act in 1977 to require new facilities as well as existing facilities that undertake *significant modifications* to update their pollution control systems to current standards. Unfortunately, some important parts of NSR that are aimed at existing sources, particularly its Prevention of Significant Deterioration (PSD) program, can undermine the laudable goals of the Clean Air Act. Energy efficiency and modernization projects are being delayed or thwarted by NSR interpretations that have evolved over time. The program requires expensive emissions assessments and air modeling that frequently delays projects and can cost $100,000 per project or more to complete. It also easily can take 12 to 18 months to obtain NSR permits, tying up investment capital and delaying the economic benefits from expansion projects. Finally, the permitting process itself can lead to lawsuits by environmental organizations—not just during NSR but again during renewal of the

facility's Title V operating permit, assuming the manufacturer actually gets the permit.

We believe there are many actions the EPA could take to improve the process that regulated entities must go through to secure air permits and comply with federal air quality regulations. This testimony focuses on several aspects of the NSR and PSD programs. Our suggested solutions to the problems identified would promote growth and jobs in domestic manufacturing industries and our economy while protecting against actual risks to the environment and public health.

The permitting program under the Clean Air Act needs a substantial re-examination since it has evolved over time in a rather haphazard and incremental manner. First, consistent with the statute, EPA should focus the NSR program on larger projects that have a greater potential to impact air quality. Changing the NSR applicability criteria could reduce unnecessary workloads on permitting agencies and create business certainty and incentives without jeopardizing air quality. Second, once a project triggers a higher level of scrutiny, EPA should use real-world assumptions and modern, realistic air quality modeling tools, including probabilistic air quality models, instead of the deterministic, upper-bound modeling assumptions currently used.

As a group, the complicated and burdensome set of air quality rules surrounding NSR and PSD permitting are a deterrent to manufacturing facility modifications and expansions. The current set of air quality permitting requirements even deters implementation of projects that would reduce emissions and/or enhance energy efficiency. Part of what makes implementing these regulations so difficult is the thousands of pages of complex, prescriptive guidance. EPA should establish a new permitting process and adjust its modeling criteria to be more reflective of actual impacts. Regulatory air quality models now have the capability to predict ambient air concentrations based on variable emissions, background, and meteorological conditions. Unfortunately, long-standing policies are obsolete and preclude the use of modern approaches that take variability into account. Simply stated, implementation of stringent new air quality standards has outpaced reliable implementation tools and appropriate guidance, which remain years behind current knowledge. EPA should address the rapidly developing air permitting gridlock by adopting more flexible policies to allow use of more realistic emissions and modeling data.[5] In addition, states should be given more discretion

[5] In the future, EPA also should not revise current NAAQS unless evidence shows a significant public health concern and previous NAAQS revisions have been fully implemented. Moving these multiple regulatory goal posts every five years creates significant business investment uncertainty

in running their permitting programs including advancing new tools, models and permitting approaches through guidance to the states and Regional Administrators.

New Source Review Problems and Solutions

EPA previously developed proposed rules[6] – some were even finalized but indefinitely stayed and never implemented – that would add common sense tests for determining which projects would actually cause significant emissions increases. Such projects are subject to major source/modification permitting and their exclusion would eliminate resource-consuming reviews for routine projects and those that would not cause a significant emissions increase.

We have several suggested revisions to the NSR permitting program to address real world problems.

Actual Emissions Increase

The NSR regulations use a two-step calculation process to determine if a project is subject to NSR. This test, also known as the applicability analysis, consists of determining (1) whether the project itself produces a "significant emission increase," and, if so, (2) whether the project's emission increase, netted with all other emissions increases and decreases occurring at the facility during the "contemporaneous" period, results in a "significant net emissions increase." Only if the project will result in a significant emission increase in Step 1 must the source proceed to Step 2, where the source evaluates its plant-wide emissions over a time period, usually five years preceding the proposed project.

There is significant ambiguity and confusion regarding EPA's emissions accounting regulations that have forced companies to consider only the project's emission *increases* in "Step 1" and ignore emission *decreases* until Step 2 after significant resources have been expended and time lost. And in Step 2, decreases are evaluated only in the "plant-wide netting" process, which looks at the plant-wide emissions increases and decreases over time. Although some projects can easily use "plant-wide netting" to demonstrate that NSR is not triggered, at a large plant with complex operations, netting is an onerous, technically challenging calculation process that is taxing on state regulators and can create substantial confusion for those trying to analyze a proposed permit.

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when the air quality in the U.S. is some of the best in the world and will continue to get better under current programs and trends. A ten year NAAQS review cycle would be much more appropriate.

[6] https://www.epa.gov/nsr/nsr-regulatory-actions#general.

In recent years, EPA has issued guidance documents stating that emission decreases associated with a particular project cannot be counted in the Step 1 portion of an applicability analysis. The complexity of the Step 2 analysis for many plants means that companies will simply forgo environmentally beneficial projects that involve counting decreases in order to demonstrate that NSR is not triggered. Furthermore, as pointed out in the 2006 proposed regulation preamble, the approach of only counting increases at Step 1 fails to accurately reflect the effects of a project and that NSR only be triggered for projects that actually cause a significant emissions increase.

EPA should finalize the September 14, 2006 proposal to allow accounting for the complete effects (both increases and decreases in emissions) of a project for PSD applicability analyses. This proposal stated that all emissions changes, both increases and decreases that occur within the scope of the project would get counted under "step 1" of the applicability analysis. Project netting calculations are more straightforward than facility-wide netting and the resulting regulatory change to explicitly allow project netting would let facilities receive credit for emission reductions that are achieved as part of an overall project, without introducing complexity into the program. As a stopgap measure, EPA could issue guidance interpreting the current regulations "sum of the difference" language as considering both increases and decreases in Step 1.

Contemporaneous Project Classification

Current EPA policy calls for the emissions impact of contemporaneous projects in netting transactions to be quantified using the actual-to-potential (ATP) test. This is required even if those projects relied on the actual-to-projected actual (ATPA) emissions comparison for their initial PSD applicability determination. EPA explains[7] that this restriction on the use of the ATPA comparison for netting purposes is mandated because the amended definition of "actual emissions" in the 2002 NSR Reform rule does not apply when assessing whether a significant net emissions increase has occurred or will occur for PSD purposes.

This policy is overly conservative and restrictive. The definition of a "net emissions increase" under PSD requires that an assessment be made of the increases and decreases of contemporaneous "actual emissions"; the plain language of "actual" emissions would suggest that the net emission changes (if any) that have actually

[7] Letter from Cheryl L. Newton, EPA Region V Air and Radiation Division Director, to Keith Baugues, Indiana Department of Environmental Management, April 4, 2011.

occurred are to be the basis of this determination. We recognize that there are some netting assessment instances where a contemporaneous project has not begun normal operations, and in those instances it seems clear that the actual increase in emissions cannot yet be defined. For these situations, the definition of "actual emissions" at 40 CFR 52.21(b)(21)(iv) (i.e., the presumption that a unit's post-change actual emissions are equal to its potential-to-emit) would appropriately apply.

In most instances, however, the increases in emissions that actually occur as a result of projects are less than what is estimated during preconstruction review. It is overly restrictive and it does not serve any compelling purpose to require an ATP emissions comparison for projects where the actual-to-actual emissions history can be established. Accordingly, we encourage EPA to rescind the 2011 policy memo that requires the ATP emissions test for contemporaneous projects in netting transactions, and to promulgate changes to the appropriate definitions within the PSD regulations.

Project Aggregation

NSR pre-construction permitting applies to "major modifications" to existing "major sources" that result in "significant" emission increases. Most companies perform dozens of changes/projects at a plant over one to three years. While many of these are exempt from NSR because they are routine maintenance, repair and replacement projects, some do not trigger NSR because they do not individually result in a significant emissions increase. EPA, however, is concerned about companies circumventing NSR by "dividing," "phasing" or "tiering" projects that are technically or financially interdependent.

For this concern, the agency applies its "project aggregation" policy to determine when emissions increases from multiple projects at the same major source should be aggregated or summed to determine if together they constitute a "significant" emission increase triggering "major modification" NSR. In 1993, EPA enforcement concluded that 3M had circumvented NSR permitting when it constructed four separate R&D pilot projects at its Maplewood, MN plant. "3M Maplewood" established a very restrictive four factor aggregation policy that considers time between projects, funding and consumer demand, EPA's assessment of the economic relationship between projects, and "the overall basic purpose of the plant."

Thus, aggregation has become a presumption for groups of projects that occur close together in time, even though from a business perspective most decisions

and projects are independent of each other. This interpretation that unrelated projects get "aggregated" regardless of their true inter-relatedness places undue permitting burdens on facilities for smaller projects that should be allowed to begin construction without added red tape.

EPA began moving down the right path when it proposed changes to the PSD regulations on September 14, 2006 involving aggregation that were finalized in January 2009. The rule described factors for distinguishing "separate" and "substantially related" projects such as "technical" and/or "economic dependence." However, that rule was stayed by the Obama Administration and then stayed again in 2010 along with a proposal to revoke the final rule. No final action was taken on the stay and revocation. We suggest that EPA withdraw the 2010 proposal and lift the stay on the 2009 rule to make it effective and replace the "3M Maplewood" framework for unrelated projects.

Plant-wide Applicability Limits (PALs)

PAL provisions were established in the 2002 NSR Reform Rules in order to provide facilities with a simplified process for approval of physical or operational changes under the NSR rules, as long as facility-wide actual emissions remain below the PAL after the change.

The regulated community has not taken advantage of the flexibility afforded by these provisions because of unnecessary requirements that were included in the PAL regulations. Concern exists that PAL caps can be re-opened and reduced at any time. These concerns create huge uncertainty for sources. The PAL expiration and PAL renewal provisions have prevented facilities from utilizing PALs more. Some states issue separate PAL permits making the program more complicated instead of incorporating PAL provisions into the Title V permit and harmonizing monitoring requirements.

EPA can unlock the potential of PALs to reduce permitting burdens and create incentives to keep emissions at a capped level. EPA should issue guidance to clarify with permitting authorities that they should incorporate the PAL requirements into a facility's Title V permit and that a PAL may be renewed at the same level, regardless of whether actual emissions are below the PAL level. In addition, EPA should make the PAL provisions more attractive to the regulated community by (1) clarifying there are only limited events that trigger review of the PAL cap during the PAL permit cycle, (2) encouraging states to incorporate PALs into Title V permits to establish a coordinated PAL/Title V permit, (3) harmonizing reporting and

recordkeeping to reduce administrative burden, and (4) removing penalties for terminating a PAL.

Streamlining Permitting Programs

EPA has lowered the $PM_{2.5}$, NO_2, and SO_2 National Ambient Air Quality Standards (NAAQS) in the last eight years. States have responsibilities to evaluate air quality data, determine which areas of their states are in non-attainment and adopt State Implementation Plans (SIPs) requiring emission reductions needed to attain the relevant standards. In addition, SIPs establish and implement regulatory programs such as PSD permitting programs to ensure that areas currently meeting the NAAQS continue to do so. In addition to requiring best available control technologies to be applied at sources seeking approval to significantly increase emissions, the SIP permitting regulations require applicants to conduct Air Quality Analyses involving application of computer models to predict how the proposed emission increases could potentially affect ambient pollutant concentrations.

Modeling results are relied on as the technical basis for judgments on whether a proposed project will protect or threaten the NAAQS. Separately, facilities must model attainment of the NAAQS through the PSD process or under state-specific programs when making a modification or building a new source that increases emissions in attainment areas. Forest Products Industry (FPI) facilities are located predominantly in attainment areas but are subject to thorough air quality reviews for projects and sometimes upon permit renewal.

Air emissions from our industry have been regulated for many years and our sources are subject to multiple types of air quality standards that are the backbone of the Clean Air Act and will remain in place. As mentioned previously, industrial boilers are subject to EPA's stringent Boiler MACT requirements[8] while smaller boilers must comply with the 2013 Boiler Generally Achievable Control Technology (GACT) rule. All parts of pulp and paper mills are subject to the so called "Cluster Rule" that paired dramatic air emission reductions with stringent water quality limits and transformed bleaching systems at mills. In 2012 and again in 2017, EPA confirmed that the Cluster Rule had mitigated health risks to acceptable levels and that the emission control technologies deployed remain the best available. At wood product mills, the 2003 Plywood and Composite Wood Product (PCWP) MACT required 90% reductions in emissions from most presses and dryers. EPA is in the process of updating these MACT regulations and completing a separate residual

[8] EPA is in the process of reviewing parts of the Boiler MACT regulation that could impose even more emission reductions on our facilities, and then it still has to conduct its risk and technology review.

risk and technology review (RTR) in the next couple of years that will cover additional mills. On top of these major rules, MACT regulations are in place for engines, turbines, and various coating operations at forest product mills.

For criteria pollutants, New Source Performance Standards (NSPS) for Kraft Pulp Mills and Boilers are in place and reviewed periodically. Many facilities were also subject to the Best Available Retrofit Control Technology (BART) regional haze program that reduced emissions from SO_2, NOx, and PM that could impact visibility in nearby parks and wilderness areas. Finally, there are many SIPs that impose Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) controls on sources as a result of local air quality concerns. Occasionally, EPA imposes region-wide requirements into SIPs such as the NOx SIP Call or interstate pollutant transport rules that can impact stationary sources in upwind states.

In the past, when the NAAQS were higher, there was sufficient margin or "headroom" between the NAAQS level vs. the ambient background levels, and the facility's emissions plus those of surrounding sources. With that headroom, and for expediency, the Agency built multiple layers of conservatism into a NAAQS analysis. This approach was not problematic in most cases for decades. Now, however, the headroom has shrunk or disappeared as standards approach background levels (for some pollutants, the ambient background concentration is 75% or more of the NAAQS), so it is critical to carefully consider the overly-conservative assumptions and procedures required in the permitting and modeling processes. And to make matters even worse, emission offsets are limited in the rural areas where forest product mills operate.

Industry has found that many of the current policy approaches – which were initially formulated and implemented several decades ago - and deterministic, upper-bound computer modeling tools significantly over-predict impacts from their facilities, especially when results of making conservative (and often unrealistic) assumptions are compounded. Thus, the computer modelling results are overly conservative and produce unrealistic predictions of actual local air quality impacts. Let me highlight two areas where modernization of the PSD program is sorely needed.

Realistic Placement of Receptors: Ambient Air

The current computer modeling guidelines rely on the definition of "ambient air" to determine where in the vicinity of a major source the emissions impact from a project must be evaluated. At these "ambient receptors", computer modeling is

conducted to determine if a project will cause or contribute to a predicted violation of a NAAQS or PSD Increment. Neither the NSR regulations nor the modeling guidelines define "ambient air," but instead use the definition in 40 CFR § 50.1(e) – "that portion of the atmosphere, external to buildings, to which the general public has access." Historically, EPA defined "access" as the right or ability to enter, and the "general public" to be the "community at large" in implementing its ambient air definition.[9] In more than 40 years of implementation, EPA has issued guidance through numerous memoranda, permit determinations, and comments that expanded the original interpretation of general public and restricted its original interpretation of access. Moreover, the form of the NAAQS are now based on a probabilistic approach (e.g., 4th highest over 3 years), which is not considered within the existing ambient air definition or EPA's modeling guideline. These changes result in excessively conservative assumptions that unrealistically simulate the location, frequency, and duration of modeled exposures.

EPA's modeling guidelines, based on its ambient air policy, are excessively conservative because they go beyond the regulatory definition of ambient air. They require industry to evaluate impacts anywhere that any person could theoretically access (even by illegally trespassing) rather than considering only locations to which the general public legitimately and realistically has access. The policy also requires assessments at locations where the general public would not reasonably be exposed (e.g., on facility property, on a waterway, roadway, railway, or steep terrain) for the duration or averaging time of the current NAAQS. An overly conservative modeling analysis can lead to unverifiable and non-existing concentration estimates that can necessitate costly project changes or cancellation of beneficial projects even though possible exposure of the general public at these locations is minimal, improbable, or impossible. In practice, the unrealistic technical modeling analysis can force changes to a project's design or emissions control when true air quality impacts are minimal. .

Although prior EPA ambient air policy has disregarded the frequency and duration of exposure, the current NAAQS differ from historical NAAQS in that they are inherently linked to the probability of exposure and apply over a wide range of averaging periods (i.e., 1-hour to annual), making a "one-size fits all" approach for defining receptor location under the modeling policy unreasonable and obsolete. In addition, fear of being second guessed by EPA prevents states from making

[9] See memorandum from Walter C. Barber, Office of Air Quality Planning and Standards *to* Gordon M. Rapier, air and Hazardous Materials Division, Region II, "Applicability of PSD Increments over Company property," May 23, 1977.

common sense judgments about modeled receptor locations consistent with their broader overarching purpose of protecting public health.

EPA should issue new guidance to update its policies for air quality modeling to embrace the concept that site-specific circumstances should be used in placing receptors considering natural, man-made, or jurisdictional barriers that preclude exposure to the general public for a duration that might cause harm. Such policies would emphasize that permit modeling is a technical analysis as part of a PSD permit application, which is intended to balance economic growth and environmental protection. It is therefore reasonable within the decision-making process to consider the frequency and duration of potential exposures (consistent with the probabilistic form of the current NAAQS) and effective mechanisms for access restriction.

Modeling receptors should not be located where general public exposure at a site is objectively unrealistic, such as, within a plant's fence line or posted property boundary. "Access" should be interpreted such that receptors should not be placed at locations where the general public would become trespassers or would be otherwise unauthorized to be present, such as along right-of-ways. In more unique circumstances, deference should be given to state permitting agencies' authority to determine the areas necessary to include in the ambient air analysis to determine whether a particular project will cause or contribute to a modeled NAAQS or increment exceedance within their regulatory programs.

Unrealistic Modeling Assumptions

EPA's modeling guidelines have historically required excessively conservative assumptions about dispersion model inputs that frequently result in gross overestimates of a project's air quality impacts. Combined with increasingly more stringent NAAQS, this situation presents state regulatory agencies and the regulated community with complex challenges that are barriers to efficient air permitting and stifle economic growth. While EPA has acknowledged how some of its policies overstate true impacts as in the 2017 Appendix W changes, many more changes are needed.

Long-standing EPA policies for NSR implementation restrict a state agency's ability to embrace the use of approaches that address the variability of source emission rates, or that allow for the exclusion of intermittently-operated sources in certain circumstances. In addition, EPA is slow to develop and adopt new dispersion modeling tools that are superior to existing approaches for low wind conditions, building downwash, complex terrain, intermittent/variable sources, and other

challenges. Modeling techniques and implementation guidance have frequently not been available at the time new air quality standards and regulatory requirements become effective.

Although the revised 2017 Appendix W requires facilities to address ambient impacts from projects with significant increases in emissions of ozone or $PM_{2.5}$ precursors, EPA has not fully developed adequate tools, screening techniques, and implementation guidance that are needed in order to develop a robust analysis that avoids the time and expense of single source photochemical modeling.

Finally, data-driven probabilistic methods have been embraced in other EPA programs and are equally applicable to air quality compliance demonstrations when simulating variable emission rates and representative background concentrations. State agencies can be a laboratory for innovation but they are reluctant to adopt new approaches given EPA's history of second guessing decisions.

There are several policy changes EPA could embrace to solve these modeling conundrums. First, EPA should more fully develop and finalize tools such as Significant Impact Levels (SILs) that facilities can use to perform screening level analyses and avoid the time and expense of single source photochemical modeling for projects with significant emissions increases of ozone and $PM_{2.5}$ precursors. The modeling thresholds should be set at a sufficiently high level to exclude projects with minimal impacts.

Second, EPA should continue to incorporate data-driven, probabilistic methods into air quality analyses that simulate emission variability and representative source conditions. For example, EPA's recent revision to Appendix W for cumulative impact analyses emphasizes the use of *representative* actual emissions for non-modified emission units rather than assuming that all sources continuously and simultaneously emit at the maximum allowable short-term emission rate. EPA should expand that approach to use probabilistic modeling techniques such as EMVAP or "randomly reassigned emissions" to formulate realistic emissions inputs that conservatively account for emissions variability of new or modified sources. Implementation of these concepts into air quality compliance demonstrations for permitting can be done through changes in guidance or a revision/clarification to Appendix W.

Third, EPA should make improved dispersion modeling tools a higher priority for model development and evaluation/determination of acceptability of new models. New modeling techniques should be evaluated based on their overall performance

and the soundness of the science, not be automatically rejected based on limited cases of under-prediction.

Fourth, EPA should revise its policy to implement new air quality standards for permitting immediately upon the effective date to avoid recurring situations when modeling tools, data, and implementation guidance are not yet available.

Finally, permitting decisions made by state agencies that are based on reasonable data and sound analytical techniques should be respected without being second guessed by EPA.

Real-World Examples of Problems with NSR and PSD Program

Many industries and our own have been concerned about the NSR and PSD programs for many years. While some changes have occurred recently, the pace of change has been slow and limited. Full modernization of the air permitting program would create greater certainty to invest in American manufacturing facilities. Here are several examples of projects that would benefit from the reforms previously suggested.

1. Thermal Oil Heater Energy Reduction Project

In order to reduce energy consumption, particulate emissions, and volatile organic compounds (VOC) emissions and comply with the Boiler MACT requirements, a wood products mill proposed to route the exhaust from four thermal oil heaters into dryer burners as combustion air. The emissions from the existing thermal oil heaters were going to older style, electrified filter beds that achieved 70% particulate removal and spare parts were no longer available.

Because the heater exhaust is hotter than the incoming air used for combustion in the dryer burners, the company would burn less wood to get the same amount of heat to dry the flakes. In addition, the heater exhaust would be combined with the OSB dryer exhaust and be cleaned by a modern wet electrostatic precipitator (WESP) for particulate control and then a go through a regenerative thermal oxidizer (RTO) for VOC/HAP control. The WESP is approximately 98% efficient in removing particulate and the RTO destroys approximately 95% of the VOCs/HAPs. Additional particulate removal was estimated to be at least 20 tons per year with no changes in the other criteria pollutants.

The state claimed that since the facility had previously gone through the PSD permitting process for the heaters and the dryers *separately* and that BACT levels were established for each and that since a change was being made to where the

heater exhaust was routed, BACT had not been established for the heater exhaust going into the dryers. Consequently, EPA required the facility to go through PSD again and reestablish BACT -- regardless of whether there was a significant increase in emissions.

In addition, the state agency required the facility to aggregate in the PSD evaluation two unrelated dryer RTO replacement projects even though they had previously exempted the projects as “like kind replacements.” The RTOs were old and in jeopardy of catastrophic failure. The company provided the information required in the “3M Maplewood” guidance showing the RTO replacements were not related to the heater project, but the state disagreed.

In the end, the company decided to go through the burdensome PSD analysis and aggregate the RTO projects with the heater energy efficiency project because of the looming Boiler MACT compliance deadlines and winter weather that would limit construction. The project was delayed approximately 5 months and the company spent an additional $100K on assessment of alternative compliance options plus $59K for state permitting fees. The delay resulted in an ***increase*** of 10 tons of particulate emissions and no substantive changes to the project’s scope as a result of the exhaustive (and unnecessary) review. If EPA adjusted both its aggregation policy and how to account for decreases in emissions, the state could have allowed the project to proceed quickly, and the company and environment would have been better off.

2. Paper Mill – Paper Machine Restart

In response to an emerging market demand for a specific type and quality paper, the mill proposed to restart a paper machine that had previously been taken out of service. An air permit was required since the project involved extensive repairs and various equipment modifications in order to return the machine to working order. Global market conditions combined to create a very narrow time window that had to be met to ensure acceptable financial return and justify the capital investment. To meet the window of opportunity, the mill needed to obtain a permit, complete repairs and modifications and be up and running within 7 months. Since a major NSR permit would require 12-16 months to obtain, emission increases from the project had to be kept below major significance levels and qualify for a minor NSR permit. To constrain emission increases, the scope of the physical and operational changes had to remain very narrow, and production increases had to come solely from recycled fiber in order to demonstrate that virgin pulping processes and chemical recovery operations would not be “debottlenecked” (with possible emissions increase implications) or otherwise affected by the project.

While this project was successfully permitted and implemented, the company was only able to capture a portion of the financial benefits of the global market expansion. The time needed to obtain a major NSR permit prevented the company from pursuing more substantive modifications that would allow larger increases in production and possibly position the mill to capture a greater share of the expanding market. Expectations to account for emissions from unmodified, but otherwise affected process operations (i.e., "debottlenecking") caused the company to accept new operating constraints that prevents full utilization of existing assets and restricts flexibility to be able to respond to future market opportunities. Finally, this project sets the stage for "project aggregation" discussions that will need to be evaluated and addressed in the future when the mill attempts to get a permit involving virgin pulping or chemical recovery operations, including projects focused on cost, reliability or energy related improvements.

If EPA can reduce the significant time needed to get a permit, then market opportunities like this can be realized -- especially if better emissions accounting procedures are adopted. And if EPA's aggregation policy is fixed so only truly linked projects are added together, then long-term operating flexibility would not be sacrificed to obtain a near-term opportunity.

3. Mill Infrastructure Project

A paper mill wanted to improve mill operations by shutting down two older, inefficient smaller boilers and upgrading a newer, larger boiler to meet the same steam needs for operations. The changes would use less overall energy and not increase emissions. Rather than being able to undertake the project quickly, the company was forced by EPA through a lengthy review process, wasting several months and requiring additional consulting expenses. In the words of the company, this was "an absurd result."

Specially, EPA -- over the objections of the state -- did not allow the mill to count reductions in emissions at the same time as the "increases" from the upgraded boiler -- which otherwise would have made the project not "significant" and would have avoided PSD review. In addition, the regulators wanted the company to look at two previous unrelated improvements to the older boilers using the "actual to projected to emit" emissions test, summed with the current change. That essentially would have suggested that emissions were increasing at the units as a result of their permanent shutdown; which is illogical.

Compared to new pre-project baseline actual emissions (BAE), the analyses projected an increase above the significance level for the pollutant. However, if only contemporaneous changes were considered, even a conservative “actual to potential to emit” test would have shown no increase and thus a minor NSR project.

Fortunately, the company and state pressed EPA to allow the netting of the actual decreases to offset the “increase” from the modified boiler under the current project, showing zero additional air emissions. The process took 18 months from beginning to end, with some time spent by the company changing the scope. EPA should change its policies and regulations to allow realistic emission accounting procedures for projects and limit considerations to contemporaneous changes to avoid these unnecessary delays, expenses, and uncertainties that hinder investments and competitiveness while not benefiting, or even harming, the environment.

4. Paper Mill – Paper Machine Conversion

The mill proposed to convert an existing paper machine from producing free sheet using bleached virgin pulp stock to producing new products that involve unbleached pulp stock. The conversion required physical modifications to the machine in addition to the installation of new ancillary equipment. The primary emissions source was the paper machine which involved negligible sources of emissions. Prior to commencing construction, the mill is required to receive authorization from the regulatory agency in the form of a construction permit. In this instance, the long lead time for constructing the new equipment necessitated the need to receive construction authorization within a few months which was not possible under the current permitting system. As a fallback, the company chose to minimize the emission impact of the affected units by committing that virgin pulp production would remain at historic levels.

This example illustrates the need to streamline the current NAAQS modeling process, which involves submittal of a dispersion modeling protocol and approval of the protocol prior to the submittal of a construction permit application even for units that are not being modified and have been previously evaluated for environmental impacts. These extra steps in the process are one part of what makes triggering major NSR permitting more time consuming than certain projects can tolerate.

In addition, the primary driver for the timing of this project is the construction lead time of emissions units with negligible emissions rates. Allowing for construction of

minor emissions sources that do not trigger NSR permitting obligations (prior to the PSD triggering modifications being approved (i.e., phased permitting)) would pave the way for a more flexible permit that still meets environmental requirements.

Finally, ambiguity in EPA's aggregation policy creates business planning uncertainty. A minor project such as this conversion might be "aggregated" with a future unrelated project such as one to improve pulp yields driven by market conditions. This puts mills in the position of second guessing themselves about the future emissions implications of decisions made today even when projects are unrelated. Finalization of the aggregation rulemaking is critical to creating a rationale permitting process where only truly linked projects are considered together.

5. **Paper Mill – Paper Machine Project**

The company wants to replace three existing paper machines with one new, more efficient machine. The emissions inventory and PSD applicability analysis for the project has been unnecessarily complicated given current NSR regulations and guidance. The company has spent several months on the emission analysis, when it should have only taken weeks if emissions assessments were limited to equipment being modified rather than other processes.

In addition, the company cannot account for the decrease in emissions from shutting down the existing paper machines or from limiting operation of one of the power boilers in "Step 1" of the emission analysis; only emission increases, not decreases, may be counted in Step 1. A proper accounting of the project's net emission impact should include the emission decreases associated with a project.

"Step 2" of the emissions analysis requires that the emission increases associated with contemporaneous projects be calculated using the baseline actual to potential to emit (PTE) method, even when the contemporaneous projects were evaluated using the actual-to-projected actual method, and actual emissions have not exceeded the projections. Instead, the netting analysis should include the <u>actual</u> emission increases from the contemporaneous projects or the actual-to-actual emission projections from the emission analysis conducted for those projects.

In the end, the project requires a federally enforceable emission limit to restrict operation of an existing power boiler. And as a result, the company cannot begin partial construction due to the need for this federally enforceable limit, delaying the start of the project. If the project had been appropriately classified as "minor"

construction would have commenced.[10]

In sum, waiting to begin construction of the project while a permit application is under review adds many months to the project's completion and delays the cost savings.

Other Permitting Improvements

While EPA has the clear authority under the Clean Air Act to make substantial improvements to the NSR and PSD programs, strategic changes to the statute are needed in areas where the courts have limited EPA's attempts to improve the permitting program. Here are two opportunities for Congress.

Clean Unit Exemption

As part of the New Source Reform provisions promulgated by EPA in December 2002, EPA included a new permitting applicability test for Clean Units. This provision allowed any emission unit that had been through a permitting process that resulted in Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) emission control levels (or the state equivalent) being imposed would trigger NSR only if the facility was seeking an increase in its permitted allowable emissions. At the time of its promulgation, EPA stated that this exclusion "…protects air quality, creates incentives for sources to install state-of-the-art controls, provides flexibility for sources, and promotes administrative efficiency".[11]

However, the Clean Unit exemption was vacated by the DC Circuit Court of Appeals in June, 2005[12]. The Court found that the exclusion was contrary to the Clean Air Act because it exempts certain emission units from NSR permitting on the basis of their status, rather than on the basis of changes in their actual emissions.

Nonetheless, the Clean Unit concept represents an important development for the regulated community, because when an existing facility that operates such state-

[10] In addition, the NSR regulations should allow a facility to start, completely at its own risk, construction of a source or project prior to obtaining an NSR permit. Companies would find the risk of constructing an entire source too great since the permit could be denied or costly retrofits required. However, most companies would undertake currently prohibited construction activities to start a project and accelerate project benefits that could be realized.

[11] 67 Federal Register 80190 "Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR); Final Rule and Proposed Rule. December 31, 2002.

[12] New York v. EPA, 413 F. 3d 3, DC Circuit, June 24, 2005.

of-the-art emission control systems triggers new source review, the permitting process invariably results in minimal (if any) improvements to either existing air quality or the efficiency of the emission control systems installed on the source. A legislative change to the Clean Air Act authorizing the 2002 Clean Unit exclusion would be helpful.

Pollution Control Projects

The 2002 New Source Reform provisions exempted specific Pollution Control Projects (PCPs) from having to undergo preconstruction NSR permitting in specific situations where installation of controls targeting reduction of a specific type or family of pollutants causes a collateral and significant emission increase of an NSR regulated pollutant. The rule defined a PCP as "…any activity, set of work practices or project undertaken at an existing emissions unit that reduces emissions of air pollutants from the unit." EPA stated that one of the purposes of promulgating this PCP exemption was to remove any disincentive for industrial sources to undertake pollution control and prevention measures.

The General Provisions to EPA's New Source Performance Standards (NSPS) program specifically allows pollution control projects to be exempted from the definition of a "modification" to an existing source that might otherwise trigger the need for the source to meet new source emission standards. As the NSR and NSPS programs both utilize a fundamentally similar definition for modification, it is inappropriate for EPA to allow pollution control projects to be considered exempt for NSPS purposes yet at the same time trigger preconstruction review under the NSR program.

The PCP exemption included in the 2002 NSR Reform provisions was intended to codify in the NSR rules a very similar exclusion that EPA had made available by interpretive policy in 1994.[13] The interpretive policy was in turn based on the explicit PCP exclusion afforded by EPA to electric utility units in 1992 (i.e., the "WEPCO rule"). The 2002 NSR Reform rule made the PCP exemption available to all source categories but at the same time contained safeguards that were intended to ensure that such projects would, on balance, be environmentally beneficial and would achieve the goals of minimizing regulatory burdens and reduce procedural delays for such projects.

[13] "Pollution Control Projects and New Source Review (NSR) Applicability", John. S. Seitz, Director, EPA OAQPS, July 1, 1994.

The PCP exclusion was vacated by the DC Circuit of Appeals in 2005, along with the Clean Unit Exclusion. At that time, the Court reasoned that EPA lacked the authority to create blanket PCP exemptions from NSR, essentially because EPA was unable to demonstrate to the Court's satisfaction that Congress originally intended pollution control projects to be exempted from preconstruction review when the Clean Air Act was implemented.

The vacatur of the PCP exclusion discourages prompt implementation of projects whose primary purpose is either the reduction of air emissions or pollution prevention. It also creates an absurd situation for sources that are required to install emission controls in order to comply with other parts of the CAA, such as Maximum Achievable Control Technology (MACT) standards under Title III. Operation of the MACT control causes collateral increase in criteria pollutant emissions regulated under Title I and subject to preconstruction NSR permit requirements. As the regulations are currently configured, such collateral increases are required to be compared against PSD significant emission rates to determine whether the installation of the mandated emission controls constitutes a major modification subject to PSD review. This catch-22 is both counter-productive and burdensome to the regulated community. Given the court decision, a change to the Clean Air Act seems the best way to exclude pollution control projects from NSR.

Conclusion

In enacting the Clean Air Act, I do not believe that Congress intended to create such an arcane NSR permitting system using unrealistic assumptions and modeling to impede permits as manufacturers strive to grow and innovate. In fact, in response to the Department of Commerce and EPA outreach last year on impediments to U.S. manufacturing, many industries beyond forest products -- such as aerospace, mining, steel, and utilities -- highlighted NSR as ripe for reform. AF&PA and AWC urge this committee to work with EPA to improve the NSR and PSD programs so minor projects are excluded and those with significant emissions increases can use realistic assumptions and the best science in their air quality assessments.

To further the twin purposes of the Clean Air Act, our goal should be sustainable regulation – regulation that addresses environmental and economic needs. I believe there is no better place for a robust manufacturing sector than the United States, which has highly productive workers, creative entrepreneurs and innovators, abundant resources, a strong free-market democracy, and regulatory agencies capable of leading the world on sustainable regulation.