

The EPA Administrator, Lisa P. Jackson, signed the following proposal on 03/11/11, and EPA is submitting it for publication in the *Federal Register* (FR). While we have taken steps to ensure the accuracy of this Internet version of the rule, it is not the official version of the rule for purposes of compliance. Please refer to the official version in a forthcoming FR publication, which will appear on Government Printing Office's FDSys website (<https://fdsys.gpo.gov/fdsys/search/home.action>) and on Regulations.gov (<http://www.regulations.gov>) in Docket No. EPA-HQ-OAR-2011-0083. Once the official version of this version of this document is published in the FR, this version will be removed from the Internet and replaced with a link to the official version.

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51, 52, 70, and 71

[EPA-HQ-OAR-2011-0083; FRL-]

RIN 2060-AQ79

Deferral for CO₂ emissions from Bioenergy and Other Biogenic Sources under the Prevention of Significant Deterioration (PSD) and Title V Programs: Proposed Rule

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed Rule.

SUMMARY: This action proposes to defer for a period of three (3) years the application of the Prevention of Significant Deterioration (PSD) and Title V permitting requirements to biogenic carbon dioxide (CO₂) emissions from bioenergy and other biogenic stationary sources. This action is being taken as part of the process of granting the Petition for Reconsideration filed by the National Alliance of Forest Owners (NAFO) on August 3, 2010, related to the PSD and Title V Greenhouse Gas Tailoring Rule.

DATES: Comments. Comments must be received on or before [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

Public Hearing. EPA will hold one hearing on this action. The hearing will be conducted on [INSERT THE DATE 15 DAYS AFTER THE DATE OF PUBLICATION IN THE FEDERAL REGISTER], in the Washington, DC area. The EPA will provide further information about the hearing on its webpage: <http://www.epa.gov/NSR/actions.html>. To register to speak at the hearing, please go to the webpage: <http://www.epa.gov/NSR/actions.html> or contact the person listed in the "**FOR FURTHER INFORMATION CONTACT**" section.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2011-0083 by one of the following methods:

Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the online instructions for submitting comments.

E-mail: GHGbiogenic@epa.gov. Include docket ID No. EPA-HQ-OAR-2011-0083 in the subject line of the message.

Fax: (202) 566-9744.

Mail: Environmental Protection Agency, EPA Docket Center (EPA/DC), Mailcode 28221T, Attention Docket ID No. EPA-HQ-OAR-2011-0083, 1200 Pennsylvania Avenue, NW., Washington, DC 20460.

Hand/Courier Delivery: EPA Docket Center, Public Reading Room, EPA West Building, Room 3334, 1301 Constitution Avenue, NW., Washington, DC 20004. Phone: (202) 566-1744. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OAR-2011-0083. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at <http://www.regulations.gov>, including any personal

information provided, unless the comment includes information claimed to be confidential business information (CBI) or other information whose disclosure is restricted by statute.

Do not submit information that you consider to be CBI or otherwise protected through <http://www.regulations.gov> or e-mail. Send or deliver information identified as CBI to only the mail or hand/courier delivery address listed above, attention: Docket ID No. EPA-HQ-OAR-2011-0083. The <http://www.regulations.gov> website is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through <http://www.regulations.gov> your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid

the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the <http://www.regulations.gov> index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in <http://www.regulations.gov> or in hard copy at the Air Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. This Docket Facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Carole Cook, Climate Change Division, Office of Atmospheric Programs (MC-6207J), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: (202) 343-9334; fax number: (202) 343-2342; e-mail address: biodeferralPSD@epa.gov.

Worldwide Web (WWW): In addition to being available in the docket, an electronic copy of today's proposal,

memoranda to the docket, and all other related information will also be available through the WWW on EPA's website at <http://www.epa.gov/NSR/actions.html>

SUPPLEMENTARY INFORMATION:

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this document.

ANPR	Advanced notice of proposed rulemaking
BACT	Best Available Control Technology
BAU	Business as usual
CAA	Clean Air Act
CAR	U.S Climate Action Report
CBI	Confidential Business Information
CFI	Call for Information
CFR	Code of Federal Regulations
CH ₄	methane
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalents
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FR	Federal Register
GHG	Greenhouse gas
GWP	Global warming potential
HFC	Hydrofluorocarbon
ICR	Information Collection Request
IPCC	Intergovernmental Panel on Climate Change
LULUCF	Land-Use, Land-Use Change and Forestry
MSW	Municipal solid waste
N ₂ O	Nitrous oxide
NAFO	National Alliance of Forest Owners
NAAQS	National Ambient Air Quality Standards
NO _x	Nitrogen oxides
NSPS	New Source Performance Standards
NSR	New Source Review
NTTAA	National Technology Transfer and Advancement Act of 1995
OMB	Office of Management and Budget
PFC	Perfluorocarbon
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RFA	Regulatory Flexibility Act
SMC	Significant monitoring concentration

SF ₆	sulfur hexafluoride
SIL	Significant impact level
SIP	State implementation plan
SMC	Significant monitoring concentration
Tg	Teragram
tpy	Tons per year
U.S.	United States
UMRA	Unfunded Mandates Reform Act
UNFCCC	United Nations Framework Convention on Climate Change
USDA	U.S. Department of Agriculture
WWW	Worldwide Web

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I. General Information

A. What is the purpose of this action?

This action proposes to defer for a period of three (3) years the consideration of CO₂ emissions from bioenergy and other biogenic sources (hereinafter referred to as "biogenic CO₂ emissions") when determining whether a stationary source meets the Prevention of Significant Deterioration (PSD) and Title V applicability thresholds, including those for the application of Best Available Control Technology (BACT). Stationary sources that combust biomass and construct or modify during the deferral period will avoid the application of PSD to the biogenic CO₂ emissions resulting from those actions. This deferral applies only to CO₂ emissions and does not affect non-GHG pollutants or other greenhouse gases (GHGs) (e.g., methane (CH₄) and nitrous oxide (N₂O)) emitted from the combustion of biomass fuel. Also, this does not affect any other EPA programs that pertain to stationary sources, such as New Source Performance Standards (NSPS) or the GHG Reporting Program.

On January 12, 2011, EPA explained in letters to Members of Congress and to the National Alliance of Forest Owners (NAFO), the steps that the Agency intends to take to address the issues associated with biogenic CO₂ emissions from stationary sources.¹ First, EPA granted a Petition for Reconsideration filed by the NAFO on August 3, 2010, related to the PSD and Title V Greenhouse Gas Tailoring Rule (75 FR 31514, June 3, 2010) ("Tailoring Rule"). Second, the Agency is proposing this rule to defer for three years the application of the PSD and Title V permitting requirements to biogenic CO₂ emissions from stationary sources. Third, concurrent with this rulemaking, we are providing an interim guidance document (discussed further in section III.D.3) to help permitting authorities establish a basis for concluding that BACT for biogenic CO₂ emissions at stationary sources is the combustion of biomass fuels by itself. Fourth, EPA will be conducting a detailed examination of the science associated with biogenic CO₂ emissions from stationary sources. This examination will include discussion with partners and scientists both inside and outside the federal government, as well as engagement with an independent scientific panel,

¹ See Docket EPA-HQ-OAR-2011-0083 for copies of the letters or <http://www.epa.gov/nsr/actions.html#jan11>

to consider technical issues that the Agency must resolve in order to account for biogenic CO₂ emissions in ways that are scientifically sound and also manageable in practice (discussed further in section II.C and II.D). Finally, EPA intends to use the feedback from the scientific and technical review to develop a rulemaking on how these emissions should be treated and accounted for in PSD and Title V permitting.

B. Does this action apply to me?

This action applies to stationary sources that emit biogenic CO₂.

Table 1. Examples of Affected Entities by Category

Category	NAICS	Examples of affected facilities
Biomass combustion	221	Electric utilities burning biomass fuels.
	321	Wood products manufacturing, and wood pellet fuel manufacturing.
	322	Pulp and paper manufacturing.
Municipal solid waste combustion	562213	Solid waste combustors and incinerators.
Sources/users of biogas	112	Animal production manure management operations.
	221320	Sewage treatment facilities.
	562212	Solid waste landfills.
Fermentation processes	325193	Ethanol manufacturing.
Other	311/312	Food/Beverage processors burning agricultural biomass residues, using fermentation processes, or producing/using biogas from anaerobic digestion of waste materials.

Table 1 of this preamble lists the types of entities that potentially could be affected by the deferral covered by this proposal. This list is not intended to be exhaustive, but rather provides a guide for readers regarding facilities likely to be affected by this action. Note that this rule does not make or infer any policy determination on the part of EPA as to whether, or what part of, emissions from any of these sources may be determined "fugitive" emissions for the purposes of accounting and applicability under air permitting requirements. Such determinations are not within the scope of this rule and are part of the case-by-case application and review process established under the regulations covering these permitting requirements. If you have questions regarding the applicability of this action to a particular facility, consult the person listed in the "**FOR FURTHER INFORMATION CONTACT**" section of this preamble.

C. What are biogenic CO₂ emissions?

Carbon dioxide emissions from bioenergy and other biogenic sources (hereinafter referred to as "biogenic CO₂ emissions") are generated during the combustion or

decomposition of biologically-based material². In this action we are addressing only the CO₂ emissions from biogenic sources, not emissions of other GHGs or non-GHG pollutants. The term "biogenic CO₂ emissions" is defined here as emissions of CO₂ from a stationary source directly resulting from the combustion or decomposition of biologically-based materials other than fossil fuels. Examples of "biogenic CO₂ emissions" include, but are not limited to:

- CO₂ generated from the biological decomposition of waste in landfills, wastewater treatment or manure management processes;
- CO₂ from the combustion of biogas collected from biological decomposition of waste in landfills, wastewater treatment or manure management processes;
- CO₂ from fermentation during ethanol production;
- CO₂ from combustion of the biological fraction of municipal solid waste or biosolids;
- CO₂ from combustion of the biological fraction of tire-derived fuel; and
- CO₂ derived from combustion of biological material, including all types of wood and wood waste, forest residue, and agricultural material.

For stationary sources co-firing fossil fuel and biologically-based fuel, and/or combusting mixed fuels (e.g, tire-derived fuels, municipal solid waste (MSW),

² Non-fossilized and biodegradable organic material originating from plants, animals or micro-organisms (including products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material).

etc.), the biogenic CO₂ emissions from that combustion are included in this deferral. However, as stated above, the fossil CO₂ emissions are not. Various methods are available to calculate both the biogenic and fossil portions of CO₂ emissions, including those methods contained in the GHG Reporting Program (40 CFR 98). EPA is requesting comment on whether this deferral should specify that stationary sources subject to the PSD and Title V programs use a specific method(s) for determining their biogenic CO₂ emissions. EPA also seeks comment on other ways to ensure there is an accurate estimate of how much biogenic CO₂ is subject to the deferral for a specific facility, particularly when combusting mixed fuels.

D. What should I consider as I prepare my comments to EPA?

1. Submitting CBI

Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as

CBI must be submitted for inclusion in the public docket. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

Do not submit information that you consider to be CBI or otherwise protected through <http://www.regulations.gov> or e-mail. Send or deliver information identified as CBI to only the mail or hand/courier delivery address listed above, attention: Docket ID No. EPA-HQ-OAR-2011-0083.

If you have any questions about CBI or the procedures for claiming CBI, please consult the person identified in the "**FOR FURTHER INFORMATION CONTACT**" section.

2. Tips for Preparing Your Comments

When submitting comments, remember to:

Identify the rulemaking by docket number and other identifying information (e.g., subject heading, Federal Register date and page number).

Follow directions. EPA may ask you to respond to specific questions or organize comments by referencing a CFR part or section number.

Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.

Describe any assumptions and provide any technical information and/or data that you used.

If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.

Provide specific examples to illustrate your concerns and suggest alternatives.

Explain your views as clearly as possible, avoiding the use of profanity or personal threats.

Make sure to submit your information and comments by the comment period deadline identified in the preceding section titled **DATES**. To ensure proper receipt by EPA, be sure to identify the docket ID number assigned to this action in the subject line on the first page of your response. You may also provide the name, date, and Federal Register citation.

To expedite review of your comments by Agency staff, you are encouraged to send a separate copy of your comments, in addition to the copy you submit to the official docket, to Carole Cook, U.S. EPA, Office of Atmospheric Programs, Climate Change Division, Mail Code 6207-J, Washington, DC, 20460, telephone (202) 343-9263, e-mail GHGbiogenic@epa.gov. You are also encouraged to send a separate copy of your CBI information to Carole Cook at the provided mailing address in the "**FOR FURTHER**

INFORMATION CONTACT" section. Please do not send CBI information to the electronic docket or by email.

II. Relevant Background

The purpose of this section is to provide relevant background on this action. Section II.A provides basic information on biogenic CO₂ emissions including the relevant information concerning carbon source and sink dynamics and how biogenic CO₂ emissions are accounted for in the Inventory of U.S. Greenhouse Gas Emissions and Sinks (Inventory).³ While we are presenting this information for context, as explained in that section and in later parts of this preamble, the Inventory is an annual report that tracks US GHG emissions and sinks at the national scale. The Inventory is not intended to quantify the net atmospheric impacts of a particular type of fuel from a stationary source over a specified time period that extends into the future.

Section II.B identifies general information concerning the PSD and Title V permitting programs and the steps EPA undertook in the GHG PSD and Title V Tailoring Rule to

³ "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008, ." U.S. Environmental Protection Agency, EPA 430-R-10-006(, April 15, 2010).
<http://www.epa.gov/climatechange/emissions/usinventoryreport.html>.
(incorporated by reference into Docket EPA-HQ-OAR-2011-0083)

implement the requirements of those permitting programs in a common sense manner, given congressional intent and the overwhelming administrative burden that would otherwise have resulted if EPA were to apply the permitting programs to GHG at the statutory PSD and Title V thresholds. The relevant history and information concerning EPA's treatment of biomass under the Tailoring Rule and in subsequent GHG permitting guidance and other actions is also addressed.

Section II.C sets forth the complexities associated with determining the net atmospheric impact of biogenic CO₂ emissions and factors to consider to ensure the determinations are sound from a practical, predictable and scientific basis when accounting for these emissions in the PSD and Title V Programs.

Section II.D discusses information that is lacking and needed for EPA to determine how to account for the net atmospheric impact of CO₂ emissions from various types of feedstocks and facilities.

A. Carbon Source and Sink Dynamics

1. Cycling of CO₂ between plants and the atmosphere

Through relatively rapid photosynthesis, plants absorb CO₂ from the atmosphere and add it to their biomass, which contains roughly 50% carbon by weight, through a process called sequestration. Some of the carbon absorbed by

plants may eventually be transferred from dead organic matter to the soil where it can remain for long periods of time. Plant biomass, dead organic matter, and soil carbon are "pools" that together make up the carbon stock on a given area of land. Carbon can cycle fairly rapidly back to the atmosphere or it can remain stored on land. Stored carbon can be released naturally back into the atmosphere as CO₂ through decomposition or plant respiration.

When biological material such as plant biomass is harvested or cleared from the land, burned for energy, used as an input to an industrial process, or biodegraded as part of waste treatment processes, the material acts as a source of carbon, releasing its stored carbon back into the atmosphere as CO₂. Over large spatial scales such as states, regions, or continents, if more carbon is sequestered in plant biomass than is emitted to the atmosphere through processes such as harvest, fire, or natural decomposition, plant biomass acts as a net sink for carbon. Conversely, if more carbon is released than is sequestered, plant biomass acts as a net source for carbon. Soils can also be net sources or sinks depending on the balance of carbon added from biomass and lost through disturbances such as tillage or deforestation.

2. Treatment of biogenic CO₂ emissions in the U.S. GHG Inventory

National-level GHG inventories are a common starting point for quantification of the source and sink status for particular land areas. The Inventory tracks annual GHG emissions including emissions of CO₂, CH₄, N₂O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). The United States (U.S.) has submitted the Inventory to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) under its obligation as a Party to the Convention every year since 1993. The UNFCCC, ratified by the U.S. in 1992, defines the overall framework for intergovernmental efforts to tackle the challenge posed by climate change. The Inventory submitted by the U.S. is consistent with national inventory data submitted by other UNFCCC Parties, and uses internationally accepted methodologies established by the Intergovernmental Panel on Climate Change (IPCC).

The Revised 1996 IPCC Guidelines (IPCC Guidelines)⁴ provide methodologies for estimating all anthropogenic sources and sinks of GHG emissions at the national scale,

⁴ "Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories," Intergovernmental Panel on Climate Change (IPCC), Prepared by the National Greenhouse Gas Inventories Programme. (1996.). <http://www.ipcc-nggip.iges.or.jp/public/gl/invs1.html>.

classified into six broad sectors: Energy, Industrial Processes, Solvents and Other Product Uses, Agriculture, Land-Use Change and Forestry (LUCF), and Waste.

The Energy Sector includes all GHGs emitted during the production, transformation, handling and consumption of energy commodities, including fuel combustion. The LULUCF Sector includes emissions and sequestration resulting from human activities that influence the way land is used or that affect the size of carbon stocks on land. According to the IPCC Guidelines, CO₂ emissions from biomass combustion:

should not be included in national CO₂ emissions from fuel combustion. If energy use, or any other factor, is causing a long term decline in the total carbon embodied in standing biomass (e.g. forests), this net release of carbon should be evident in the calculation of CO₂ emissions described in the Land Use Change and Forestry chapter.⁵

Thus, at the national level, these CO₂ emissions are not included in the estimate of emissions from a country's Energy Sector, even though the emissions physically occur at the time and place in which useful energy is being generated (i.e., at a power plant or other stationary source). The purpose of this accounting convention is to

⁵ "Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories," Intergovernmental Panel on Climate Change (IPCC), Prepared by the National Greenhouse Gas Inventories Programme (1996). <http://www.ipcc-nggip.iges.or.jp/public/gl/invs1.html>. Reference Manual (Vol. 3), Page 1.10.

avoid double-counting of CO₂ emissions from the Energy Sector and LULUCF Sector that would provide a misleading characterization of a country's contribution to global GHG. Carbon dioxide emissions from a subset of bioenergy sources are reported as information items in the Energy Sector of the Inventory, but are not included in national fuel-combustion totals to avoid this double-counting at the national scale.⁶

The Inventory is a comprehensive report of emissions and sinks at the national scale. All biogenic CO₂ emissions, as defined in this deferral, are also included in the Inventory. However, because the Inventory is organized by broad sector, not by facility type, this deferral covers biogenic CO₂ emissions that may be reported in any sector of the Inventory.

3. Accounting for carbon stocks on land in the U.S. GHG Inventory

The LULUCF Sector includes all of the land-based source categories of GHG emissions and sinks. In the Inventory, EPA's estimate of emissions and sinks from U.S. land areas is divided into forest land, crop land,

⁶ The Energy Sector of the Inventory does include emissions of CH₄ and N₂O from the combustion of biomass for energy. These emissions are included in this sector because their magnitude is dependent on the specific way in which the fuel is burned (i.e., combustion technology and operating conditions), which cannot be known by analyzing the changes in the amount of carbon in standing biomass.

grassland, wetlands, settlements, and other land. The largest stocks of carbon are found on forestlands.

Data from the U.S. Department of Agriculture (USDA) Forest Service Forest Inventory and Analysis Program are used to develop national-scale estimates of forest carbon stocks and carbon stock change. The methodology relies on annual or periodic surveys to assess changes in carbon stocks over the entire forest land base. The overall change in land-based forest carbon stocks from year to year represents the net carbon balance between atmosphere and forest land. Importantly, this measurement of the net change in forest carbon stocks integrates and inherently includes all of the factors that might influence forest carbon stocks, such as insect outbreaks, wildfire, prescribed fire, all types of harvest (including harvest for bioenergy uses), forest management, enhanced growth, and land use change. As noted earlier, when trees are harvested and combusted to generate bioenergy, the CO₂ combustion emissions do not occur in the forest but rather in a power plant or industrial facility. Following the convention established by the IPCC in the Guidelines, EPA counts these emissions as part of the LULUCF sector for the official US Inventory.

In assessing CO₂ emissions from the LULUCF Sector, EPA looks to the net change in carbon stocks. Over the time period of interest, if the net change in forest carbon stocks is positive, then more carbon was sequestered on land in carbon pools (such as those described in section II.A.1) than was lost to the atmosphere (through all of the processes previously described, such as decomposition, fire, and harvest). In this case the land is acting as a net carbon sink. If the net change in land-based carbon stocks is negative, over the time period of interest more carbon was emitted to the atmosphere than was sequestered on land, and the forest was a net source for carbon.

Averaged over the years 1990-2008, data from the Inventory show that the LULUCF sector in the U.S. has been a net sink of roughly 815 teragrams (Tg) carbon dioxide equivalent (CO₂e) per year.⁷ This sink is about 12% of the average gross emissions from all other sources combined in the U.S. over the same time period.⁸ Future national projections under business as usual (BAU), as reported in

⁷ 84% of this amount is from carbon stock change in the forest source categories; the remainder comes from source categories such as Sequestration in Urban Trees and carbon stock changes in mineral soils on crop land and grassland. U.S. EPA, "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008" (See data archived at <http://www.epa.gov/climatechange/emissions/downloads10/2010-Inventory-Chapter-Tables.zip>). See also Tables 1 and 2, LULUCF sector C storage.pdf.

⁸ See U.S. EPA, "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008.," Table ES-4.

the Fifth U.S Climate Action Report (CAR) submitted to the UNFCCC in 2010, suggest that this LULUCF sink is likely to continue, if not increase in size, at least until 2020.⁹

In 2010, for the first time since EPA began tracking emissions and sinks, the Inventory included estimates of forest carbon stocks and stock change at the state level. Forestlands in seven (7) U.S. states (AZ, CT, ID, LA, MI, ND, and VT) were net sources of carbon averaged over the time period from 2000 to 2008. In one state (AK) the forestland was neither a source nor a sink.¹⁰ Forestlands in all other states were net sinks for carbon over that time period.

The IPCC Guidelines, as utilized in the Inventory, seek to estimate net changes in carbon stocks on land for a given period of time that occurred in the past. However, neither the IPCC Guidelines nor the Inventory were designed to quantify the net atmospheric impacts of a particular type of fuel from a stationary source over a specified time period, that extends into the future.

4. Distinction between biogenic and fossil CO₂ carbon reservoirs, and between biogenic CO₂ and non-GHG pollutants

⁹ U.S. Dept. of State, U.S. Climate Action Report 2010., at 81. www.state.gov/documents/organization/140636.pdf

¹⁰ U.S. EPA., "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008.," Annex 3.12 (Table A-210). <http://www.epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-2010-Annex-3-Addtl-Source-Sink-Categories.pdf>

Once CO₂ is emitted to the atmosphere, it is not possible to distinguish between the radiative forcing associated with a molecule of CO₂ originating from a biogenic source and one originating from the combustion of fossil fuel. Biogenic CO₂ differs qualitatively from fossil CO₂ in that there is a significant difference between fossil carbon and biogenic carbon in the length of time required to replenish the reservoirs where the carbon is stored. For example, many coal deposits in North America originated during the Carboniferous Period, hundreds of millions of years ago. In contrast, the reservoirs of carbon found on the surface of Earth, in pools such as tree biomass and cropland soils, have accumulated over decades, not millennia. Because these land-based biomass carbon stocks can be replenished more quickly than fossil carbon stocks, these biogenic carbon stocks can act as a sink on a far shorter time scale than fossil carbon.

Another way in which biogenic CO₂ differs from fossil CO₂, as well as from other regulated pollutants, is the sometimes ambiguous line between the net emissions caused by human activities and those that occur as part of the natural background emission fluxes. There are both natural biogenic CO₂ emissions and anthropogenic biogenic CO₂ emissions. For example, fires, decomposition, and plant

respiration all result in substantial biogenic emissions of CO₂. These transfers of CO₂ between land and atmosphere are critical to the maintenance of life on Earth. However, human activities, such as forest and land management practices (i.e., anthropogenic biogenic CO₂ emissions), can also influence the release of CO₂ from natural systems. There are challenges in categorizing the biogenic CO₂ emissions that would have occurred naturally and those attributable to human activity. While the Inventory accounts for all anthropogenic biogenic CO₂ emissions at the national level, this deferral and the Agency's intent to collaborate with federal partners and the scientific community to conduct a detailed examination of the science associated with biogenic CO₂ emissions and technical issues in accounting for those emissions at stationary sources is our effort to better characterize these distinctions and the associated impacts.

B. PSD, Title V, and Tailoring Rule

Central to today's action are the PSD and Title V programs and their applicability requirements. This section provides background information on those programs as relevant for today's action.

1. The PSD Program

The PSD program is a preconstruction review and permitting program applicable to "new major stationary sources" and "major modifications" at existing major stationary sources, in the terminology of EPA's implementing regulations. The PSD program applies in areas meeting the health-based National Ambient Air Quality Standards (NAAQS) or for which there is insufficient information to determine whether the area meets the NAAQS. The applicability of the PSD program to a particular source is determined in advance of construction or modification. The primary criterion in determining PSD applicability is whether the proposed project is sufficiently large (in terms of its emissions) to be a major stationary source or major modification.

Under the Clean Air Act (CAA), the PSD program applies to any "major emitting facility" that undertakes construction, and such facility is defined to include "any ... stationary sources of air pollutants which emit, or have the potential to emit, one hundred [or, depending on the source category] two hundred and fifty tons per year or more of any air pollutant." CAA sections 165(a), 169(1). In this notice, we refer to these levels as the 100/250-tpy thresholds. In addition, Congress also applied PSD to any existing major emitting facility that undertakes a

"modification," and defined that term to include "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted." CAA sections 165(a), 169(2)(C), 111(a)(4).

The EPA has included these CAA requirements in its long-standing regulations that implement PSD, although the Agency has interpreted these requirements so that they apply only with respect to air pollutants that are subject to regulation under the CAA. Specifically, under EPA's regulations, a "major stationary source" is any source type belonging to a specified list of 28 source categories which emits or has a potential to emit (PTE) 100 tpy or more of any pollutant subject to regulation under the CAA, or a source of any other type which emits or has the potential to emit such pollutants in amounts equal to or greater than 250 tpy. See, e.g., 40 CFR 52.21(b)(1). A new source with a PTE at or above the applicable "major stationary source threshold" amount is subject to PSD.

The regulations also say that PSD applies to, not only new construction, but also to existing sources that undertake a "major modification," which is defined in terms of the following three criteria:

- (1) A physical change in, or change in the method of operation of, a "major stationary source" must occur;
- (2) The change must result in an increase in emissions that is "significant," that is, equal to or above the significance level defined for the pollutant in question, e.g., in 40 CFR 52.21(b)(23)); and
- (3) The increase in emissions resulting from the change must be a significant net emissions increase.

The level of emissions that is significant (also called the "significance levels" or the "significant emissions rate" is also defined in regulations. See, e.g. 40 CFR 52.21(b)(23). Generally, significance levels for PSD are pollutant specific emissions rates. For example, the significance level for emissions of nitrogen oxides (NOx) is 40 tpy. See, e.g., 40 CFR 52.21(b)(23)(i). Under the regulations, the increase in emissions that results from the modification project is added to other contemporaneous increases and decreases in actual emissions at the source, to determine if the net emissions increase is significant (equal to or above the significance level). 40 CFR 52.21(b)(23) and (b)(48).

Under the PSD program, one of the principal substantive requirements is that a new major source or major modification must meet an emissions limitation based on application of Best Available Control Technology (BACT). This emissions limitation must be based on the maximum amount of pollutant reduction that is achievable for each

individual source on a case-by-case basis, taking into account cost and other factors. BACT applies to each "regulated NSR pollutant." While PSD applies if a source is determined to be "major" for any regulated pollutant, the BACT review for such a source must be performed for each regulated NSR pollutant whose emissions exceed or increase by more than its PSD significance level (excluding pollutants for which the area has been designated nonattainment). See 40 CFR 52.21(a)(2), (j)(2) and (3) and 40 CFR 52.21(b)(23).

To identify the pollutants covered by the PSD program, EPA regulations define the term "regulated NSR pollutant." This definition applies to determine both the pollutants subject to the BACT requirement and pollutants that are counted to determine whether a source is a major source required to obtain a PSD permit. The term "regulated NSR pollutant" is incorporated into the definition of BACT and definitions of "major stationary source" and "major modification." 40 CFR 52.21(b)(12); 40 CFR 52.21(b)(1)-(2). A "regulated NSR pollutant" includes:

- (i) Any pollutant for which a national ambient air quality standard has been promulgated and any pollutant identified under this paragraph (b)(50)(i) as a constituent or precursor for such pollutant. ...;

(ii) Any pollutant that is subject to any standard promulgated under section 111 of the Act;

(iii) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act;

(iv) Any pollutant that otherwise is subject to regulation under the Act; except that any or all hazardous air pollutants either listed in section 112 of the Act or added to the list pursuant to section 112(b)(2) of the Act, which have not been delisted pursuant to section 112(b)(3) of the Act, are not regulated NSR pollutants unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Act.

2. Title V

The Title V permit program establishes operating permit requirements that are intended to assure sources' compliance with applicable CAA requirements. Title V generally does not add new pollution control requirements, but it does require that each source subject to Title V obtain an operating permit that assures compliance with all pollution control requirements or "applicable requirements" required by the CAA (e.g., NSPS, and state implementation plan (SIP) requirements, including PSD), and it requires that certain procedural requirements be followed, especially with respect to compliance with these requirements. "Applicable requirements" for Title V purposes include stationary source requirements, but do not

include mobile source requirements. Other procedural requirements include providing review of permits by EPA, states, and the public, and requiring permit holders to track, report, and annually certify their compliance status with respect to their permit requirements.

The CAA applies Title V, through the definition of "major source," to "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant." CAA sections 502(a), 501(2)(B), 302(j). EPA codified in the Tailoring Rule its long-established interpretation that this definition applies only with respect to air pollutants that are subject to regulation under the CAA.¹¹

3. Tailoring Rule

a. Rationale and Requirements

In the Tailoring Rule, EPA recognized that if the applicability provisions of the PSD and Title V programs were applied literally so that PSD and Title V requirements applied to GHG-emitting sources at the 100/250 tpy levels provided in the CAA, then the permitting authorities would be overwhelmed by the large numbers of permittees and many

¹¹ Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, "Definition of Regulated Air Pollutant for Purposes of Title V" (April 26, 1993).

small sources would be unduly encumbered by the permitting demands. In light of those impacts, EPA concluded that, as a legal matter, Congress did not intend that the PSD and Title V applicability requirements be applied literally to all sources emitting GHGs over the major source thresholds as of January 2, 2011 - the date by which EPA determined that GHGs become subject to regulation under the CAA due to the motor vehicle rule. Instead, EPA concluded that it is authorized to tailor those applicability requirements to apply PSD and Title V to such sources in a phased-in manner, starting with the largest sources first.

Specifically, in the Tailoring Rule, EPA has implemented these PSD and Title V applicability provisions by applying the familiar Chevron¹² two-step framework for interpreting administrative statutes, taking into account certain legal doctrines. Those doctrines, insofar as relevant to the Tailoring Rule, are (1) the "absurd results" doctrine, which authorizes agencies to apply statutory requirements differently than a literal reading would indicate, as necessary to effectuate congressional intent and avoid absurd results; and (2) the "administrative necessity" doctrine, which authorizes

¹² Chevron U.S.A. Inc. v. NRDC, 467 U.S. 837 (1984).

agencies to apply statutory requirements in a way that avoids impossible administrative burdens.¹³

Under Chevron, the agency must, at step 1, determine whether Congress's intent as to the specific matter at issue is clear, and, if so, the agency must give effect to that intent.¹⁴ If congressional intent is not clear, then, at step 2, the agency has discretion to fashion an interpretation that is a reasonable construction of the statute.

To determine congressional intent, the agency must first consider the words of the statutory requirements, and if their literal meaning answers the question at hand, then, in most cases, the agency must implement those requirements by their terms. However, under the "absurd results" doctrine, the literal meaning of statutory requirements should not be considered to indicate congressional intent if that literal meaning would produce a result that is senseless or that is otherwise inconsistent with - and especially one that undermines - underlying congressional purpose. In these cases, if congressional intent for how the requirements apply to the

¹³ In the Tailoring Rule, EPA also considered a third doctrine, the "one-step-at-a-time" doctrine, which authorizes agencies to implement statutory requirements a step at a time. This doctrine is not relevant to the present rulemaking.

¹⁴ Chevron, 467 U.S. at 842-43.

question at hand is clear, the agency should implement the statutory requirements not in accordance with their literal meaning, but rather in a manner that most closely effectuates congressional intent. If congressional intent is not clear, then an agency may select an interpretation that is reasonable under the statute.

Under the "administrative necessity" doctrine, Congress is presumed, at Chevron step 1, to intend that its statutory directives to agencies be administrable, and not to have intended to have written statutory requirements that are impossible to administer. Therefore, under this doctrine, an agency may depart from statutory requirements that, by their terms, are impossible to administer, but the agency may depart no more than necessary to render the requirements administrable.

In the Tailoring Rule, EPA closely considered the burdens to the permitting authorities of applying PSD and Title V to GHG-emitting sources. For example, EPA calculated, on a national basis, the workload that GHG permit applications would entail, and compared that to the existing workload of permitting authorities. EPA concluded that permitting authorities would be overwhelmed by permit applications if the PSD and Title V applicability thresholds were applied literally as of January 2, 2011 to

the GHG emissions from stationary sources. In addition, EPA calculated the cost to the sources of permitting requirements and concluded that many small sources would become subject to unduly high expenses.

Accordingly, in applying the Chevron analytical framework, in conjunction with the absurd results and administrative necessity doctrines, EPA concluded that Congress intended that PSD and Title V apply to the GHG-emissions from stationary sources, but that, in light of the burdens to the permitting authority and the costs to the sources of determining applicability of permitting requirements by applying the statutory thresholds to GHG emissions, the application of the permitting programs should be phased in, starting with the largest sources of GHG emissions first. EPA also concluded that the calculation of the amount of GHG emissions should be based on the amount of GHG pollutant emitted in tons per year, weighted by the global warming potential (GWP) of the particular GHG pollutant, normalized to the GWP of one ton of CO₂ over a 100-year period, which is called carbon dioxide equivalent (CO₂e).

Accordingly, in the Tailoring Rule, EPA established two steps to implement PSD and Title V, with Tailoring Rule Step 1 beginning on January 2, 2011. Step 1 applies to

sources subject to PSD or Title V anyway due to emissions of pollutants other than GHGs (called "anyway" sources) and, as to PSD, to sources that emit 75,000 tpy CO₂e (or increase emissions by that amount for modifications). Tailoring Rule Step 2, beginning on July 1, 2011, will apply to the largest GHG-emitting sources. Sources not otherwise subject to Title V will become subject to it as of July 1, 2011 if they emit or have the potential to emit at least 100,000 tpy CO₂e. Sources that would not otherwise trigger PSD will trigger PSD on or after July 1, 2011 if they have emissions at the 100,000 tpy CO₂e level and higher or emit at that level and modify to increase emissions by 75,000 tpy CO₂e or more. In addition, EPA committed to promulgate by July 1, 2012 another rulemaking - in effect, Step 3 of the Tailoring Rule - that would consider whether to reduce the thresholds further. EPA also committed to promulgate another rulemaking after that, by April 1, 2016, that would consider still further action. As EPA stated in the Tailoring Rule, part of the purpose of the phase-in approach embodied in the Tailoring Rule is to allow permitting authorities time to acquire additional resources and to allow EPA time to develop streamlining methods and thereby enable the application of PSD and Title V to more sources in subsequent rulemakings.

b. Biomass

As noted previously, in the Tailoring Rule, EPA determined that the amount of each GHG emitted by a facility should be calculated by reference to the weight of the GHG emissions, in tons of CO₂e per year. The Tailoring Rule proposal referenced EPA's Inventory submitted annually to the UNFCCC, for the applicable GWP values and guidance on how to calculate a source's GHG emissions in tpy CO₂e.¹⁵ 75 Fed. Reg. 31514-31608. The Inventory includes emissions of the six GHGs in terms of CO₂e units. By linking the calculation of CO₂e for GHGs to GWP values, a facility could evaluate its total GHG emissions contribution based on a single metric. We solicited comment on the benefits and limitations of this proposed metric.

While we referred to the Inventory for GWP identification purposes only, several commenters appeared to misunderstand our intent, claiming that the Inventory excludes CO₂ emitted from biomass. These commenters requested that, in calculations of emissions for determining applicability of PSD and Title V, EPA exempt

¹⁵ U.S. EPA, "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007," at ES-3 (.. See also the SAR GWPs (IPCC 1996) in table 1-2, p. 1-6.
<http://www.epa.gov/climatechange/emissions/usinventoryreport.html>

emissions from biogenic activities or biomass combustion or oxidation activities, including solid waste landfills, waste-to-energy projects, fermentation processes, combustion of renewable fuels, ethanol manufacturing, biodiesel production, and other alternative energy production that uses biomass feedstocks (e.g., crops or trees). In particular, these commenters urged that EPA exclude emissions from biomass combustion in determining the applicability of PSD to such sources based on the notion that such combustion is "carbon neutral" (i.e., that combustion or oxidation of such materials would cause no net increase in GHG emissions on a lifecycle basis).

In response, when finalizing the Tailoring Rule, we acknowledged the role that biomass or biogenic fuels and feedstocks could play in reducing anthropogenic GHG emissions, and did not dispute the commenters' observations that many state, federal, and international rules and policies treat biogenic and fossil sources of CO₂ emissions differently. 75 FR 31514. Regarding commenters' claims that the Inventory excludes CO₂ emissions from biomass, the Inventory does not exclude these emissions (see section II.A.2). Rather, they are included in the LULUCF Sector rather than the Energy Sector to avoid double-counting at the national scale. The narrow reference to the use of the

Inventory's GWP values for estimating GHG emissions was provided to offer consistent guidance on how to calculate these emissions and not as an indication, direct or implied, that biomass emissions would be excluded from permitting applicability merely by association with the national inventory, see 74 FR 55351, under the definition for "carbon dioxide equivalent." We determined that our application of the "absurd results," "administrative necessity," and one-step-at-a-time legal rationales supporting the Tailoring Rule, based on the expected overwhelming permitting burdens in its absence, did not provide sufficient basis to exclude emissions of CO₂ from biogenic sources in determining permitting applicability provisions at that time. We reasoned that such an exclusion alone, while reducing burdens for some sources, would not address the overwhelming permitting burdens, and a threshold-based approach would still be needed. At that time, we had not examined burdens with respect to specific source categories impacted by the rule and thus had not analyzed the administrative burden of permitting projects that specifically involve biogenic CO₂ emissions taking account of the threshold-based approach. Commenters also did not provide information to demonstrate that an

overwhelming permitting burden would still exist, justifying a temporary exclusion for biomass sources.

In the final Tailoring Rule we indicated that the decision not to provide this type of an exclusion at that time did not foreclose EPA's ability to either (1) provide this type of exclusion at a later time with additional information about overwhelming permitting burdens due to biomass sources, or (2) provide another type of exclusion or other treatment based on some other rationale. Although we did not take a final position, we noted that some commenters' observations about a different treatment of biomass combustion warranted further exploration as a possible rationale.

Therefore, although we did not establish a permanent exclusion from PSD or Title V applicability based on specific characteristics of biogenic CO₂, we indicated our intent to seek further comment on how we might address emissions of biogenic CO₂ under the PSD and Title V programs through a future action.

We further noted that, while not promulgating an applicability exclusion for biogenic emissions and biomass fuels or feedstocks in the final Tailoring Rule, flexibility exists to apply the existing regulations and policies regarding BACT in ways that take into account

their net effects on atmospheric GHG concentrations. Without prejudging the outcome of our process to seek comment on whether and how we might address emissions of biogenic carbon under the PSD and Title V programs through a future action, we indicated that this issue warranted further exploration.

In order to explore the issue further following the promulgation of the Tailoring Rule, on July 15, 2010 EPA solicited views from the public through a Call for Information (CFI) on approaches to accounting for biogenic CO₂ emissions, including whether some or all of a source's biogenic CO₂ emissions could be discounted based on a determination that they are canceled out by the CO₂ absorption associated with growing the fuel. 75 FR 41173. Also, we solicited information on the means to estimate and measure CO₂ emissions from a variety of biogenic CO₂ sources that typically have not been part of emission inventories (e.g., landfills, livestock management, and fermentation processes), as well as information on other biogenic sources that may be affected but which were not identified specifically in the CFI.

With promulgation of the Tailoring Rule we committed to issue technical and policy guidance for permitting of

GHGs. Subsequently, the information gathered from stakeholders in response to the CFI provided diverse perspectives on treatment of biogenic CO₂ emissions in pre-construction and operating permit reviews, including many requests to exclude, either partially or wholly, biogenic CO₂ sources from PSD applicability determinations and BACT analyses on the basis of Inventory results and other considerations. On November 10, 2010, EPA issued the draft "PSD and Title V Permitting Guidance for Greenhouse Gases" which provides the basic information that permit writers and applicants need to address GHG emissions in permits.¹⁶ Within the November guidance, EPA acknowledged the numerous stakeholder comments on biogenic CO₂ BACT analyses and provided general guidance to permitting authorities to consider environmental, energy, and economic benefits that may accrue from the use of certain types of biomass (e.g., biogas from landfills for energy generation), consistent with existing air quality standards. We also committed to provide more detailed technical and policy guidance early in 2011 for completing Step 4 of a "top-down" BACT analyses for GHG emissions from certain types of biomass sources to enable permitting authorities to

¹⁶ <http://www.epa.gov/nsr/ghgdocs/epa-hq-oar-2010-0841-0001.pdf>

simplify and streamline BACT determinations for such sources. EPA accepted public comments on the November guidance through December 1, 2010, and the Agency is considering these comments while developing the detailed permitting guidance.

Noting that a variety of federal and state policies have recognized that some types of biomass can be part of a national strategy to reduce dependence on fossil fuels and to reduce emissions of GHGs, EPA determined that it is appropriate for permitting authorities to account for both existing federal and state policies and their underlying objectives in evaluating the environmental, energy and economic benefits of biomass fuel. Based on these considerations, permitting authorities might determine that the use of certain types of biomass alone meets the BACT requirement for GHGs.

On August 3, 2010, NAFO petitioned the EPA to reconsider and stay the implementation of the PSD and Title V GHG Tailoring Rule.¹⁷ The petition alleged that the final Tailoring Rule declared, for the first time

¹⁷ National Alliance of Forest Owners' Petition to Reconsider the Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule and to Stay the Rule Pending Reconsideration. EPA-HQ-OAR-2010-0841-0029.1

and without any prior proposal or notice to industry, that EPA would count CO₂ emissions from combustion of biomass toward the applicability thresholds established for the PSD and Title V permitting programs of the CAA. Petitioners further alleged that EPA's proposed rule had provided for the appropriate and opposite conclusion: that CO₂ emissions from combustion of biomass should not be counted. Petitioners stated that there is near-universal recognition that CO₂ emitted from combustion of fuels derived from biomass should be excluded from GHG regulations because production and combustion of such fuels do not increase atmospheric CO₂ levels. Pending reconsideration, petitioners requested that the application of the PSD and Title V permitting programs to emissions of CO₂ from biomass be stayed. We considered carefully the petitioners' assertions and noted that we also received comments through the CFI supporting the exclusion of biogenic CO₂ from stationary source permitting requirements. Through the CFI, however, EPA also received information supporting the position that biogenic CO₂ should not be excluded from permitting programs, and that the use of certain types of biomass as fuel could increase atmospheric CO₂ levels. Based on consideration of the petitioners' arguments,

together with the weight of the comments received on the CFI, EPA has concluded that the issue of accounting for the net atmospheric impact of biogenic CO₂ emissions is complex enough that further consideration of this important issue is warranted. Therefore, EPA granted the petition on January 12, 2011.

However, EPA did not grant the request for an administrative stay of the Tailoring Rule, because the rule is critical for making overall implementation of the PSD program feasible. Furthermore, an administrative stay of the statements in the preamble of the Tailoring Rule that describe EPA's initial determination not to exempt emissions of CO₂ from biomass would not provide the requested relief of excluding emissions of CO₂ from biomass from the PSD and Title V permitting programs. The effect of a stay of this or any other aspect of the Tailoring Rule would be to return the legal regime that existed before EPA's issuance of a final Tailoring Rule. As no exemption for emissions of CO₂ from biomass existed prior to the final rule, an administrative stay would not result in an exemption from the requirements of PSD and Title V.

C. Complexity of determining net atmospheric impact of CO₂ emissions and incorporating this information into the PSD and Title V Programs

In this section we discuss the complexity of the issues associated with reconciling facility-based and land-based sequestration accounting systems, as well as with accounting for land-based sequestration. Based on comments received from stakeholders in the CFI, we discuss further some general principles for land-based accounting (e.g., changes in the BAU baseline), and we present some of the proposed accounting methodologies (e.g., case-by-case analysis, categorical exclusion, contingent exclusion, and feedstock-based approaches).

1. Reconciling accounting systems: facility-based emissions and land-based sequestration

Within the context of the PSD and Title V programs, the argument for treating CO₂ emissions from bioenergy and biogenic sources differently from fossil-based CO₂ emissions at the facility relies on the premise that sequestration occurs offsite, outside the boundaries of the facility. Therefore, when considering application of this premise to the PSD and Title V programs, it is important that the sequestration be accounted for at a level of spatial and temporal resolution that is meaningful and practical for purposes of facility-based permitting. Such an accounting system must also be predictable, so that it can be utilized effectively by facilities and permitting authorities.

Finally, the accounting system should be scientifically sound to allow for accurate accounting of net CO₂ emissions to the atmosphere.

In addition to those commenters suggesting a categorical approach (i.e., as discussed below, an exclusion for all biogenic CO₂ emissions based on a finding of a net sink in the LULUCF section of the Inventory) other comments in response to the CFI repeatedly explained that different types of biological material (e.g., feedstocks) have different effects on atmospheric carbon emissions. Comments also underscored the importance of reconciling the facility-based permitting requirements under PSD and Title V with an accounting approach that relies upon estimates of land-based sequestration. This reconciliation will require careful attention to issues of spatial and temporal scale, to ensure that the principles of practicality, predictability, and scientific soundness are met.

2. Complexity in accounting for land-based sequestration

Establishing an accounting system for the net atmospheric impact of biogenic CO₂ emissions from stationary sources is complex. As mentioned above and below, commenters to the CFI made suggestions ranging from a categorical exclusion of facility-based emissions to a case-by-case analysis approach. Multiple factors need to

be considered to accurately assess the net atmospheric impacts of the use of a particular type of fuel by a stationary source over a specified time period, that extends into the future: net emissions to the atmosphere (emissions from the facility and sequestration elsewhere) of carbon from the biomass used for bioenergy; the time scale against which net emissions should be measured; delineation of geographic areas for measurement; and leakage.

Many of these factors are driven by or determined at the local or regional level. Bioenergy production may result in dramatic changes in one region's carbon stock, for example, and very little change in another's. Regional variability is also inherent in natural systems, for example in rates of plant growth and disturbance frequencies. Some areas are more prone to disturbances such as drought and fire, while other areas experience warmer temperatures and unpredictable precipitation patterns. Some areas receive more atmospheric nitrogen deposition than others, or are more susceptible to insect outbreaks. Species-specific variations are important as well. Some plant species simply grow more quickly than others.

As mentioned above, considerations of spatial and temporal scale become increasingly important in an accounting system that seeks to reconcile facility-based emissions with land-based sequestration. How large an area should be considered when developing an accounting system - should it be facility-level, ownership-level, state-level, regional, or national? What is the appropriate period of time to be considered in the accounting system - should it roughly parallel the length of time required for plant biomass to re-sequester the amount of CO₂ released during the biomass combustion? How might this time period differ for various biomass types? Can the issues of spatial and temporal scale be considered together, such that the time period considered for the analysis varies depending on where the land is located or how large an area is considered?

Given the inherent variability in biological processes, as well as the variability in spatial and temporal scales that can influence estimates of sequestration, general principles that can be broadly applicable to all aspects of accounting for CO₂ emissions from bioenergy and other biogenic sources will likely be most helpful.

3. General principles

The level of sequestration that occurs naturally on the landscape without additional intervention can be considered as the "baseline." In other words, this level of sequestration (or emissions) will likely continue into the future without additional action. For example, if favorable conditions for plant growth cause sequestration to increase beyond what is incorporated into the baseline for that region, then net atmospheric carbon levels will be lower than anticipated under "business as usual" (BAU). If sustainable forestry is practiced, then neither gain nor loss from carbon stocks on forestland would be expected over time, and net atmospheric carbon levels would not deviate from those expected in the BAU case. However, if logging is accelerated from a particular region over a certain period of time, and CO₂ emissions from the forest are thereby increased, then the net atmospheric carbon levels will be higher than anticipated in the BAU case.

In the context of bioenergy and biogenic emissions, where such a wide variety of potential feedstocks exists, the baseline might be considered the emissions that "would have happened anyway" in the BAU case. Using this approach, it is necessary to determine the extent to which a policy action or an activity increases or reduces CO₂ emissions above or below what would have occurred in

comparison with the baseline. From the perspective of bioenergy and other biogenic emissions, emissions that would have occurred anyway -- regardless of whether or not the facility captured the energy from the biofuel use or carried out the process using biological material as a feedstock -- might be treated differently than emissions that would not have occurred anyway (i.e., new emissions generated as the result of policy-based bioenergy incentives). For example, some commenters to the CFI suggested that utilizing logging residue to generate energy, rather than leaving the residue to decompose on the forest floor following harvesting, likely would not cause emissions over and above that which would have taken place if the energy use did not occur, while also noting the length of time required for the residue to decompose (for example, 10-15 years).

Land use change has a separate set of considerations under the baseline case. For example, if the rate of land use transition from forest to agricultural use were to increase over and above that which was expected in the BAU case, and if this increase were attributable to market demand for a bioenergy crop, then it would be possible that these emissions would be additional to the emissions

expected under BAU. In that situation, the bioenergy use might result in increased atmospheric CO₂ levels.

4. Complexity in developing accounting methodology

In response to the CFI, commenters suggested various approaches to accounting for CO₂ emissions from bioenergy and other biogenic sources.

a. Case-by-case analysis

Some commenters suggested that analysis of PSD applicability should rely on a case-by-case, facility-specific assessment of the net atmospheric impact of the intended biomass fuels. This would require facility-level accounting for the emissions associated with the full chain of fuel production and use. Commenters indicated that this type of facility-specific approach would be the most scientifically sound approach for assessing the net carbon cycle impact of specific biomass fuels.

However, other commenters noted that the case-by-case approach, in which a complete analysis would be conducted for each permit application, would likely be prohibitively time-consuming and complex for facilities and permitting authorities.

b. Categorical exclusion

Some commenters suggested that a categorical exclusion for all bioenergy and biogenic sources would be

appropriate. Using this approach, no emissions from any such sources would be counted for PSD and Title V applicability. According to commenters supporting this option, the rationale for such an exclusion rests on the idea that all biological sources are part of the "active carbon cycle," in which CO₂ is cycled between the land and atmosphere on a relatively short timeframe.

c. Contingent exclusion

In other comments, stakeholders suggested that a categorical exclusion for all bioenergy and other biogenic sources would be appropriate with an added contingency. For example, all bioenergy and other biogenic emissions could be excluded from PSD and Title V applicability as long as forest land in the U.S. remains a net carbon sink, such that sequestration remains greater than emissions at the national scale. Some commenters suggested that this contingency might also be expressed at a state scale, such that all facilities that emit CO₂ from bioenergy or other biogenic sources would be excluded from applicability as long as the forest land within that state acts as a net carbon sink.

d. Feedstock-based approach

An important area of consensus from commenters was the idea that feedstocks are different, and that the net impact

of bioenergy and other biogenic emissions may be traceable to the feedstock that is used. For example, commenters indicated that it would be preferable to distinguish various categories of woody biomass feedstocks, such as wood waste, logging residue, forest treatment thinnings, biomass crops, and whole-tree chips from expanded harvest operations. Various other feedstock categorizations for different types of material were also proposed¹⁸.

D. Designing and Implementing an Accounting Approach

As described in section III below, EPA is proposing to defer the applicability of the PSD and Title V program to biogenic CO₂ emissions from stationary sources for three years in order to allow time for a detailed examination of the science associated with biogenic CO₂ emissions and to consider the technical issues that the Agency must resolve in order to account for biogenic CO₂ emissions in ways that

¹⁸ Though this proposed rule concerns emissions from stationary sources, we note that various motor vehicle fuels are derived from plant material. For example, ethanol can be produced from plant starch or cellulose, and diesel fuel can be produced from various plant oils. The Energy Independence and Security Act of 2007 (EISA) required EPA, in the context of implementing the renewable fuel program under section 211(o) of the CAA, to evaluate the lifecycle greenhouse gas emissions of these and other motor vehicle fuels. EPA's analysis of the various fuels demonstrated that multiple factors, including the type of feedstock used, resulted in a wide variation in their associated lifecycle GHG emissions. For example, from a lifecycle perspective some of the analyzed motor vehicle fuels result in very large reductions in GHG emissions compared to the fossil fuel they replace, while others do not. The lifecycle analyses of the motor vehicle fuels took into account a wide range of factors, including the carbon sequestration associated with the biomass. See 75 FR 14670, 14764-799 (March 26, 2010).

are scientifically sound and also manageable in practice. As part of that examination we intend to engage with an independent scientific panel, as well as with partners inside and outside the federal government with relevant expertise, to ensure a robust review of the scientific and technical issues associated with this type of accounting. During this time period the Agency can develop an appropriate accounting methodology that satisfies the principles of predictability, practicality, and scientific soundness. Should it be necessary, EPA proposes to implement the appropriate accounting methodology through notice-and-comment rulemaking within the three-year timeframe.

III. Interim Deferral of Biogenic CO₂ Emissions Under the PSD and Title V Permitting Programs

As stated above, one critical reason for the proposed deferral is to give EPA time to conduct a detailed examination of the science, to engage with an independent scientific panel and then, if appropriate, to initiate a notice and comment rulemaking to implement an accounting approach all within the proposed three year timeframe.

Another important reason for the three-year deferral period, described in Section III.C below, is to allow sufficient time to consider the unique characteristics and

attributes of biogenic CO₂ feedstocks, using the results from the detailed examination mentioned previously, within both the state permitting agencies and affected facilities. We concluded that, absent this deferral, there would be significant additional and unique complexities, as described in more detail in section II.C. As a result there would be additional permitting burden in terms of time and resources requirements, resulting from the associated analysis that would be required for permitting entities that are sources of biogenic CO₂ emissions under Step 2 of the Tailoring Rule, which is scheduled to begin on July 1, 2011.

While the interim guidance described in section III.D will help alleviate some of this burden, we expect that more and more diverse users of biomass combustion or other biogenic CO₂ sources are likely to be affected under Step 2 of the Tailoring Rule because, under Step 2, these sources can trigger permitting requirements based solely on their GHG emissions with no pre-requisite requirement that they otherwise trigger PSD or Title V permitting requirements for a non-GHG pollutant. We believe, absent the deferral period and the completion of EPA's full analysis of the unique technical issues associated with these diverse facilities emitting biogenic CO₂, it would be particularly

challenging for permitting authorities and facilities to process permits involving these emissions.

Also, as described in section III.D, this proposed deferral is intended to temporarily exclude biogenic CO₂ emissions from the definition of "subject to regulation," as that term was defined for purposes of the Tailoring Rule, for a period of three years, while EPA further considers, through notice and comment rulemaking, the approach to accounting for these emissions on a permanent basis.

A. General Rationale and Legal Justification for Interim Deferral

1. Applicability of PSD and Title V to Biogenic CO₂ Emissions from Major Stationary Sources

As currently written, the PSD and Title V regulations apply to biogenic CO₂ emissions from major sources or major modifications at such sources according to provisions included under the definition of "subject to regulation" in the SIP regulations at 40 CFR §51.166 and the Title V state program regulations at 40 CFR §70.2, as well as the Federal Implementation Plan requirements at 40 CFR §52.21 and the Title V federal program regulations at 40 CFR §71.2. Thus, revisions to these regulations are necessary to defer

application of the PSD and Title V programs to such sources of biogenic CO₂.

Specifically, with respect to PSD, EPA's regulations implement the PSD provisions of the CAA, and the language of these statutory provisions is broad enough to cover biogenic CO₂ emissions. The 100/250 tpy thresholds previously described originate from section 169 of the CAA, which applies PSD to any "major emitting facility"¹⁹ and defines the term to include any source with a potential to emit "any air pollutant" in an amount over 100 or 250 tpy, depending on source category. EPA's long-standing regulations interpret the PSD applicability provision that refers to "any air pollutant" to refer to any "regulated NSR pollutant," which in turn includes any air pollutant "subject to regulation." Similarly, under sections 165(a)(4) and 169(3) of the CAA, the BACT requirement applies to "each pollutant subject to regulation" under the CAA. As noted in other recent EPA actions, GHG are currently "subject to regulation" under the CAA, subject to specific limitations reflected in the definition of that term that EPA adopted in the Tailoring Rule. Thus, emissions of GHG (including CO₂) must be considered in

¹⁹ EPA's regulations employ the term "major stationary source" in lieu of "major emitting facility." e.g., 40 CFR 52.21(a)(2)(i), (b)(1)(i).

determining whether a source is a major emitting facility subject to PSD, as a result of construction or modification, and whether the BACT requirement applies to GHG (including CO₂ as a component of GHG). In light of the way these regulations are currently written, EPA is unable to exclude biogenic CO₂ emissions from PSD review without amending the regulations.

Stationary sources of air pollutants, including sources of biogenic CO₂ emissions, are currently subject to PSD requirements if they emit more than 100 or 250 tpy of a regulated NSR pollutant other than GHG and have triggered PSD as a result of these emissions. We call these sources "anyway" PSD sources, and bioenergy and other sources of biogenic CO₂ emissions may be among them based on emissions of pollutants other than GHG. Under the Tailoring Rule, since January 2, 2011 (the beginning of step 1 of the Rule), PSD permits for such a source have had to meet emissions limitations based on application of BACT for GHG if the source is newly constructed and has the potential to emit 75,000 tpy or more of this pollutant on a CO₂e basis; or is an existing source which, as a result of a modification, increases GHG emissions by 75,000 tpy or more on a CO₂e basis and by any amount on a mass basis. In addition, starting on July 1, 2011 (the beginning of step 2

of the Tailoring Rule), a source that is not an "anyway" PSD source, but that newly constructs and emits at least 100,000 tpy CO₂e GHG, or that is an existing source that emits at least 100,000 GHG tpy CO₂e and that modifies and increases its GHG emissions by at least 75,000 tpy CO₂e GHG and any amount on a mass basis, will need a PSD permit for its GHG, including any biogenic CO₂.

With respect to Title V, as noted previously, Title V applies to sources, among others, that emit 100 tons per year of specified quantities of "any air pollutant," see CAA section 502(a), 501(2)(B), 302(g). In the Tailoring Rule, EPA codified its longstanding interpretation that this requirement only extends to major sources of air pollutants subject to regulation, and further defined "subject to regulation" such that it may include GHGs at sources which emit or have the potential to emit 100,000 tpy CO₂e as of July 1, 2011. As described immediately above, GHG are currently "subject to regulation" under the CAA (again, subject to specific limitations reflected in the definition of that term that EPA adopted in the Tailoring Rule), and as a result, emissions of GHG, including biogenic CO₂ emissions, are considered in determining whether a source is subject to Title V as of July 1, 2011.

Under the Tailoring Rule, since January 2, 2011 (again, the beginning of step 1), sources that are subject to Title V anyway - which we call "anyway" Title V sources and which include existing sources with Title V permits, or new sources obtaining Title V permits, due to their non-GHG emission - have been required to address GHG, including GHG from biomass, to the extent there are Title V requirements relevant to GHG. This means that their Title V permits must contain, at the appropriate time, conditions necessary to assure compliance with any applicable requirements concerning their GHG emissions. As of July 1, 2011 (again, the beginning of step 2), new or existing sources that are not "anyway" Title V sources, that emit or have the potential to emit at least 100,000 GHG tpy CO₂e (and 100 tpy on a mass basis), and are subject to an approved or EPA-promulgated title V program, will become subject to Title V requirements.

Therefore, absent some further regulatory action, EPA is unable to exclude biogenic CO₂ emissions from the applicability of Title V.

2. Authority to Exempt De Minimis Emissions

As noted, since the relevant provisions of the Act apply to "any air pollutant" or any "air pollutant subject

to regulation," the terms of the CAA suggest that the PSD and Title V requirements should apply to CO₂ emissions from bioenergy or other biogenic sources in the same manner as they apply to emissions of CO₂ from any other type of source, since such emissions are constituents of the regulated pollutant GHG. However, as discussed elsewhere in this preamble, EPA believes it has the authority to exclude biogenic CO₂ emissions from the PSD and Title V requirements for the proposed three-year deferral period and will be exploring whether a permanent exemption is permissible for at least some and perhaps all types of feedstocks.

Courts have recognized that administrative agencies have the implied authority to establish exemptions "when the burdens of regulation yield a gain of trivial or no value." Alabama Power Co. v. Costle, 636 F.2d 323, 360 (D.C. Cir. 1980). In this decision that specifically addressed the requirements of the PSD program, the DC Circuit described this principle as follows:

Categorical exemptions may also be permissible as an exercise of agency power, inherent in most statutory schemes, to overlook circumstances that in context may fairly be considered de minimis. It is commonplace, of course, that the law does not concern itself with trifling matters, and this principle has often found application in the administrative context. Courts should be reluctant to apply the literal terms of a statute to mandate pointless expenditures of effort.

Id. (internal citations omitted).

In an earlier case cited by the court in Alabama Power, the court described the doctrine as follows:

The 'de minimis' doctrine that was developed to prevent trivial items from draining the time of the courts has room for sound application to administration by the Government of its regulatory programs The ability, which we describe here, to exempt de minimis situations from a statutory command is not an ability to depart from the statute, but rather a tool to be used in implementing the legislative design. *District of Columbia v. Orleans*, 406 F.2d 957, 959 (1968).

In this respect, the Alabama Power opinion observed in a footnote that the de minimis principle "is a cousin of the doctrine that, notwithstanding the 'plain meaning' of a statute, a court must look beyond the words to the purpose of the act where its literal terms lead to 'absurd or futile results.'" Id. at 360 n. 89 (citations omitted).

To apply an exclusion based on the de minimis doctrine, "the agency will bear the burden of making the required showing" that a matter is truly de minimis which naturally will turn on the assessment of particular circumstances. Id. The Alabama Power opinion concluded that "most regulatory statutes, including the CAA, permit such agency showings in appropriate cases." Id.

A notable limitation on the de minimis doctrine is that it does not authorize the agency to exclude something

on the basis of a cost-benefit analysis. As the court explained, this "implied authority is not available for a situation where the regulatory function does provide benefits, in the sense of furthering the regulatory objectives, but the agency concludes that the acknowledged benefits are exceeded by the costs." Id. The court held that any "implied authority to make cost-benefit decisions must be based not on a general doctrine but on a fair reading of the specific statute, its aims and legislative history." Id.

Since the early years of the PSD program, EPA has applied this de minimis principle to establish various types of values in the PSD regulations that may be used to exempt a source from all or part of the PSD program requirements. These include the significance levels (described previously), which are also called significant emissions rates, and air quality screening values called significant impact levels (SILs) and significant monitoring concentrations (SMCs).

The significant emission rates reflect levels below which EPA considers an emissions increase to be de minimis. 45 FR 52676, 52705-07. They are applied to allow modifications having minimal impact to proceed without the need for obtaining a PSD permit. See also 40 CFR

51.166(b)(23); 40 CFR 52.21(b)(23). In addition, these values may be used to eliminate the need for a permit to contain BACT limitations for a particular pollutant or to require a source to prepare an ambient air quality analysis for a particular pollutant that is not emitted or increased by significant amounts.

EPA has also relied on the de minimis doctrine to establish values that permitting authorities can use to show that a source that requires a PSD permit meets the necessary criteria to obtain a permit. Significant impact levels may be used in particular ways identified in prior EPA rules and guidance as part of an assessment of whether a source causes or contributes to a violation of air quality standards. Significant monitoring concentrations may be used to exempt sources from pre-construction monitoring requirements. See 75 FR 64864, 64890-97 (October 20, 2010).

3. Potential for Some Biomass Feedstocks to Have a De Minimis Impact on Carbon Levels in the Atmosphere

As discussed previously in this preamble, EPA has sufficient information at this time to conclude that at least some biomass feedstocks that may be utilized to produce energy have a negligible impact on the net carbon cycle, such as residue material (e.g., sawdust from milling

operations) that would have decomposed under natural circumstances in a relatively short period of time (e.g., 10-15 years). Given this negligible impact on the carbon cycle, the gain from regulating emissions from combustion of this feedstock for bioenergy could be considered to be trivial.

It appears that the potential may exist for EPA to determine that other types of biomass feedstocks would have a negligible impact on the net carbon cycle impact after further detailed examination of the science associated with biogenic CO₂ emissions. Thus, if EPA were to require all bioenergy facilities to limit emissions of CO₂ before this assessment is complete, it may later determine that such actions have yielded trivial gain. To avoid this outcome, and because of the administrative burdens described elsewhere in this preamble, EPA believes an initial deferral of the PSD requirements for bioenergy and other biogenic sources is justified at this time. However, the possibility also remains that more detailed examination of the science of biogenic CO₂ will demonstrate that the utilization of some biomass feedstocks for bioenergy production will have a significant impact on the net carbon cycle, making application of the PSD program requirements to such emissions necessary to fulfill Congressional

intent. Thus, EPA is proposing only a temporary, rather than a permanent, deferral of PSD requirements for such sources at this time.

4. Given the burden of case-by-case analysis and potential for de minimis impact, regulation at this time is not justified

Since finalizing the Tailoring Rule, EPA has gathered additional information concerning biomass through the CFI. The information collected to this point indicates that at present, attempting to determine the net carbon cycle impact of particular facilities combusting particular types of biomass feedstocks would require extensive analysis and would therefore entail extensive workload requirements. Further, methodologies are not sufficiently developed to assure that various permitting authorities would be able to reasonably and consistently perform the necessary calculations to determine the net atmospheric impact in particular instances.

The extensive workload requirements that PSD and Title V permit applications for bioenergy facilities and other sources of biogenic CO₂ emissions would entail would necessarily strain permitting authority resources and result in delays in processing permits for other applicants. Moreover, at present, devoting these limited

permitting authority resources to biomass would not be productive in light of the previously described possibility that EPA may ultimately determine that the utilization of some biomass feedstocks for bioenergy has a negligible or de minimis impact on the net carbon cycle.

Therefore, the information EPA has collected since promulgating the Tailoring Rule indicates that it is consistent with the rationale of the Tailoring Rule to defer on a temporary basis biogenic CO₂ emissions from PSD and Title V applicability, pending the detailed examination of the science associated with biogenic CO₂ emissions from stationary sources, including engaging with an independent scientific panel, and considering technical issues, that the Agency must resolve in order to account for biogenic CO₂ emissions in ways that are scientifically sound and also manageable in practice. As noted previously, EPA based the Tailoring Rule on the extreme administrative burdens to permitting authorities, and undue costs to sources, that would result from a literal application of the PSD and Title V 100/250 tpy statutory thresholds, as of January 2, 2011, when those requirements first apply to GHGs. EPA reasoned that, in accordance with the Chevron analytical framework for statutory construction, taking into account the "absurd results" and "administrative necessity" lines

of cases, Congress did not intend that the PSD and Title V requirements apply at the 100/250 tpy statutory thresholds to GHG-emitting sources as of January 2, 2011, but rather that those requirements could be limited, at least initially, through a phase-in approach, to higher-emitting sources. Just as the extensive workload of processing permit applications from sources below the Tailoring Rule thresholds justified exempting those sources at least from the initial steps in the Tailoring Rule phase-in program, pending EPA's development of streamlining methods and the permitting authorities' acquisition of additional resources, so too the extensive workload of processing permit applications from biomass facilities justifies exempting those sources for a period of time, pending EPA's development of a consistent and practical methodology for determining net carbon cycle impacts (see section II.D). The EPA proposes in the present action that a three-year deferral will be adequate to allow time for the development of the methodology. In effect, EPA proposes in this action to revise the Tailoring Rule's phase-in approach to, in effect, defer the applicability of PSD and Title V to biogenic CO₂ emissions, relying in part, on the same rationale as EPA used to justify the Tailoring Rule's phase-in approach.

An alternative way to reduce the permitting burden would be to apply PSD and Title V to all facilities with biogenic CO₂ emissions that emit at or above the Tailoring Rule thresholds, but without making any effort to take into account net carbon cycle impacts. However, we believe that it is conceivable that as a result of the scientific examination of biogenic CO₂ emissions described in section II.D, we could conclude that the net carbon cycle impact for some biomass feedstocks is negligible. Accordingly, this could result in regulation that yields trivial gain as previously discussed. To avoid this outcome, given our current state of knowledge, we believe a case-by-case net carbon cycle impact analysis would be required in the course of reviewing each permit application. This burden would be in addition to the currently existing burden associated with obtaining a PSD or Title V permit. In light of the permitting burdens assessed in the Tailoring Rule, adding to that burden would frustrate the goals we sought to accomplish in the Tailoring Rule to ensure that the PSD and Title V programs can be administered in each state.

Furthermore, given the potential that the utilization of at least some biomass feedstocks may have a negligible impact on the net carbon cycle, engaging in this type of

burdensome analysis may not be an optimal use of the limited resources of PSD and Title V permitting authorities. The additional scientific examination proposed by the EPA (see section II.D) could ultimately conclude that such resources could have been more effectively utilized to target CO₂ emissions that clearly have a detrimental impact on the net carbon cycle. Establishing a three-year deferral period for biogenic CO₂ emissions will enable EPA to consider the results of the detailed examination of the science of these emissions and undertake a rulemaking to determine the best way to account for biogenic CO₂ emissions when determining PSD applicability.

5. Subjecting biogenic CO₂ emissions to permitting may be counterproductive because it could discourage utilization of the biomass feedstock as fuel

In some cases, the use of biological material as a fuel would clearly reduce net atmospheric CO₂ levels. In these cases, requiring permitting at this time, before conducting the detailed scientific examination discussed in section II.D that is required to develop an appropriate accounting system for bioenergy and other biogenic sources, might actually discourage projects that would have a net benefit for the atmosphere. For example, requiring

permitting for facilities seeking to generate energy from the combustion of dead trees, especially those killed due to a widespread event like the mountain pine beetle epidemic, is likely to discourage the utilization of a readily available resource that would clearly reduce CO₂ emissions (e.g., by removing and utilizing biomass material that would otherwise be susceptible to fire or decompose in the forest, leading to CO₂ and CH₄ emissions from decomposition). Likewise, combustion of CH₄-laden biogas (e.g., from landfills or other large sources of methane) for energy production reduces overall CO₂e emissions because of the higher GWP for CH₄.

B. CO₂ Emissions that are Deferred

As discussed earlier, the deferral applies to biogenic CO₂ emissions from biogenic feedstocks, rather than to specific types of facilities. All non-biogenic emissions from a facility continue to be included for purposes of PSD applicability throughout the deferral period. However, the portion of the CO₂ emissions from a facility that result from biologically-derived material are deferred and not included for purposes of determining PSD applicability during the deferral period. If fossil-derived fuel is used within a facility to provide energy for a process that also

uses biological material, the emissions associated with the fossil fuel must be counted toward PSD applicability regardless of the use of the biological material.

Specifically, the emissions that are deferred from applicability include, but are not limited to:

- CO₂ generated from the biological decomposition of waste in landfills, wastewater treatment or manure management processes;
- CO₂ from the combustion of biogas collected from biological decomposition of waste in landfills, wastewater treatment or manure management processes;
- CO₂ from fermentation during ethanol production;
- CO₂ from combustion of the biological fraction of municipal solid waste or biosolids;
- CO₂ from combustion of the biological fraction of tire-derived fuel; and
- CO₂ derived from combustion of biological material, including all types of wood and wood waste, forest residue, and agricultural material.

C. Non-CO₂ GHGs and Non-GHG Pollutants

As explained in section II.A.4, CO₂ is unique among GHGs in that large and relatively rapid fluxes of CO₂ between land and atmosphere occur as part of the global biogeochemical system that maintains life on Earth.²⁰ Because other non-GHG pollutants and non-CO₂ GHGs do not participate in natural biogeochemical carbon cycles as CO₂ does, this frame of reference - in which sequestration outside the facility is considered as part of the

²⁰ U.S. Greenhouse Gas Inventory Fast Facts (April 2010.). <http://www.epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-Fast-Facts-2008.pdf>

justification for differential treatment in the PSD and Title V programs - is not relevant for those other pollutants. The deferral proposed here does not apply to GHG emissions from bioenergy or biogenic sources other than biogenic CO₂ emissions, nor does it apply to emissions of non-GHG pollutants.

D. Mechanism for Deferral and State Implementation

1. Adding to definition of Subject to Regulation established in Tailoring Rule

To implement the proposed deferral, we are proposing to revise the definition of the term "subject to regulation" that EPA adopted in the PSD and Title V GHG Tailoring Rule. We are proposing to add language to the definition of "subject to regulation" to exclude biogenic CO₂ emissions from stationary sources for a three-year period starting on the date the promulgated rule is published in the Federal Register.

The EPA's PSD regulations implement the PSD provisions of the CAA, and the language of these statutory provisions is broad enough to cover biogenic CO₂ emissions. The 100/250 tpy thresholds previously described originate from section 169 of the CAA, which applies PSD to any "major emitting facility" and defines the term to include any source with a potential to emit "any air pollutant" in an

amount equal to or greater than 100 or 250 tpy, depending on the source category. The EPA's long-standing regulations interpret the PSD applicability provision that refers to "any air pollutant" to refer to any "regulated NSR pollutant," which includes any air pollutant "subject to regulation." In the final Tailoring Rule, EPA defined the term "subject to regulation" so that only GHG emissions from sources at or above specified thresholds (depending on the circumstances, 75,000 and/or 100,000 tpy on a CO₂e basis) are pollutants subject to regulation. Thus, sources that emit amounts exceeding the established thresholds, are subject to PSD as long as that amount of GHG also exceeds 100/250 tpy on a mass basis. Similarly, in the Tailoring Rule, EPA defined "subject to regulation" under the Title V program regulations so GHG emissions from sources at or above 100,000 tpy on a CO₂e basis are subject to regulation. We believe this is also the most efficient and effective approach for implementing the deferral of biogenic CO₂ emissions proposed in this rule.

Under this approach, some states may not need to undertake a regulatory or legislative action to implement the final rule if they are able to interpret the term "subject to regulation" used in existing state regulations in a manner consistent with the revised definition propose

in this rule. A full description of the "subject to regulation" mechanism and the basis for its usage in the Tailoring Rule can be found in preamble text for that rulemaking.²¹

2. State decisions to adopt deferral

Currently, a SIP-approved PSD program that applies to GHG-emitting sources applies to biogenic CO₂ emissions to the same extent as the program applies to all other GHGs. The same is true for an approved Title V program that applies to GHG-emitting sources. However, we believe that many states may not be inclined to apply their PSD or Title V programs to biogenic CO₂ emission sources for the same fundamental reasons that we are proposing to defer inclusions of these sources under the PSD and Title V permitting programs for a three-year period. As has been stated previously, one of our primary reasons for reconsideration of application of the Tailoring Rule requirements to biogenic CO₂ emissions sources²² was to allow for a detailed examination of the science associated with biogenic CO₂ emissions and to consider the technical issues that the agency must resolve in order to account for

²¹ 75 FR 31579-81 (June 3, 2010)

²² Letter from Honorable Lisa Jackson, Administrator, U.S. EPA, to R. Martella, Jr., R. Gray, and J. Coleman, Sidley Austin, LLP. (January 12, 2011.). <http://www.epa.gov/NSR/ghgdocs/McCarthytoMartella.pdf>

biogenic CO₂ emissions in ways that are scientifically sound and also manageable in practice. We believe that most, if not all, states are facing similar needs for further scientific examination and analysis to properly consider biogenic CO₂ emissions under a permitting scenario in a way that will not disrupt the proper functioning and timeliness of permitting activity within the state PSD and Title V programs. We believe states will also benefit from the deferral period in order to have sufficient time to respond to the results of the data collection and examination of the science associated with biogenic emissions and to properly educate and train staff in the unique permitting issues associated with biogenic sources, including fundamental principles such as accurate emission estimation methodologies and full consideration of environmental impacts associated with these sources.

Thus, states that cannot interpret their PSD SIP or Title V requirements to incorporate the three-year deferral are strongly encouraged to submit SIP revisions or Title V program revisions to adopt the three-year deferral. However, EPA recognizes that some states may not have any, or may have only a few, sources that combust biomass, and may have adequate information and resources as to the nature of biogenic emissions from those sources. EPA

requests each state to advise EPA by letter, during the comment period for this proposal, as to the number and type of biomass sources in the state and what the state expects to be the number and type of biomass sources over the next three years, and the state's resource constraints, to the extent that information is available. EPA solicits comment on how to treat states in light of this information and any preferences that the states may express.

3. Interim Guidance to Address Biogenic CO₂ Sources under PSD Review

Concurrent with this proposal to defer application of the pre-construction and Title V permitting programs to biogenic CO₂ emissions, EPA is issuing interim guidance to help permitting authorities establish a basis for concluding that BACT (which is one of the statutory conditions for receiving a permit) for GHG emissions at such sources is combustion of biomass fuel by itself. As previously noted, under the Tailoring Rule, since January 2, 2011, large stationary sources that become subject to PSD for other pollutants have had to address GHG such as CO₂. Since this proposed rulemaking to defer biogenic CO₂ emissions from PSD permitting requirements for a three-year period is not planned to be finalized until the July 2011 timeframe, there will be an interim period when such

biogenic CO₂ emissions will still need to be addressed in making PSD permitting determinations since the deferral will not yet be in effect.²³ For example, if a PSD permit is issued before the planned July 2011 finalization of this rulemaking that would defer biogenic CO₂ emissions from PSD applicability, then existing regulations might require that the PSD permit meet the BACT requirement for GHG emissions, including biogenic CO₂ emissions, during the interim period of time.

In its November 2010 GHG permitting guidance, EPA explicitly recognized that a permitting authority might determine that certain types of biomass by themselves are BACT for GHG emissions after considering the environmental, energy, and economic benefits of using the fuel. EPA's supplemental guidance provides a basis that permitting authorities may use to support the conclusion, during the interim period until the biomass deferral rulemaking is finalized, that BACT for biogenic CO₂ emissions from applicable sources is the combustion of biomass fuel by itself.

E. Requesting comment

²³ As of January 2, 2011, permitting authorities and sources subject to Title V need to address any applicable requirements for GHG, such as PSD permit requirements, consistent with the requirements of 40 CFR part 70 and approved state programs. However, GHG emissions will not be used to establish Title V applicability before July 1, 2011.

Given the detail and rationale above, EPA has concluded this approach to defer application of PSD and Title V permitting requirements to biogenic CO₂ emissions is appropriate. However, EPA is requesting comment on this proposal, including the approach, the rationale and other considerations the Agency should take into account.

IV. Statutory and Executive Order Review

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order (EO) 12866 (58 FR 51735, October 4, 1993), this action is a "significant regulatory action" because it raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the EO. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under EO 12866.

B. Paperwork Reduction Act

This action does not impose any new information collection burden. Instead, this action will reduce costs incurred by any facility with biogenic CO₂ emissions, as well as permitting authorities, relative to the costs that would be incurred if EPA did not revise the rule.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

The OMB has previously approved the information collection requirements contained in the existing regulations for PSD (see, e.g., 40 CFR 52.21) and Title V (see 40 CFR parts 70 and 71) under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. and has assigned OMB control number 2060-0003 and OMB control number 2060-0336. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this proposed rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a

population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed action on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. In determining whether a rule has a significant economic impact on a substantial number of small entities, the impact of concern is any significant adverse economic impact on small entities, since the primary purpose of the regulatory flexibility analyses is to identify and address regulatory alternatives "which minimize any significant economic impact of the rule on small entities." 5 U.S.C. 603 and 604. Thus, an agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, or otherwise has a positive economic effect on all of the small entities subject to the rule.

We believe that this proposed rule will relieve the necessary extensive analysis and corresponding extensive workload requirements for most affected facilities, including small businesses. As a result, the program

changes provided in this rule are not expected to result in a significant economic impact on a substantial number of small entities. In addition, EPA determined that the proposed rulemaking would not have a significant impact on small governmental jurisdictions. The EPA has therefore concluded that this proposed action will not have a significant economic impact on a substantial number of small entities.

We continue to be interested in the potential impacts of this proposed action on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act (UMRA)

This proposed rule does not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and Tribal governments, in the aggregate, or the private sector in any one year. Only those few states whose permitting authorities do not implement the federal PSD and Title V rules by reference in their SIPs will have a small increase in burden. These states will have to amend their corresponding SIPs to incorporate the proposed amendments from today's action, as the deferral that we propose will not otherwise apply to the PSD and Title V programs. Thus, this rule is not subject to the requirements of sections 202 or 205 of the UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. As discussed earlier, this rule is expected to result in an administrative burden reduction for all affected permitting authorities and permittees, including small governments.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in EO 13132. These proposed amendments would simplify and reduce the burden on implementing the PSD and Title V operating permit programs, by deferral of PSD and Title V application requirements to biogenic CO₂ emissions at a facility. Thus, EO 13132 does not apply to this action.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed action from State and local officials.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

Executive Order 13175, entitled "Consultation and Coordination with Indian Tribal Governments" (59 FR 22951, November 6, 2000), requires EPA to develop an accountable process to ensure "meaningful and timely input by Tribal officials in the development of regulatory policies that have Tribal implications."

The EPA has concluded that this proposed rule may have tribal implications. However, it will neither impose substantial direct compliance costs on tribal government, nor preempt tribal law. There are no tribal authorities currently issuing major NSR permits; however, this may change in the future.

The EPA specifically solicits additional comment on this proposed action from Tribal officials.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the Executive Order 492 has the potential to influence the regulation. This action is not subject to Executive Order 13045 does

not establish an environmental standard intended to mitigate health or safety risks.

H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use

This proposed rule is not a "significant energy action" as defined in EO 13211 (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Further, we have concluded that this rule is not likely to have any adverse energy effects because this action would not create any new requirements for sources in the energy supply, distribution, or use sectors.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law No. 104-113 (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through

OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This proposed rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the U.S.

The EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment because any impacts that it will have will be global in

nature and will not affect local communities or populations in a manner that adversely affects the level of protection provided to human health or the environment.

K. CAA section 307

Pursuant to section 307(d)(1)(J) and (V) of the CAA, the Administrator determines that this action is subject to the provisions of section 307(d). Section 307(d)(1)(J) provides that the provisions of section 307(d) apply to the promulgation or revision of regulations under Part C of Title I of the Clean Air Act, which covers the PSD program. Section 307(d)(1)(V) provides that the provisions of section 307(d) apply to "such other actions as the Administrator may determine." The Administrator determines that section 307(d) applies to the Title V program components of this rule.

Furthermore, this action has a nationwide scope and effect. Thus, under section 307(b)(1) of the Act, judicial review of the final action on this proposal will be available by filing of a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit.

List of Subjects

40 CFR Part 51

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon

dioxide equivalents, Greenhouse gases, Intergovernmental relations, Methane, Nitrous oxide.

40 CFR Part 52

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Greenhouse gases, Intergovernmental relations, Methane, Nitrous oxide.

40 CFR Part 70

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Greenhouse gases, Intergovernmental relations, Methane, Nitrous oxide.

40 CFR Part 71

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Greenhouse gases, Intergovernmental relations, Methane, Nitrous oxide.

Dated:

Lisa P. Jackson,
Administrator.

For the reasons stated in the preamble, title 40, chapter I, of the Code of Federal Regulations is proposed to be amended as follows:

PART 51 -- [AMENDED]

1. The authority citation for part 51 continues to read as follows:

Authority: 23 U.S.C. 101; 42 U.S.C. 7401-7671q.

Subpart I -- [Amended]

2. Section 51.166 is amended by revising paragraph (b) (48) (ii) (a) to read as follows:

§51.166 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(48) * * *

(ii) * * *

(a) Multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter – Global Warming Potentials. For purposes of this paragraph

(b) (48) (ii) (a), prior to [DATE 3 YEARS AFTER THE EFFECTIVE DATE OF THE FINAL DEFERRAL RULE], the mass of the

greenhouse gas carbon dioxide shall not include carbon dioxide emissions resulting from the combustion or decomposition of non-fossilized and biodegradable organic material originating from plants, animals, or micro-organisms (including products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material).

* * * * *

PART 52 -- [AMENDED]

3. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

Subpart A -- [Amended]

4. Section 52.21 is amended by revising paragraph (b) (49) (ii) (a) to read as follows:

§52.21 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(49) * * *

(ii)* * *

(a) Multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter – Global Warming Potentials. For purposes of this paragraph, prior to [DATE 3 YEARS AFTER THE EFFECTIVE DATE OF THE FINAL DEFERRAL RULE], the mass of the greenhouse gas carbon dioxide shall not include carbon dioxide emissions resulting from the combustion or decomposition of non-fossilized and biodegradable organic material originating from plants, animals, or micro-organisms (including products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material).

* * * * *

PART 70 -- [AMENDED]

5. The authority citation for part 70 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

6. Section 70.2 is amended by revising paragraph (2) of the definition of "Subject to regulation" to read as follows:

§70.2 Definitions.

* * * * *

Subject to Regulation

* * *

(2) The term tpy CO₂ equivalent emissions (CO₂e) shall represent an amount of GHGs emitted, and shall be computed by multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials, and summing the resultant value for each to compute a tpy CO₂e. For purposes of this paragraph, prior to [DATE 3 YEARS AFTER THE EFFECTIVE DATE OF THE FINAL DEFERRAL RULE], the mass of the greenhouse gas carbon dioxide shall not include carbon dioxide emissions resulting from the combustion or decomposition of non-fossilized and biodegradable organic material originating from plants, animals, or micro-organisms (including products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-

fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material).

* * * * *

PART 71 -- [AMENDED]

7. The authority citation for part 51 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

Subpart A -- [Amended]

8. Section 71.2 is amended by revising paragraph (2) of the definition of "Subject to regulation" to read as follows:

§71.2 Definitions.

* * * * *

Subject to Regulation

* * *

(2) The term tpy CO₂ equivalent emissions (CO₂e) shall represent an amount of GHGs emitted, and shall be computed by multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global

Warming Potentials, and summing the resultant value for each to compute a tpy CO₂e. For purposes of this paragraph, prior to [DATE 3 YEARS AFTER THE EFFECTIVE DATE OF THE FINAL DEFERRAL RULE], the mass of the greenhouse gas carbon dioxide shall not include carbon dioxide emissions resulting from the combustion or decomposition of non-fossilized and biodegradable organic material originating from plants, animals, or micro-organisms (including products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material).

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