

American Forest & Paper Association

Comments on EPA Mandatory Reporting of Greenhouse Gases Proposed Rulemaking

June 9, 2009

Introduction

The American Forest & Paper Association (AF&PA) appreciates the opportunity to comment on the EPA Mandatory Reporting of Greenhouse Gases Proposed Rulemaking. AF&PA is the national trade association of the forest products industry, representing pulp, paper, packaging and wood products manufacturers, and forest landowners. Our companies make products essential for everyday life from renewable and recyclable resources that sustain the environment. The forest products industry accounts for approximately 6 percent of the total U.S. manufacturing GDP, putting it on par with the automotive and plastics industries. Industry companies produce \$200 billion in products annually and employ more than 1 million people earning \$54 billion in annual payroll. The industry is among the top 10 manufacturing sector employers in 48 states.

A Commitment to Environmental Stewardship

From carefully managing private forests that absorb carbon dioxide, to manufacturing recyclable products from a renewable resource that stores carbon, to producing and using renewable energy, AF&PA member companies have a longstanding commitment to environmental stewardship.

Greenhouse Gas Reductions

From 2000 to 2006, working together AF&PA members voluntarily reduced their carbon dioxide (CO₂) emissions intensity by 14 percent. Our members collectively reduced their direct greenhouse gas emissions 34 percent. Approximately half of this reduction can be attributed to improvements in greenhouse gas emissions, such as efficiency improvements or reduced fossil fuel use, and half can be attributed to decreases in production and changes in the baseline from the year 2000.

Renewable Energy

The forest products industry is the leading U.S. producer and user of renewable, carbon neutral biomass energy. In fact, the energy we produce from biomass presently exceeds the total energy produced from solar, wind, and geothermal sources combined. Sixty-five percent of the energy used at AF&PA member paper and wood products facilities is generated on-site from carbon-neutral biomass. The industry also is a leader in combined heat and power technology (CHP) with highly efficient co-generation of electric power, much of it from biomass, both for internal use and for sale to the power grid.

Managed Forests and Forest Products

Managed forests, just like all forests, absorb CO₂ from the air and store it as carbon. In the U.S., forests and forest products store enough carbon each year to offset approximately 10 percent of U.S. CO₂ emissions. Approximately one-third of the carbon in wood harvested for the industry ends up in long-lived products such as lumber, wood-based panels, books, and archived paper and is stored in some cases for decades, even centuries. EPA estimates that the amount of carbon stored annually in forest products in the U.S. is equivalent to removing more than 100 million tons of CO₂ from the atmosphere every year. Manufactured products make a significant contribution to climate change improvement as well as to the economic benefits that a healthy and sustainable industry conveys to society in general. As a building material, wood requires less fossil fuel energy to produce, transport, construct and maintain over time and is a better insulator than other building materials, such as concrete and steel.

Recycling

Our industry is also a leader in recovering and reusing paper fiber. Paper recycling reuses a renewable resource that sequesters carbon and helps reduce greenhouse gas emissions. Greenhouse gas reductions result from avoided methane emissions and reduced energy required for a number of paper products. In addition, recovering paper extends the fiber supply. The amount of paper being recovered far exceeds the amount sent to landfill sites. Having achieved its previous goal of 55 percent, the industry set a new goal of 60 percent recovery of all paper consumed in the U.S. by 2012. Achieving this goal will lead to reductions in greenhouse gas emissions.

Competitiveness

U.S. forest products manufacturers face significant competition from global competitors. U.S. imports of forest products have grown for the most part at a faster rate than American exports, resulting in an ever-widening trade deficit in the sector: the five-year average of the U.S. trade deficit in forest products stands at \$16.1 billion. Since early 1997, more than 170 pulp and paper mills have closed in the U.S., contributing to a loss of 92,000 jobs, or 43 percent of the workforce. An additional 172,000 jobs have been lost in the wood products industry since 1997. The recent downturn in the nation's economy, especially the housing market, has only compounded these challenges. Since 2006, the industry has lost more than 300,000 jobs—24 percent of our workforce. These jobs are critical for the survival of the rural communities where most of our forest products facilities are located.

Highlights of Major Comments

AF&PA supports the development of uniform national greenhouse gas accounting protocols based on internationally recognized methodologies applied in a reasonable and responsible manner, employing streamlined accounting and reporting requirements. Moreover, we appreciate the attention EPA has paid in reviewing and incorporating (in part) methodologies based on our industry's decade-plus experience in quantifying and reporting GHG emissions. Beyond our basic support there remains a number of

significant issues yet to be resolved in order to specify reasonable, verifiable emissions estimating and reporting protocols that provide the needed information without undue burden and unnecessary expense. A brief statement of major remaining issues includes:

- EPA specifies levels of precision in the requirement for direct measurement of GHGs and unit by unit operational factors that are impractical and would result in an unnecessary burden when existing equipment, procedures, estimating techniques and established GHG reporting protocols provide GHG emissions measurements that are more than satisfactory. Much of this impracticality is introduced in EPA's attempt to isolate emissions from individual units versus accepting more traditional and widely accepted facility-wide estimates. Individual unit measurements should be optional and used only when a reporting entity provides evidence that it is more accurate or practical.
- The initial reporting date is too soon to be practically achieved. EPA should delay the requirement for reporting year-one data for one year (collection beginning January 1, 2011 rather than 2010) to enable installation of required measurement and monitoring devices and implementation of a single system, rather than an interim system by 2010 and an improved system by 2011. The proposed timing is unachievable and potentially wasteful of both EPA's and reporting entities' resources.
- The text and intent of the self-certification provision by a reporting entity's designated person needs to be revised and made compatible with prior EPA rule language and intent whereby "reasonable" is the proper and fair level of obligation for review and certification of reported data.
- EPA should add a "Good Science Provision" – a provision (similar to an alternate monitoring procedure) that allows for "reasonable" science to be employed and "improved" science to be employed at such time as better estimation methodologies become available. There are implications and possible liabilities from conducting research aimed at improving emissions information and later updating or correcting submissions. Some means is needed to update emissions estimates and established baseline emission levels.
- Confidential information must be protected - the required "by unit", "by fuel" reporting approach will involve submission of company sensitive information that EPA likely will consider "emissions data", therefore not subject to protections as confidential information. "Public awareness" of confidential energy and fuel efficiency profiles for individual mills will allow competitors to capitalize on the knowledge of a substantial portion of a facility's cost structure.
- The Tier 4 methodology (CEMS) should be made optional for facilities.

- In addition to EPA's identification of specific sources for reporting, there should be a de minimis exclusion of 5% for a facility. Examples of such sources for the pulp and paper industry would likely be landfills and wastewater treatment systems. As NCASI analysis indicates, these combined emissions represent less than 3% of the industry's fossil fuel based emissions.
- The use of the WRI/WBCSD GHG Calculation Tool should be allowed for estimating methane emissions from industry landfills.
- AF&PA interprets the proposed rule to only address those wastewater treatment processes that specifically employ anaerobic biological treatment processes, such as anaerobic reactors, anaerobic lagoons and anaerobic digesters. The industry's aerobic systems are required to comply with NPDES permits and should be assumed to be well managed.
- The regulation should make clear that mills providing lime kiln flue gases to precipitated calcium carbonate plants are not CO₂ suppliers as clarified in the EPA technical support document for the Pulp and Paper Sector.
- EPA should include categorical exemptions for emissions from the combustion of non condensable gases, tall oil and turpentine.
- To determine quantities of biomass fuel combusted (in boilers and kraft recovery furnaces), facilities should be allowed the option of back-calculating fuel combustion quantities based on boiler steam generation quantities, boiler steam generation efficiencies, and default fuel higher heating values.

General Observations – EPA Proposed GHG Reporting Rule

Many members of the pulp and paper industry have been effectively tracking and reporting GHG for over a decade and NCASI, the industry's technical assessment and research organization, has lead scientific thought throughout this period in domestic and international deliberation on forest products industry GHG accounting protocols. Collaborative work with other technical institutions and a range of stakeholder interests has resulted in protocols that create a balance between the needed significance level of calculations and any unnecessary cost of reporting. Based on this experience, we recommend that the EPA reporting requirements should: (a) be as consistent as possible with widely accepted protocols such as the Greenhouse Gas Protocol issued by WRI and WBCSD, the ISO 14064: 2006 standards, and the 2006 IPCC guidance; (b) encompass only emissions that are reasonably expected to be significant and can be estimated with reasonable accuracy; and (c) be cost-effective and practical without reducing its accuracy.

Both the pulp and paper and wood products manufacturing segments of the industry have developed GHG emissions reporting protocols that are consistent with internationally accepted accounting principles and have been adopted by the WRI/WBCSD as sector specific GHG calculation tools for our industry. These are procedures and practices that have been in place prior to 2002. Unnecessary disruption or abandonment of these procedures will result in additional costs and wasted resources without justification. In other words, GHG inventory protocols must be sustainable in their design and implementation.

We observe that the EPA draft Reporting Requirements depart from internationally accepted reporting protocols such as the ISO 14064 and the WRI/WBCSD Greenhouse Gas Protocol Calculation Tools, as well as from the more recent protocols from the European Union Emissions Trading System (EU ETS), The Climate Registry and EPA's Climate Leaders program. These departures are disruptive to industry practices, will not increase reliability of the results, and will force the industry to invest unnecessary monies at a time when it is already severely impacted by the global economic downturn. These differences will cause facilities to employ multiple methodologies, potentially have multiple emissions estimates, and result in inconsistencies with historically reported emissions.

AF&PA has provided a number of specific comments below to discuss several key departures from generally accepted methods. Specifically these include requiring: (1) that emission factors used to calculate emissions be derived from periodic fuel sampling and analysis; (2) the installation of CO₂ analyzers on existing CEMs; (3) inclusion of small yet highly uncertain estimates of emissions from the industry's wastewater treatment systems and landfills; (4) individual unit reporting versus facility wide reporting; (5) the potential for daily measurement of process emissions; (6) the reporting of biogenic emissions.

Continuous refinement of the science and associated measurement methods

AF&PA believes the reporting rule and future emission reduction rules should be based on good science. Since understanding of the science behind this data is continually evolving, EPA should develop provisions and protocols in this rule for adding additional source categories, updating factors and constants, and refining measurement methods based on improvements in the science¹. In doing so, it is important to take into account potential changes in baseline emissions levels and their impact on future compliance obligations.

Reporting Rule Goals

As stated in the preamble, the goal of the reporting rule is to obtain quality data that can support a range of future climate change policies and regulations, balance maximizing emissions reported with excluding small emitters, and create reporting requirements that are consistent with existing GHG reporting programs by using existing methodologies to reduce reporting burden.

¹ Scientific improvements should also be reasonable, practical and utilize adequate levels of accuracy.

The approach which would best satisfy EPA's stated intent (and is AF&PA's preferred approach) would be to follow the conventions established by the Canadian and European Union's programs and allow the use of national average fuel-specific emission factors, those factors published by the IPCC, or site specific factors determined (through experience) to be even more appropriate for the specific example under evaluation.

The following sections provide details regarding specific issues with which AF&PA is concerned as they appear to not be consistent with the stated goals above.

1). Burdensome and unnecessary requirements for direct measurement of fuels.

Direct measurement of carbon content and heat content of fuels is an additional burden that is not justified by relative improved accuracy. Instead **we propose that activity data and default emissions factors as described in Tier 1 requirements, applied at the facility level, be the primary source of data for stationary source combustion- as is allowed under most, if not all, GHG reporting systems.** This approach will allow for quality and consistent data with respect to reported emissions. EPA could continue to allow the more advanced Tiers as options facilities might use as deemed appropriate to the circumstances.

If the use of default emission factors is not expanded to the degree recommended above, EPA should provide specific changes as outlined below:

- EPA should allow use of vendor fuel purchase records in conjunction with vendor provided fuel specific heating values and carbon content. Using vendor supplied data will result in calculated emissions that are just as accurate as those based on fuel analysis performed by the final consumer. This would lessen the burden on facilities and make the standard more cost effective, while likely providing more accurate data. In this scenario, one vendor could perform the required test and make it available to all customers. Costs would be decreased and one value would be used for the same fuel as opposed to slightly different values that each facility is likely to generate by using different labs. There is no technical basis that would suggest that a facility level fuel test is more accurate than one done by the fuel vendor. While we are working together with the Western Climate Initiative (WCI) to continue to improve its GHG Reporting Requirements, in its recent release of the final draft of the GHG Reporting Requirements, vendor supplied heating and carbon values are accepted.
- Direct measurement of fuel properties, as required by Tier 2 and 3 in the proposal, should be optional. Most regulated facilities have internal control procedures to determine which method is the most consistent and accurate for their operations given their fuels and fuel systems and multiple data collection and reporting requirements. In addition, AF&PA recommends that the 250 MMBtu threshold for the Tiering system be based on fossil fuel energy input and

- not the energy input from biogenic sources. The extra cost of the higher measurement standard is not warranted generally, but particularly for biogenic fuels.
- AF&PA recommends that the Tier 1 methodology be allowed for gaseous and liquid fossil fuels in units of all sizes and not limited to those less than 250 MMBTU/hr. The impacts associated with GHG's from these types of fuels are well understood and accepted and there is no additional benefit to requiring Tier 3 methodology for larger units that combust these fuels. In addition, the allowance for biomass combustion in 98(b)2 should be expanded to allow for liquid and gaseous biomass fuels, as biomass fuels are currently available in all three forms and are likely to become more widely available in the future. There should not be a measurement cost penalty for using biomass fuels in any of their available forms.
- Similarly, EPA proposes to require monthly heating value determinations and monthly carbon content determinations for spent pulping liquors. Instead, AF&PA recommends that EPA allow the use of the IPCC (2006) default heating value of 11.8 TJ LHV/Gg (equivalent to 10.7 MMBtu HHV / short ton BLS).

AF&PA agrees with EPA's inclusion of the provisions in section 98.36(c) Reporting Alternatives for Stationary Combustion Units. These provisions allow the use of common pipe configurations and monitored common stack configurations options would preclude the need to install fuel meters on individual units. These options should be allowed for all combustion units at a facility provided they meet the requirements of 98.36(c). It is extremely important to retain these provisions as facilities would need to schedule the installation of fuel meters on individual combustion units in order for the meters to be operational at the start of the 2010 reporting period. Installation of such meters would need to take place during scheduled mill outages, many of which occur on a greater than 12 month rotation schedule particularly for large combustion units. For example, a pulp mill that experienced major outage in May of 2009 may not see another major outage until fall of 2010, well after the collection of GHG data is to begin. In order to comply with the reporting rule, a compliant GHG estimation system needs to be in place by January 1, 2010 (see Initial Reporting Year comments below). A second GHG reporting system would need to be implemented for use after January 1, 2011. It is far more cost and resource effective to create a single information collection and reporting system to commence after appropriate equipment can be installed (e.g., in 2010 for use in 2011), rather than to do so twice (once for 2010 and then again for 2011). A Tier 1 type system could be installed and operated beginning in 2010. The more sophisticated, expensive and unnecessary systems (Tier 2, 3 and 4) could not.

Initial Reporting Year

AF&PA recommends that the initial reporting year be 2012 based on 2011 emissions rather than 2011 based on 2010 emissions. Given the short time frame from the likely finalization of this rule (end of 2009) and when required measurement would begin - January 2010 - it would be unreasonable to expect facilities to meet all of the necessary

requirements outlined in the proposal. As stated above, it will be physically impossible for the required installation of fuel meters, weigh belts, and CEMs upgrades to be completed in time to take measurements of 2010 data. Further, EPA has not provided a lot of detail regarding the reporting mechanisms to be utilized. It is important for facilities to understand the reporting framework as it may drive the decisions of how this data is to be collected and managed.

Measuring Combustion from Biomass

AF&PA believes the methodologies for calculating emissions from biomass combustion should be as simple as possible. It is encouraged by the inclusion of Tier 1 methodology for biomass combustion for units of all sizes.

In the pulp and paper industry, most boilers which burn biomass also burn one or more fossil fuels.

Where a facility is co-firing biomass, it should be allowed to estimate the fossil fuel-related emissions using a mass balance approach (emission factors and activity data) as in other fuel combustion calculations. Facilities with regulated Continuous Emissions Monitoring systems (CEMs) can use them as an alternative method if a reasonable means exists to translate CEMs data into GHG estimates. In such instances, however, back-calculating of biogenic carbon dioxide from biomass (versus fossil fuels) using operating and emissions factors remains a necessary calculation making the added value of the monitoring to be little or none. Whether or not a CO₂ monitor is in place, emissions from biomass need to be calculated (or back-calculated from steaming rate and fossil fuel use data) in order to be backed out of the GHG emissions estimates.

EPA does not address boilers that burn a combination of fossil and biomass fuels where CEMs are not used. From existing guidance one may assume that the Tier 1 methods can be used for estimating the biomass-related emissions from combination fuel fired boilers not equipped with CEMs, but this is not clear from the guidance. ***AF&PA interprets the proposed rule to allow Tier 1 methods for estimating biomass-related emissions as appropriate for boilers burning biomass in addition to fossil fuels, and requests clarification from EPA on this topic.***

AF&PA agrees with EPA's approach in 98.34(a) to allow sources latitude in determining fuel input and to maintain records of its methodologies.

Facilities should be allowed to back-calculate fuel combustion quantities based on boiler steam generation quantities and boiler steam generation efficiencies, as discussed in EPA's Technical Support Document (TSD) for the Pulp and Paper Sector. As presented in Section 6.1 of the TSD, these back-calculated biomass fuel consumption quantities should then be used in conjunction with default emission factors for biomass fuels to calculate biogenic CO₂ emissions. This option should be explicitly allowed for combustion units burning only biomass, and for combustion units that burn a combination of biomass and fossil fuels.

This option (determining fuel consumption quantities from steam production data and boiler efficiency) should also be allowed for determining biogenic CO₂ from combustion of spent pulping liquors in recovery furnaces.

2). Requirement to upgrade Continuous Emissions Monitoring Systems.

AF&PA believes that the proposed rule requires Tier 4 methodology for determining CO₂ from boilers with fuel input capacity greater than 250 MMBtu/hr, and where a required CEMs has been already installed and the CEMs has a gas monitor of any kind, or a volumetric flow rate monitor, or both and the unit burns solid fossil fuels or MSW as a primary or secondary fuel. AF&PA seeks clarification that all of these conditions must be true to require Tier 4 methodology and not just certain elements.

AF&PA believes that Tier 4 methodology should be made optional for facilities.

AF&PA is concerned that the cost to the industry for Tier 4 methodology is inconsistent with the stated goal of the proposed rule to minimize the burden on the industry. The pulp and paper industry has over 105 boilers with fuel capacity greater than 250 MMBtu/hr that burn coal as a primary or secondary fuel, of which a large portion have CEMs already installed. The estimated cost to add CO₂ analyzers to these units ranges from \$15,000 per unit to \$75,000 per unit depending on type of sample system, any necessary reconfiguration of the system, and the potential addition of calibrated fuel flow meters or stack fuel gas flow monitors.

An estimated 75 boilers would require an additional \$45,000 per unit in upfront costs which could total \$3.4 million dollars. This cost is unreasonable, particularly given the industry's propensity to co-fired biomass which requires the use of emissions factors to calculate emissions despite the existence of CEMS.

These costs do not include the additional maintenance requirements and quality assurance costs that would be associated with additional CEMs.

If EPA insists that CEMs are required, then it should provide clarification regarding under which standards they are to be operated. The rule is unclear as to whether Part 75, Part 60 or state requirements are to be followed. In certain areas it appears that facilities are allowed to choose which provisions to follow and in others it does not.

3). Emissions from Landfills

Based on the following discussion, AF&PA requests that facilities be able to use the WRI/WBCSD GHG Calculation Tool, and default parameters recommended therein, for estimating methane emissions from industry landfills, rather than using the formulas and parameters in the EPA rule.

NCASI has assembled data and completed several studies that improve estimates of methane emissions from pulp and paper mill landfills. These data and studies are summarized in the attached NCASI Special Report No. 08-05. Pages 13 and 14 of that report present descriptions of the methods used by NCASI (which are analogous to the

IPCC methods used by EPA in the national inventory) to estimate methane emissions from pulp and paper mill landfills. The report indicates that, in 2005, the methane emissions from all forest products facility landfills in the U.S. were estimated to be 2.2 Tg CO₂ eq. per year. (See Table 2.10 in NCASI Special Report No. 08-05.) Although the report does not show the emissions for pulp and paper mills separate from wood products facilities, the pulp and paper mill portion of the 2.2 Tg CO₂ eq. per year was 1.2 Tg CO₂ eq. per year. NCASI Special Report No. 08-05 also estimated that total direct emissions due to fuel combustion at U.S. pulp and paper mills was 57.7 Tg CO₂ eq. in 2004. Accordingly, 1.2 Tg CO₂ eq from landfills comprise less than two percent of the industry's fuel combustion-related emissions.

NCASI compared CH₄ emission estimates using methods in the WRI/WBCSD GHG Protocol GHG Calculation Tool, the "bulk waste" method recommended by the IPCC, and the method proposed by EPA in this rule for a hypothetical industry landfill receiving 20,000 dry tonnes of wastewater treatment plant residuals (30% solids) annually from 1950 through 1999. EPA's proposed default values for k and Lo were used in the calculations for illustrative purposes. The results were almost identical – all ranging within 15 tonnes of CH₄ (215 tonnes CO₂ eq.) in 1999 – with the WRI/WBCSD GHG Protocol GHG Calculation Tool methods yielding estimates approximately 0.33% higher than the other two methods. For consistency purposes, we recommend that the industry be allowed to continue to calculate these emissions using the WRI/WBCSD GHG Protocol GHG Calculation Tool.

Two important differences do exist however between the WRI/WBCSD GHG Protocol GHG Calculation Tool and the method proposed by EPA. First, we believe that the default DOC weight fraction for pulp and paper (0.2, "wet basis") listed in proposed Table HH-1 is too high. WWTP residuals are the main organic-carbon containing material landfilled at pulp and paper industry landfills (NCASI 1999). NCASI has developed limited total organic carbon data for a number of industry WWTP residuals, and obtained values for WWTP residuals landfilled by different pulp and paper mills. These data are summarized in the following table.

Residual*	Solids Fraction	TOC Fraction (dry basis)	TOC Fraction (wet basis)
Bleached kraft mill combined	0.372	0.282	0.105
Deinked recycling mill combined	0.352	0.254	0.089
Nonintegrated mill combined	0.216	0.231	0.050
Nonintegrated mill primary	0.321	0.373	0.120
Deinked recycling mill primary	0.305	0.318	0.097
Bleached kraft mill primary (n=2)	0.500	0.255	0.128
Bleached kraft mill primary	0.330	0.205	0.068
Bleached kraft mill ASB	0.310	0.310	0.096

*Primary means residuals settled out prior to biological treatment. Secondary means residuals settled out after aerobic biological treatment. Combined means a combination of both types of materials. ASB means residuals dredged periodically from the bottom of an aerated stabilization wastewater treatment basin. Nonintegrated means a mill with no pulp production on site.

The data presented in the table are distinct from but in close agreement with data published by Mabee and Roy (2003) indicating an average TOC fraction of 0.310 (dry basis) for six WWTP residuals. Considering that TOC may overstate DOC, and that WWTP residuals are commonly co-disposed with other materials containing little or no organic carbon (e.g., ash), it is clear that a DOC of 0.2 on a wet basis is too high. The default value for L_0 in the WRI/WBCSD GHG Protocol GHG Calculation Tool is $100 \text{ m}^3 \text{ CH}_4/\text{dry tonne}$. This is equivalent to a default DOC of about 0.2 tonnes $\text{CH}_4/\text{dry tonne}$ of residuals or 0.06 tonnes $\text{CH}_4/\text{wet tonne}$ assuming the residuals have 30% solids content.

The proposed default value of 0.06/year for the methane generation rate constant, k , for pulp and paper mill landfills is also probably too high. To our knowledge no scientific investigation of k for pulp and paper mill landfills has ever been completed. However, anecdotal information suggests that the rate of gas generation at such landfills is usually lower than at municipal solid waste (MSW) landfills. EPA's default k for MSW landfills in AP-42 is 0.04/year. The default value in the WRI/WBCSD GHG Protocol GHG Calculation Tool is 0.03/year.

As noted earlier, AF&PA suggests that the WRI/WBCSD GHG Protocol GHG Calculation Tool be allowed for use in calculating landfill methane emissions. This tool, including the default values for L_0 and k , has been peer reviewed² and its use is widespread within the industry. The foregoing discussion supports use of the default values for L_0 and k in the tool, but site-specific values should be allowed if they are known.

In addition to the scientific and calculation methodologies described above, AF&PA is concerned about a number of recordkeeping and reporting requirements that are prescribed in the proposed rule and appear to be geared toward MSW landfills and not captive industrial landfills. The proposed rule also requires certain data to be provided that do not appear to be necessary to calculate or verify emissions from landfills. These issues are more fully described below.

- AF&PA objects to the requirement to weigh truckloads entering landfills, let alone to 2% accuracy. This requirement appears to be written for MSW landfills and it is not common practice for captive industrial landfills to physically weigh inputs. Instead we recommend that estimation methods outlined in the proposal to calculate previous years' data be applied in future years as well. To require physical measurement of each load in reporting years is overly burdensome, costly and does not significantly enhance the accuracy of emissions estimates. A facility should, however, have the option to amend these calculations to reflect site specific circumstances and deposition rates.

² WRI and WBCSD organized the peer review process which included evaluation by experts from the pulp and paper industry, the American Petroleum Institute (API), and the Center for Energy Efficiency (GENEf) in Russia, in addition to detailed review by WRI and WBCSD staff.

- The data reporting requirements in Section 98.346 again appear geared toward MSW landfills. Much of this data either doesn't exist or does not appear to be required to estimate GHG emissions. Specifically, it is recommended that the provisions in 98.346 that are not explicitly required to estimate emissions be deleted. AF&PA at a minimum believes these include paragraphs c,d,l,m,v,w,x, and y.
- Finally, the forest products industry does not typically collect gases from its landfills and consequently does not continuously monitor flow and composition in gas collection systems. The industry quite often does not produce enough gas to even flare it. Therefore, instead, we suggest that the formulas found in the WRI/WBCSD GHG Protocol GHG Calculation Tool also be an available option used to calculate emissions from these types of systems.

4). Wastewater Treatment

- a) EPA's proposed method of calculating and reporting methane emissions from industry wastewater treatment systems requires clarification. **AF&PA interprets the proposed rule only to address those wastewater treatment processes that specifically employ anaerobic biological treatment processes, such as anaerobic reactors, anaerobic lagoons and anaerobic digesters.** For example, the proposed rule includes the following language:
 - a. *§98.352 GHGs to report. (a) You must report annual CH₄ emissions from anaerobic wastewater treatment processes...*
 - b. *§98.353 Calculating GHG emissions. The flow and COD should reflect the wastewater treated anaerobically on site in anaerobic systems such as lagoons.*

The terminologies "anaerobic wastewater treatment processes" and "wastewater treated anaerobically on site in anaerobic systems such as lagoons" have specific meaning to wastewater treatment professionals that would exclude all unit operations not specifically designed to utilize anaerobic microorganisms to degrade organic matter. However, Table II-1 in §98.358, *Definitions*, suggests that reporting is also required for aerobic treatment systems, and different methane conversion factors (MCFs) are specified for "centralized aerobic treatment system, well-managed" (MCF = 0), and "centralized aerobic treatment system, not well-managed (overloaded)" (MCF = 0.3). Inasmuch as all pulp and paper industry facilities are designed and operated to routinely comply with NPDES permit limits for BOD₅, TSS and other parameters, there are no systems that would fall into the latter category. Thus, the vast majority of facilities would be reporting zero methane emissions from wastewater treatment operations based on this interpretation of the proposed rule.

- b) If the proposed rule is intended to apply to all wastewater treatment operations, including those that are not specifically designed to employ anaerobic biological

treatment processes, the methane conversion factor (MCF) values used in calculating estimated methane emissions should reflect a range rather than a single value. MCF values indicate the degree to which a given system is anaerobic, with values theoretically ranging from 0 to 1.0. The values provided in Table II-1 are based on information given in the IPCC Guidelines for GHG Inventories (IPCC 2006), which provides a range of values for each system type, offering the reporting entity the option of reporting emissions that may be small but not zero. For example, the IPCC guidance indicates that well-managed aerobic treatment systems can have some methane emissions from "settling basins and other pockets" and suggests a range of MCF from 0 to 0.1, whereas the EPA proposal specifies a MCF of zero for these systems. Allowing user discretion in choosing a value for the MCF would accommodate future adjustments based on new information in this emerging field.

Industry data from a small number of pulp and paper mill wastewater treatment operations suggest that methane emissions can be non-zero even for well managed aerobic systems. Thus, flexibility is needed to allow facilities to report their best estimates of methane emissions. Table 1 summarizes the data collected by NCASI at aerated treatment operations using influent BOD₅ loading as a measure of the wastewater's biodegradable organic content with potential to generate methane (as is typical of industry practice, COD data was not collected). Using data for measured methane emissions and BOD₅ loadings collected over a few days, a MCF was calculated for each system tested using Equation II-1 in the proposed rule, rearranged to solve for MCF and using BOD₅ in place of COD and a BOD-based factor for maximum methane producing potential (B₀), as shown in Equation 1. The numerator is the measured methane emissions and the denominator is the maximum methane generation potential of the wastewater.

$$\text{MCF} = \text{CH}_4 / (\text{Flow} * \text{BOD}_5 * \text{B}_0 * 1000) \quad \text{Equation 1}$$

Where:

MCF = Methane conversion factor (fraction of wastewater treated anaerobically)

CH₄ = Methane emissions (g/s).

Flow = Volumetric flow rate of wastewater (m³/s)

BOD₅ = Concentration of five-day biochemical oxygen demand of influent wastewater (kg/m³)

B₀ = Maximum CH₄ producing potential of wastewater (kg CH₄ /kg BOD₅), default is 0.60 (per IPCC (2006) guidance)

1000 = Conversion factor from kg to g

Table 1. Calculated MCF Values for Four Secondary Biological Treatment Systems Based on NCASI Data for Methane Emissions and BOD₅ Loading (NCASI Technical Bulletin No. 956 (NCASI 2008))

Mill	Basin Name	Basin type	Basin Area, acres	Methane emissions, g/s	BOD ₅ loading, g/s	Maximum methane potential ³ , g/s	calculated MCF
A	ASB No. 1	ASB ¹	28	3.89	592	355	0.011
D	No. 1 ASB	ASB	46.6	1.9	137	82	0.023
E	ASB	ASB	72	5.82	533	320	0.018
F	AST	AST ²	2.38	0.239	259	155	0.002

¹ASB = Aerated Stabilization Basin

²AST = Activated Sludge Treatment

³assumes a B₀ value of 0.6, i.e., the maximum methane potential is 60% of the BOD₅ (per IPCC guidance).

NCASI Special Report No. 08-05 also describes the methods in which the data were used to estimate industry-wide emissions of methane from pulp and paper industry waste water treatment plants (see page 12). The results of this analysis, presented in Table 2.9, are that combined emissions of methane from industry wastewater management systems are estimated to have been 0.40 Tg CO₂ eq. in both 1990 and 2004. Given that total direct emissions due to fuel combustion at U.S. pulp and paper mills were 57.7 Tg CO₂ eq. in 2004, 0.4 Tg CO₂ eq from wastewater treatment comprise less than one percent of the industry's fuel combustion-related emissions.

In addition to the enhancements suggested above, AF&PA is concerned over certain elements of the monitoring provisions as more fully described below:

- c) Required weekly monitoring of influent organic loads is excessive given the small amounts of methane emitted from wastewater treatment plants. Monthly monitoring is sufficient to provide an adequate characterization of these loads.
- d) **EPA should allow the use of BOD₅ rather than COD as a measure of the organics in wastewater that can degrade to methane.** The IPCC (2006) guidance that EPA cites as the source of their proposed method for estimating methane from wastewater treatment operations specifically states that use of B₀ based on BOD₅ is good practice (IPCC 2006) and only mentions use of a B₀ based on COD as relevant for use when estimating the potential for methane from domestic wastewater treatment systems. Chemical oxygen demand (COD) of the influent wastewater may not be a technically sound basis for estimating methane emissions for pulp and paper wastewaters that contain wood-derived materials such as cellulose fibers and dissolved lignin degradation products, as these

materials are not biodegradable in time frames representative of industry treatment systems. Thus, influent COD may overstate the potential for methane generation. Facilities should be given the flexibility to use BOD5 rather than COD, as this parameter is more appropriate for estimating methane from industrial wastewater treatment systems.

- e) Should COD be retained, the rule should provide that all EPA approved methods for monitoring COD in wastewater are allowed to be used for the purposes of this rule. There are several analytical methods for measuring COD, some of which generate hazardous wastes containing, for example, chromium and mercury.
- f) Where appropriate, reporting facilities should be given the option of using flow measurements made at locations downstream of the treatment unit for which methane emissions are being estimated. Flow monitoring of influent streams is not widely practiced at mills, and may require costly modifications to install a flow measuring device in a collection system. Effluent discharge flow measuring devices such as weir, flumes, and venturi meters used for compliance monitoring must be calibrated and maintained on a regular basis per NPDES discharge permits conditions, and are much more likely to provide accurate flow data than meters installed upstream in collection or treatment systems. Where evaporative and other water losses between the influent and the point at which flow is measured are deemed to be significant (e.g., >5% of measured flow), engineering calculations could be used to adjust the measured flows.

5). Supplier of CO₂

Based on the definition of "Suppliers of CO₂" in the rule, it appears that pulp and paper mills that export CO₂ to precipitated calcium carbonate (PCC) plants are required to report these exports. However, Section 6.3 (p.25) of the Technical Support Document states that "these exports of CO₂ should not be included in the estimates of GHG emissions because they are not emitted by the mill." As explained in the TSD, the CO₂ used by PCC plants is made into limestone to be used as a filler in paper products. Unlike in other commercial uses of CO₂ where the CO₂ is ultimately released into the atmosphere, limestone is inherently stable and the CO₂ is never emitted back into the atmosphere during subsequent use and disposal. For this reason, **we contend that pulp and paper mills exporting CO₂ to PCC plants be categorically exempted from reporting requirements as "Suppliers of CO₂".**

In addition, and also explained in EPA's TSD for the Pulp and Paper Sector, for pulp and paper facility's exporting CO₂, CO₂ emission calculation results should be adjusted to reflect that not all of the fuel-derived CO₂ is emitted to the atmosphere. EPA reporting program requirements should provide guidance on adjusting these emissions (total actual emissions equals emissions calculated based on mass balance minus CO₂ captured rather than emitted). EPA should also recognize that the most common source of CO₂ capture is from kraft lime kiln vent which includes both fossil derived CO₂

and biogenic CO₂, and the guidance on adjusting calculated emissions to account for CO₂ capture should reflect this practice.

6). Treatment of Noncondensable Gases as source of process emissions

AF&PA is concerned about the treatment of non-condensable gases (NCGs) generated in pulp and paper mills. These are comprised of organic compounds that are biogenic and are required to be collected and combusted by regulation. The proposed rule references “thermal oxidizers” within Subpart AA 98.272(f) and refers facilities to Subpart C. It is unclear if this reference is related to fossil fuels that might be fired in these units to supplement efficient thermal destruction. Further, the proposed rule is silent about how these gases are to be considered when combusting in other units within a facility.

Based on EPA’s discussion of non-condensable gases in the Technical Support Document for the Pulp and Paper Sector and no explicit mention of them in the rule itself, it is unclear whether EPA is requiring emissions from the combustion of these gases to be included in GHG reporting totals. **Given that these quantities are small (representing less than 0.005% of emissions at a typical mill), and the gases themselves are not routinely measured and could be difficult to measure, we recommend that they be categorically excluded from reporting requirements.**

AF&PA is concerned over how these gases are treated because, as written, it appears that as no emission factors are currently provided in the proposed rule, the rulemaking defaults to Tier 3, which would require daily sample collection for carbon content and molecular weight. The requirement for daily monitoring of process gases appears to have been developed for a particular industry sector other than the Forest Products Sector. Daily monitoring of any process gases is not a current industry practice and would, in reality, be virtually impossible to implement given the extremely small quantities of NCGs produced. In addition, extensive procedures would need to be implemented to ensure that sampling could be done safely and could also potentially result in routine periods of ventings from these systems, both of which can be avoided, by specifically excluding the reporting of these gases. Further, EPA should consider such arguments for other industries where similar concerns may be present and the GHG contribution is negligible or the gases that are treated are biogenic in nature. In such circumstances, facilities would still be required to account for the combustion related to fossil fuels as determined through the appropriate subparts within the proposed rule.

Similarly, we request a categorical exemption for emissions from the combustion of tall oil and turpentine. As discussed in the Technical Support Document, these products are used as fuel in very small quantities and therefore emissions are small and are biogenic in nature. For these reasons, no emissions factors exist. As in the case of NCGs, Tier 3 monitoring would be inappropriate.

7). Reporting Procedures

Once in always in

AF&PA recommends that if a facility's emissions fall below the 25,000 tons per year threshold that it only be required to report emissions in the first year it falls below the threshold and not be required to report emissions in subsequent years in which emissions remain below the threshold. To do otherwise penalizes facilities that have made improvements to reduce their GHG emissions or that have had to reduce production due to financial and/or market concerns (e.g. the current recession).

Confidential Business Information

At no time should facility level reporting of confidential business information be made available to the public. Most GHG data are a direct derivative of a manufacturing facility's energy use, and such information is frequently and historically deemed business confidential, especially in energy intensive industries such as the forest products industry. In particular, fuel usage quantities, by fuel type, by unit, is considered confidential by most entities. Such detailed information contained in facility level reports should remain private; consistent both with existing state and federal laws that provide for the protection of confidential business information and with the obligations reporting entities must conform to under U.S. federal antitrust rules. AF&PA urges EPA to require that such supporting documentation be retained onsite and be available for audit rather than collecting it where it will then be subject to public disclosure. Furthermore, EPA should restrict the right to review and audit that data to authorized government agencies bound by state and federal rules for the protection of confidential business information.

De minimis

In addition to EPA's identification of specific sources for reporting, there should be an aggregate de minimis exclusion of 5% for a facility. If any of the EPA named sources that are required to report within a facility fall below the de minimis level, the entity/facility should not be required to report those emissions. In aggregate, combined emissions from such sources can not exceed the de minimis level. Examples of such sources for the pulp and paper industry would likely be landfills and wastewater treatment systems. As NCASI analysis indicates, these combined emissions represent less than 3% of the industry's fossil fuel based emissions. The administrative burden of reporting emissions below such a threshold is not warranted

Exclusion of forests for reporting requirements

AF&PA supports EPA's recognition that forests in the U.S. are a net carbon sink for greenhouse gases, rather than a net source. Accordingly, emissions related to managed forests and land management should not be reported, nor included under any regulatory system that might be adopted. Instead, forestry practices should be eligible to participate voluntarily in offset programs on a project basis. All existing GHG international protocols treat forestry in this manner

Verification Requirements

We agree with the proposed rule that third party verification should not be required under the EPA Reporting Rule. Reporting under mandatory programs, like that

practiced under traditional environmental regulations, is subject to government review and enforcement and does not require (expensive) third party audits. Companies should be allowed to attest to the veracity of their data as they do in other state and federal environmental programs and be subject to state authorized audits of such information. U.S. manufacturers have a long history of providing truthful emissions and other environmental data to regulatory authorities under penalty of law. This approach is effective, has a proven record, and should be applied to this situation as well. The need for third party verification should be market-driven, not mandated by government.

Data Reporting Requirements

Notwithstanding the issues raised above, it is difficult to understand the format that EPA will use to collect this information if reported. The proposed rule does provide specific details of information that is required to be submitted in addition to emissions, but it is unclear as to manner in which the data will be collected. AF&PA is concerned over this lack of clarity and is unsure how EPA will develop a platform that will cover the potentially different methods facilities use to determine fuel inputs. EPA should, instead, consider a requirement that company records providing detailed descriptions of calculation methodologies and key parameters used in those calculations be maintained on site, but not reported. This would simplify the burden to industry and significantly reduce the burden to EPA to collect, interpret and understand the data it is collecting from thousands of facilities.

Certification Language

AF&PA disagrees with the language on certification requirements contained in proposed 40 CFR 98.3(e). As written, it could be read to make the certifying official the guarantor of the accuracy of the information submitted even though he or she may have done everything that could reasonably be expected.

This problem could be cured by inserting the word "reasonable" so that the regulation would provide for certifications based on "**reasonable** inquiry of those individuals with primary responsibility." No harm to EPA's reporting program would result from this change, since EPA clearly does not intend to require unreasonable or beyond reasonable inquiry by certifying officials. Instead, it would provide assurance to certifying officials that EPA does not intend to impose such unreasonable burdens.

Such changes would make the certifying language consistent with the language for Title V permit compliance certifications, which requires only a reasonable inquiry (see 40 CFR 70.5(d)). Such a reasonableness assurance is even more appropriate here than for Title V, for two reasons. First, as a matter of simple logic and fairness, the reporting liabilities for a broad-based information gathering program to which no emission reduction requirements are currently attached should certainly not be **stricter** than the requirements for certifying compliance with binding emission controls. Second, as AF&PA has discussed with EPA, quantifying GHG emissions is a new and difficult technical enterprise that will require many reporting facilities to resolve numerous uncertainties and use new and sometimes incompletely proven quantification tools. We

acknowledge there must be accountability for these efforts, but we believe a strict liability standard is inappropriate.

AF&PA understands that the self-certification with EPA verification approach, which we support, will in some cases require EPA to examine plant records and backup data to assure the quality of emissions reports.

In making those examinations, EPA should be aware of a wide-spread practice that does not provide any grounds for concern about the accuracy of reports. Specifically, facilities often measure the same thing in different ways corresponding to the different purposes for which the measurement is made. So, for example, fuel consumption or a close equivalent may be measured in one way for financial accounting purposes, in another for inventory management, and in yet another for purposes of process control. Even emissions, including GHG emissions, may be measured differently for any of these reasons, or because they are subject to different reporting requirements for GHG that have grown up in different ways or may have different legally prescribed design requirements.

Such different approaches should not in themselves be cause for any concern about the accuracy of reports under the final GHG reporting rule as long as the facility has met the requirements of the GHG reporting rule itself. On the contrary, such differences are inevitable and unavoidable, and a natural part of managing a complex facility. EPA should administer the GHG reporting program in awareness of that fact.

Title V Permits

EPA should clarify the relationship of the GHG reporting rule and Title V operating permit requirements, with a preference that EPA develop regulatory language to exclude the GHG reporting rule as a Title V applicable requirement. The GHG Reporting Rule is silent on the obligations of a Title V operating permit holders with regards to inclusion of the GHG reporting rule elements. AF&PA believes that the GHG Reporting Rule is not an applicable requirement for purposes of the Title V operating permit program. 40 CFR 70.2 defines "applicable requirement." Every one of the requirements listed in this definition is either an emission control regulation or supports an emission control regulation. That is appropriate, as the purpose of Title V was to codify all Clean Air Act emission control requirements in one place. However, GHG as such and carbon dioxide in particular are not subject to CAA emission control requirements and do not fall within this purpose. Moreover, section 114(a)(1) of the Clean Air Act, the legislative authority cited for this proposal, (see 74 Fed. Reg 16454), has never before to our knowledge been used to support Title V "applicable requirements". We see no reason to start now. There will be no regulatory gain from making GHG reporting obligations into Title V "applicable requirements." As EPA is well aware section 114(a)(1) reporting obligations have proved fully enforceable for decades in a wide variety of contexts without being part of the Title V permit.

It is clear that the current GHG reporting rule will eventually be replaced by requirements designed to implement mandatory GHG controls at such time as those

controls might be adopted. There will be no gain in requiring sources and regulators to incorporate such a major new program as the current proposal in the Title V process when that incorporation will have to be undone in a few years. Instead, EPA should allow the GHG reporting rule to remain a free-standing obligation and should consider the question of Title V incorporation only when a more permanent program is adopted.

8). Definitions (98.6)

Spent liquor solids and spent pulping liquor

AF&PA is encouraged by the definition that EPA has proposed for biomass. As proposed the definition includes materials routinely combusted at forest products sites. Specifically, it would include spent pulping liquors. This is further supported by both Subpart AA and the Technical Support Document for the Pulp and Paper Sector which specifically state that spent liquor solids and spent pulping liquor are biogenic.

Clarification of biogenic emissions reported separately

Although the preamble indicates that biogenic CO₂ is to be reported separately from greenhouse gases, this is not clear in the proposed rule itself. We recommend that this be clarified in the rule language itself.

Items on which EPA specifically requested comment (if not previously addressed)

- a). AF&PA agrees that entities should not be required to report purchased electricity. This information has historically and correctly considered confidential business information. AF&PA supports the reporting of the quantity of electricity produced by a facility's combined heat and power operations, by fuel type. We are the leading producer and user of carbon-neutral, renewable biomass energy, generating 28.5 million megawatts annually—enough to power 2.7 million homes. On average, paper and wood products facilities generate 65 percent of their energy needs from carbon neutral, renewable biomass. The forest products industry has more combined heat and power or “co-generation” capability than all other industries combined and nearly all paper and wood products mills produce the majority of their electricity via using co-generation technology.
- b). AF&PA agrees with EPA's proposal not to require reporting by upstream suppliers of biomass-based fuels, or renewable fuels. The majority of biomass in the U.S. is supplied by thousands of small private landowners who not only do not have the resources to comply with such reporting requirements, but quite often do not know whether the biomass supplied will be used for fuel or other end uses such as saw timber or mulch.

c). EPA proposes to require monthly higher heating value determinations and monthly carbon content determinations for spent pulping liquors. As we have addressed earlier in these comments, we propose that EPA allow the use of the IPCC (2006) default heating value of 11.8 TJ LHV/Gg (equivalent to 10.7 MMBtu HHV / short ton BLS). Regardless of how heating value is determined, requiring monthly determinations is unnecessary. Facilities should have flexibility to determine the appropriate frequency of these measurements or calculations.

d). AF&PA agrees with EPA's proposal not to require separate reporting of biogenic process emissions, specifically with regard to kraft mill lime kilns. Biogenic emissions from the calcination of lime mud are not combustion related emissions, but could be considered to be process emissions. However, as described in EPA's TSD for the Pulp and Paper Sector, these emissions (from calcination of lime mud) are typically performed based on black liquor carbon content such that emissions of biomass CO₂ from the recovery furnace and lime kiln are reported together. In addition, to avoid any confusion, it would be useful to add a sentence to the rule to clarify that pulp and paper sector lime kilns are not covered in the cement kiln section.

e). EPA requests comments regarding the appropriate details to be reported in terms of quantities of biomass fuel use since purchase records may not be applicable. AF&PA believes that, given the range of methods employed by facilities to track biomass, the rule should allow a facility to report whatever the basis is for the calculation method employed.

References:

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National Council for Air and Stream Improvement, Inc. (NCASI). 1999. Technical Bulletin No. 790. *Evaluation of the EPA-recommended approach to predicting air emissions from pulp and paper industry landfills.*

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Supplemental AF&PA Comments on EPA Mandatory Reporting of Greenhouse Gases Proposed Rulemaking

August 10, 2009

In addition to its detailed comments on EPA's proposed Mandatory Greenhouse Gas Reporting Rule submitted on June 9, 2009, AF&PA respectfully submits the following additional comments to EPA for its consideration.

Emission Factors

Table AA-1 of Subpart AA provides emission factors for five specific types of Kraft Pulping Liquor. Many facilities combine wood types during the pulping process. The resultant factor contributes to biogenic CO₂ calculations and varies by wood type. EPA should provide direction regarding how a factor is to be determined when multiple wood types are utilized within a single facility. AF&PA proposes that EPA allow entities to develop their own factors based on pro-rating appropriate species-dependent default factors.

EPA should provide background reference material regarding how factors in Table AA-1 were developed. The values for biogenic CO₂ in Table AA-1 are very close to, but not equivalent to, those provided in the WRI/WBCSD GHG Protocol Calculation Tools for the pulp and paper sector. The CH₄ and N₂O factors provided in Table AA-1 are quite a bit higher than those in the WRI/WBCSD Tools.

For spent pulping liquors, EPA requires the measurement of carbon content even though it wisely does not require its use for estimating CO₂ emissions. We do want to caution EPA that the ASTM standard D5373, that specifically is for determining carbon, nitrogen, and hydrogen content of coal, which EPA references for carbon content measurement is probably not valid for alkali-containing materials and may lead to significant under calculation of CO₂ emissions.

In our comments of June 9th, AF&PA requested a categorical exemption for emissions from the combustion of tall oil and turpentine given that these products are used as fuel in very small quantities and therefore emissions are small and are biogenic in nature. In addition, the carbon in methanol, red oil from condensate strippers, and that in the wood of railroad ties, materials which are combusted at some forest product mills, is biogenic. Therefore, emissions from combustion of these materials should be exempt from reporting. However, if EPA should decide to require reporting from these sources, EPA should provide emissions factors for facilities to use to calculate emissions rather than requiring burdensome direct measurement for such minor sources.

For combustion units using Tier 3 reporting, wherein best company records are used for reporting, many combustion units burning solid fuel use a common feed system. For most facilities, making separate determination of multiple biomass fuels is impractical. It would be less burdensome and no less accurate for CO₂ emissions reporting if all biogenic based fuel were to be calculated as a single combined fuel using best company records. We note that EPA already has a precedent in that it provides an approach for natural gas delivered through common piping that is similar to what we are proposing for solid biomass feed systems.

Issues related to Continuous Emissions Monitors

As stated in our June comments, AF&PA believes that Tier 4 methodology is unnecessary and at most should be made optional for facilities. In addition to the estimated cost to add CO₂ analyzers to existing units (an estimated 75 boilers would require an additional \$45,000 per unit in upfront costs which could total \$3.4 million dollars), there are operational expenses as well as additional costs to be considered.

For example, stack gas flow measurements are prone to pitot-tube pluggage. Accurate measurements will require a steam flush at least once every eight hours. Constructing steam flow lines to locations where stack flow is measured will be costly. In addition, a reasonable estimate of the cost of this steam (essentially lost energy) would be \$10,000 per CEMs. The fuels consumed to provide this steam also produce greenhouse gases. These costs do not include the additional maintenance requirements and quality assurance costs that would be associated with additional CEMs.

Forest product mills are not configured like utilities where CEMs are commonly employed. In configurations where multiple boilers exhaust to a common stack, it will be difficult to get a long enough straight run to install stack flow measurements. This may create inaccuracies in reported CEMs data, reinforcing the notion that emissions factors are more than acceptable, if not preferable, for reporting GHG's from such systems.

Another seemingly minor point, but potential source of reporting error lies in the use of multiple metrics for data reporting. When CEMs are in use, 98.36(D)(1)(vii) requires reporting of CO₂ emissions in units of volumetric CO₂ (scf) along with mass emissions of CO₂ (metric tons). Computing CO₂ emissions in multiple ways is burdensome and provides no benefit. Consequently only mass based emissions should be required.

Annual Reporting Frequency

We agree with and support EPA's proposal for annual reporting of GHG emissions. Annual reporting is the most appropriate reporting schedule for this type of emission to air, where there is no local or short-term impact anticipated. It is consistent with other GHG inventory programs (e.g. Annex I countries in the United Nations Framework Convention on Climate Change report annually) and inventory-focused environmental

media emission reporting programs in the US, e.g. the Toxic Release Inventory (TRI). There also would accrue no benefits from more frequent reporting (e.g. quarterly) with regard to data quality, which includes elements such as data accuracy or QA/QC activities. Consequently, the accuracy of the calculated GHG emissions would not improve if reported more frequently. A more frequent reporting schedule would impose a burdensome, unnecessary and costly paperwork exercise on the reporters. Also, because EPA's proposed Tier 1, 2 and 3 calculation methodologies require direct measurement of the fuel usage, and in some cases fuel testing, the annual reporting time frame will allow facilities to properly conduct these activities (including all of the associated QA/QC procedures), as well as provide the necessary time to perform the calculations.

In its proposed rule preamble¹ EPA suggests that future GHG regulatory programs, such as a cap-and-trade structure similar to the Acid Rain Program, might require more frequent (e.g. quarterly) reporting. While AF&PA will evaluate and comment on the merits of any such proposed rule when it is proposed, we note that EPA must be suggesting future quarterly reporting for all covered facilities in a cap-and-trade program in deference to that existing requirement for electric utility generating units in the Acid Rain and CAIR programs and other industry in the NOx SIP Call program. We suggest that EPA should not consider bringing all other facilities into a frequent reporting requirement without understanding the cost-benefit aspects of imposing such a requirement. There are far more facilities outside of those programs that are expected to be within this GHG reporting rule.

Timing of Reporting

EPA proposes at §98.3(b) that each annual report be delivered by March 31 of the year following data collection. We urge EPA to consider resetting this to a reporting date in the 3rd quarter of the year. Our members' experiences with GHG data collection, calculations and internal verifications leads us to appreciate the need for additional time to accomplish the task necessary to do the reporting accurately. As proposed we believe the schedule will create unnecessary disruption and burden in many cases. We also note the data is not time sensitive from an environmental impacts aspect since the GHG emissions are significant from a global mixing process perspective and timeframe, not a local or acute health perspective. Similarly, with regards to future regulatory caps or other reduction programs, setting a first quarter reporting period should not be an imperative. Other GHG reporting programs have later in the year reporting deadlines to accommodate the data collection and reporting, as does the TRI program. We believe it would cause no impact in the program to move the reporting date.

¹ See Fed. Reg. 74(68) at pg 16472.