

## NEW RULE 26.13 – NEW SOURCE REVIEW - PREVENTION OF SIGNIFICANT DETERIORATION

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### EXECUTIVE SUMMARY

Prevention of Significant Deterioration (PSD) is a federal pre-construction permitting program for facilities located in areas that either comply with federal ambient air quality standards for particular pollutants (classified as attainment) or are unclassifiable for any criteria air pollutant. PSD applies to new major stationary sources and existing major stationary sources where a significant modification will occur. The counterpart of PSD in federal permitting is the Federal New Source Review Program for major sources of pollutants that are not in attainment of federal ambient air quality standards.

In Ventura County, the PSD permitting program is currently administered by the Environmental Protection Agency (EPA) Region IX. At this time, no facility in the county requires a PSD permit.

The recent addition of greenhouse gases (GHG) to the list of regulated pollutants makes these pollutants subject to federal permitting. As a result, EPA Region IX could have a significant increase in PSD permit applications throughout the state. EPA staff would be overwhelmed with these new permit applications and processing time could be signifi-

cantly longer. Consequently, EPA is encouraging local air districts to take responsibility for processing any PSD permit applications within their jurisdiction. This requires each district to adopt a PSD permitting rule that mirrors federal requirements. The rule must be approved for incorporation into the State Implementation Plan (SIP) by both the California Air Resources Board (ARB) and EPA.

The most straightforward way for an air district to take PSD responsibility is to adopt a rule that incorporates the federal requirements by reference. The California Air Pollution Control Offices Association (CAPCOA) has developed a model rule for just this purpose. The rule was developed cooperatively by EPA staff, ARB staff, and the CAPCOA Engineering Managers Committee.

District staff is proposing a PSD rule based on the CAPCOA model rule. Certain changes have been made to accommodate specific situations in Ventura County. In addition, existing PSD Rule 26.10, which requires a source operator to obtain a PSD permit from EPA, will be repealed.

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### PROPOSED RULE

Proposed new Rule 26.13 is based on a CAPCOA model PSD rule developed by EPA staff, ARB staff, and the CAPCOA Engineering Managers Committee. The features of the rule are discussed below.

#### A. Purpose

This section of the rule is relatively self-explanatory, establishing the context of the rule with respect to new source review. Ventura County has not attained the federal NAAQS for ozone; its status is "attainment" for all other pollutants. A list of applicable attainment pollutants appears in Table 1.

**The prevention of significant deterioration (PSD) program is a construction permitting program for new major facilities and major**

**modifications to existing major facilities that emit either criteria or greenhouse gas pollutants located in areas classified for an air pollutant as either attainment or unclassifiable. Rules 10 through 32 contain application requirements and processing requirements for permit actions. The intent of this Rule is to incorporate by reference federal PSD rule requirements into these Rules and Regulations.**

#### B. Applicability

Section B specifies that Rule 26.13 shall apply to sources subject to federal regulation 40 CFR Part 52.21.

**Table 1**  
**Significant Pollutants for Major Modifications in § 52.21 (b)(23)**

<i>Pollutant</i>	<i>Emissions Rate</i>
Carbon monoxide.....	100 tons per year (tpy)
Nitrogen oxides.....	40 tpy
Sulfur dioxide.....	40 tpy
Particulate matter: .....	25 tpy of particulate matter emissions 15 tpy of PM10 emissions
Ozone.....	40 tpy of volatile organic compounds*
Lead .....	0.6 tpy
Asbestos .....	0.007 tpy
Beryllium .....	0.0004 tpy
Mercury.....	0.1 tpy
Vinyl chloride .....	1 tpy
Fluorides .....	3 tpy
Sulfuric acid mist.....	7 tpy
Hydrogen sulfide (H2S).....	10 tpy
Total reduced sulfur (including H2S).....	10 tpy
Reduced sulfur compounds (including H2S): .....	10 tpy
Greenhouse Gases.....	75,000 tpy
Municipal Waste processing .....	Specific limits

\* - Ozone is non-attainment in Ventura County

**The provisions of this rule shall apply to any source and the owner or operator of any source subject to any requirement under 40 Code of Federal Regulations (40 CFR) Part 52.21 as incorporated into this rule.**

C. Incorporation by Reference

Section C incorporates by reference federal regulation 40 CFR Part 52.21. In Subsections 1, 2 and 3 (not shown), exclusions and amendments to the federal regulations are specified. These changes are detailed in Appendix A and Appendix B.

**Except as provided below, the provisions of 40 CFR Part 52.21, in effect August 2, 2010, are incorporated herein by reference and made part of these Rules and Regulations.**

D. Requirements

This section specifies that a facility owner or operator must obtain a PSD permits prior to construction for applicable projects. The District shall issue the permit and the applicant shall pay the fees specified in Rule 42.

- 1. An owner or operator must obtain a prevention of significant deterioration (PSD) permit pursuant to this Rule before beginning actual construction of**

**a new major stationary source, a major modification, or a Plantwide Applicability Limit (PAL) major modification, as defined in 40 CFR 52.21(b).**

- 2. Notwithstanding the provisions of any other Rule or Regulation, the Air Pollution Control Officer shall require compliance with this rule prior to issuing a federal Prevention of Significant Deterioration permit as required by Clean Air Act (CAA) Section 165.**

- 3. The applicant shall pay the applicable fees specified in Rule 42.**

E. Public Participation

Section E specifies that the public notice requirements in Rule 26.7, New Source Review – Notification, shall apply. Rule 26.7 requires a published notice in both a newspaper of general circulation and the District newsletter for a period of 30 days prior to a final decision. ARB and EPA are also notified.

- 1. Prior to issuing a federal PSD permit pursuant to this rule, the Air Pollution Control Officer shall comply with the public notice requirements of Rule 26.7, New Source Review - Notification.**

## DISCUSSION

The federal PSD program appears in 40 Code of Federal Regulations (CFR) Part 52.21. The discussion below explains many of the features of the program as it applies to Ventura County.

### Who is Subject to PSD Permitting?

A pre-construction PSD permit is required for any new major source or significant modification of an existing major source for any the pollutants in Table 1 except pollutants for which an area has been classified non-attainment. Currently, Ventura County is a federal non-attainment area for ozone. The remaining pollutants in Table 1 are applicable attainment pollutants. The mass emission rates listed in Table 1 apply to modifications of a existing source.

In general, a new major source is a facility with mass emissions of 250 tons or more per year of an applicable pollutant, except for GHGs, for which there is an additional threshold of 100,000 tons per year of carbon dioxide equivalent (CO<sub>2</sub>e). CO<sub>2</sub>e is calculated by multiplying the mass emission rate of a greenhouse gas by its global warming potential (GWP). GWP values for many greenhouse gases appear in Appendix C.

Note also that there are 28 types of industries where a new major source is defined as 100 tons per year or more of an applicable pollutant (Appendix D), with the same additional GHG threshold. No such source type is likely to be constructed in Ventura County.

With the recent addition of GHG as a regulated pollutant, it is possible for an existing source to become a PSD source. However, based on past permitting experience, no new or existing PSD sources are expected in Ventura County.

### What are the Primary Requirements to Obtain a PSD Permit?

PSD permit applicants must meet five requirements to obtain a PSD permit, as listed below;

- Apply BACT during all phases of operation
- Conduct an air quality impact analysis
- Perform an increment consumption analysis
- Analyze impacts to soils, vegetation and visibility
- Not adversely impact any Class I area<sup>1</sup>

The air quality impact analysis should show that the increase in emissions will neither cause or contribute

to an exceedence of a National Ambient Air Quality Standard (NAAQS)

BACT is required on each emissions unit that emits an applicable air pollutant in excess of the significance threshold for that pollutant. Because GHGs are newly regulated, BACT has not been thoroughly developed. As an example, a PSD source of GHGs could be a fossil-fuel fired boiler with a capacity of over 200 million Btu/hr operating full time. In this case, BACT would likely be a fuel efficiency requirement; if fuel use is reduced, carbon dioxide emissions are reduced.

The air quality impact analysis compares the background concentration of a pollutant plus the potential to emit of the new or modified emissions units to the NAAQS on an hour by hour basis over the course of a year. Background concentrations are determined from either a public monitoring site nearby (with three to five years of ambient data) or one year of site-specific hourly monitoring. Both pollutant concentration and weather data is collected. If there are other facilities with issued Authorities to Construct that have not begun operation at the time of the site monitoring, the potential to emit of these other facilities must be added to the background concentration. If the air quality impact analysis shows an exceedence of the NAAQS, additional emission controls or operational limitations must be imposed on the new or modified units. If an NAAQS exceedence remains possible, post-project air quality monitoring may be imposed on the applicant. In addition, the project must not impact a Class I area (such as the Los Padres National Forest in northern Ventura County).

In addition to exceeding the NAAQS, federal regulations limit the increase in ambient air concentration of a pollutant from a single source. This is called the ambient air increment. Increments differ by pollutant and are measured in micrograms per cubic meter (see Appendix E). Because neither a NAAQS nor an ambient air increment have been established for GHGs, an air quality impact analysis is not required.

### What are the Benefits of District PSD Permitting?

The primary benefit for sources requiring a PSD permit at the District level is a shorter permit processing time. Currently, obtaining a PSD permit from EPA can take several years. With a District PSD designation, permit processing will occur much

more quickly. EPA PSD permit processing involves both the federal Fish and Wildlife Service and the National Marine Fisheries Service (regarding the Endangered Species Act (ESA)) because an EPA PSD permit issuance is considered a federal action. Local districts are not required to consult federal agencies, although compliance with applicable ESA is still required. ESA and other impacts are considered in the California Environmental Quality Act (CEQA) process. Note, however, that the PSD permit process is both complicated and labor-intensive and will take much more time to complete compared to the typical APCD permit process.

Appeals for PSD permits issued by EPA are heard by the federal Environmental Appeals Board (EAB) in Washington, DC. Appeals of a District-issued PSD permit issued are heard by the District Hearing Board. Appeals handled locally will be quicker and have more scheduling flexibility.

#### Financial Impact

The adoption of Rule 26.13 will have a financial impact on businesses that require a PSD permit because they will be required to pay the District for the additional permit processing required to obtain the permit. Currently, EPA charges no fee for processing PSD permit applications.

The District proposes to charge for PSD permit processing as specified in Rule 42. Because of the modeling required, actual labor hours required to process a PSD permit could be significantly more than those required for a Title V permit. Also, costs could vary considerably depending on the level of participation by both the public and EPA. The current hourly service rate for an Air Quality

Engineer is \$119.00 per hour. Staff estimates that, depending on its complexity, the cost of a PSD permit could range from \$15,000 to \$100,000.

#### Implementation of State Senate Bill 288

SB 288 restricts changes that California air pollution control districts may make to their existing New Source Review (NSR) and PSD rules. SB 288 also requires ARB to formally approve any NSR and PSD rule changes made by local districts. If a district makes any NSR or PSD rule changes that ARB finds, after a public hearing, are less stringent than those that existed on December 30, 2002, SB 288 directs ARB to promptly adopt the rules necessary to restore equivalent NSR and PSD obligations.<sup>2</sup>

New Rule 26.13 is being proposed in part to accommodate the federal Greenhouse Gas Tailoring Rule. With regard to SB 288, ARB states:

*Based on the text and timing of SB 288, as well as other policy considerations discussed in the enclosed guidance document, ARB staff concludes that SB 288 is not applicable to those changes to district rules required to be implemented by the districts as a result of the Tailoring Rule. Therefore, SB 288 should not act as a barrier to the efforts underway to expeditiously develop rules for implementing the GHG Tailoring Rule.<sup>1</sup>*

Because Rule 26.13 is a new rule that implements federal PSD requirements, the rule will be no less stringent than existing Rule 26.10. Rule 26.10 states that an applicant subject to PSD must obtain a PSD permit from EPA.

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### EMISSION REDUCTION / COST EFFECTIVENESS

Health & Safety Code § 40703 states that the District must consider, and make public, "the cost-effectiveness of a control measure." The proposed rule is not included in any control measure, so a cost-effectiveness calculation is not necessary.

Nevertheless, although the proposed rule is administrative in nature, a significant increase in permit processing costs will occur for sources requiring a PSD permit. Also, the District will experience an increase in costs to implement the PSD program;

some of these costs may not be directly offset by the permit processing fee. Although emissions may be reduced as a result of PSD requirements, it is not possible to calculate the quantity of these emissions until an application is received. Therefore, the cost-effectiveness of the proposal cannot be calculated.

Because this rule action is not a measure to implement Best Available Retrofit Control Technology, an incremental cost-effectiveness analysis under Health & Safety Code Section 40920.6 is not required.

## SOCIOECONOMIC IMPACT

Health & Safety Code § 40728.5 requires the Air Pollution Control Board consider the socioeconomic impact of any new rule or amendment to an existing rule if air quality or emission limits are significantly effected. The proposed rule is administrative in nature and does not include emission limits. However, emissions may be reduced as a result of PSD requirements. It is not possible to calculate the quantity of these emissions until individual projects are evaluated. However, the rule may affect air quality in Ventura County, so the requirements of the section must be evaluated.

The Board must evaluate the following socioeconomic information on new Rule 26.13:

- (1) *The type of industries or business, including small business, affected by the rule or regulation.*

Rule 26.13 will impact businesses that construct a new major source or a make a significant modification to an existing major source of an attainment pollutant. It is not possible to determine the quantity or nature of these emissions until the individual projects are evaluated. There are currently no PSD permit holders in Ventura County and few, if any, are expected. The rule will have no impact on small business.

- (2) *The impact of the rule or regulation on employment and the economy of the region affected by the adoption of the rule or regulation.*

The adoption of Rule 26.13 is expected to have no impact on employment in and the economy of Ventura County. A new major source or a significant modification to an existing major source of an attainment pollutant will require a PSD permit regardless of the identity of the issuing agency. There are currently no PSD permit holders in Ventura County and few, if any, are expected.

- (3) *The range of probable costs, including costs to industry or business, including small business, of the rule or regulation.*

The District proposes to charge for PSD permit processing as specified in Rule 42. Because of the modeling required, actual labor hours required to process a PSD permit could be significantly more than those required for a Title V permit. Also, costs could vary considerably depending on the level of participation by both the public and EPA. The current hourly service rate for an Air Quality Engineer is \$119.00 per hour. Staff estimates that, depending on the complexity, the cost of a PSD permit could be from \$15,000 to \$100,000.

- (4) *The availability and cost-effectiveness of alternatives to the rule or regulation being proposed or amended.*

The PSD program is implemented pursuant to federal law. A new major source or a significant modification to an existing major source of an attainment pollutant will require a PSD permit regardless of the identity of the issuing agency. No alternatives to the rule exist.

- (5) *The emission reduction potential of the rule or regulation.*

While emissions may be reduced as a result of PSD requirements, it is not possible to calculate the quantity of these emissions until a project is evaluated. Therefore, the emission reduction potential of the proposal cannot be calculated.

- (6) *The necessity of adopting, amending, or repealing the rule or regulation in order to attain state and federal ambient air standards pursuant to Chapter 10 (commencing with Section 40910).*

Although it is possible that NO<sub>x</sub> and VOC emissions will be reduced as a result of this rule, no new PSD sources are expected in Ventura County. However, any reductions that do occur will assist in the District's progress towards attainment and maintenance of the federal and California ambient air quality ozone standards.

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## ENVIRONMENTAL IMPACTS OF METHODS OF COMPLIANCE / CEQA

### Methods of Compliance

California Public Resources Code § 21159 requires the District to perform an environmental analysis of

the reasonably foreseeable methods of compliance if the proposed rule requires "the installation of pollution control equipment, or [specifies] a performance standard or treatment requirement..."

The proposed rule is administrative in nature but may involve a requirement to install air pollution control equipment. It is not possible to determine the nature of the control equipment until the project is evaluated. Therefore, an analysis is not possible.

### CEQA Requirements

Staff concludes that the adoption of proposed Rule 26.13 is within the scope of the categorical exemptions from the CEQA under CEQA guideline Sections 15308, Protection of Environment, and that no exception to these categorical exemptions apply.

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## ANALYSIS OF EXISTING FEDERAL AND DISTRICT REGULATIONS

California Health & Safety Code § 40727.2(a) requires districts to provide a written analysis of existing regulations prior to adopting, amending or repealing a regulation. Section 40727.2(a) states:

In complying with Section 40727, the district shall prepare a written analysis as required by this section. In the analysis, the district shall identify all existing federal air pollution control requirements, including, but not limited to, emission control standards constituting best available control technology for new or modified equipment, that apply to the same equipment or source type as the rule or regulation proposed for adoption or modification by the district. The analysis shall also identify any of that district's existing or proposed rules and regulations that apply to the same equipment or source type, and all air pollution control requirements and guidelines

that apply to the same equipment or source type and of which the district has been informed pursuant to subdivision (b).

The proposed rule includes no emission control standards; therefore, the requirements of Health & Safety Code § 40727.2(a) are satisfied pursuant to Health & Safety Code § 40727.2(g). Nevertheless, the PSD program requires the implementation of BACT. It is not possible to determine the nature of the BACT requirement until a project is evaluated.

Note also that the PSD program is implemented pursuant to federal law. A new major source or a significant modification to an existing major source of an attainment pollutant will require a PSD permit regardless of the identity of the issuing agency. Existing District Rule 26.10, New Source Review - Prevention of Significant Deterioration, is proposed for repeal.

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## PUBLIC MEETINGS AND COMMENTS

### Public Workshop

Staff conducted a public workshop on new Rule 26.13 on February 24, 2011. There were no attendees.

### Advisory Committee

The Advisory Committee met on April 26, 2011, to consider recommending adoption of new Rule 26.13 and repeal of Rule 26.10. There was no public comment. The committee recommended unanimously approval of proposed rule action.

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## REFERENCES

1. Laura Yannayon, EPA Region 9 Permit Office, *CAPCOA Permit Staff Training, Prevention of Significant Determination (PSD) Permitting*, October 18, 2010
2. Robert D. Fletcher, California Air Resources Board, *To All California Air Pollution Control Officers/Executive Officers*, December 22, 2010

Acknowledgment  
Placer County APCD, *Proposed New Rule 518, Prevention Of Significant Deterioration Staff Report*, October 21, 2010

## **Appendix A**

### **Rule 26.13 Subsection C.1, Exemptions**

### **Subject Summary**

The following subsections of 40 CFR Part 52.21 are excluded:

- (a)(1) Plan Disapproval (EPA function only)
- (b)(55) Definition of "process unit," in general
- (b)(56) Definition of "Functionally equivalent component"
- (b)(57) Definition of "Fixed capital cost"
- (b)(58) Definition of "Total capital investment"  
(ERP definitions struck down by DC Circuit Court but not yet removed from the CFR)
- (f) [Reserved]
- (g) Redesignation (EPA function only)
- (i) (Exemptions)
  - (i)(1)(i) Construction or modification commenced before August 7, 1977.
  - (i)(1)(ii) The source or modification was subject to 40 CFR 52.21 as in effect before March 1, 1978.
  - (i)(1)(iii) The source or modification was not subject to 40 CFR 52.21 as in effect before March 1, 1978.
  - (i)(1)(iv) The source or modification was not subject to 40 CFR 52.21 as in effect before March 1, 1978.
  - (i)(1)(v) The source or modification was not subject to 40 CFR 52.21 as in effect on June 19, 1978.
  - (i)(1)(ix) The source or modification was not subject to §52.21, with respect to particulate matter, as in effect before July 31, 1987.
  - (i)(1)(x) The source or modification was subject to 40 CFR 52.21, with respect to particulate matter, as in effect before July 31, 1987.
  - (i)(6) Best Available Control Technology as in effect on June 19, 1978.
  - (i)(7) Air quality monitoring as in effect on June 19, 1978.
  - (i)(8) Air quality monitoring of PM<sub>10</sub> on or before June 1, 1988 and no later than December 1, 1988.
- (p)(6-8) Class 1 variances by the Governor
- (q) Public Participation (EPA only)
- (s) Environmental Impact Statements (NEPA)
- (t) Disputed Permits or Redesignations – resolutions
- (u) Delegation of Authority (EPA function only)
- (v) Innovative Control Technology – Approval procedure
- (w) Permit Rescission (EPA function only)
- (x) [Reserved]
- (y) [Reserved]
- (z) [Reserved]
- (cc) "Routine maintenance, repair and replacement" definition, capital cost threshold for equipment replacement, and basic design parameters. The replacement activity shall not cause the process unit to exceed any emission limitation.  
(ERP provisions struck down by DC Circuit Court.)

**Appendix B**  
**Rule 26.13, Subsection C.2 and C.3**  
**Revisions From Federal Code**  
**(Changes noted in Strikeout/Underline format)**

Subsection C.2

The following definitions found in 40 CFR Part 52.21(b) are revised as follows:

- a. In the definition of “potential to emit” contained in 40 CFR Part 52.21(b)(4), the phrase “is federally enforceable” shall read “is federally enforceable or enforceable as a practical matter.”

**(4) *Potential to emit*** means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable or enforceable as a practical matter. Secondary emissions do not count in determining the potential to emit of a stationary source.

- b. In the definition of “allowable emissions” contained in 40 CFR Part 52.21(b)(16):

1) The phrase “unless the source is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both” shall read, “unless the source is subject to enforceable limits which restrict the operating rate, or hours of operation, or both.”

2) Paragraph (iii) shall read as follows: “The emissions rate specified as an enforceable permit condition, including those with a future compliance date.”

**(16) *Allowable emissions*** means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to ~~federally~~ enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:

- (i) The applicable standards as set forth in 40 CFR parts 60 and 61;  
(ii) The applicable State Implementation Plan emissions limitation, including those with a future compliance date; or  
(iii) The emissions rate specified as a ~~federally~~ an enforceable permit condition, including those with a future compliance date.

Subsection C.3

The following terms found in 40 CFR Part 52.21(b) are revised as follows:

- a. The term “administrator” means:

1) “federal administrator” in 40 C.F.R. 52.21(b)(17), (b)(37)(i), (b)(43), (b)(48)(ii)(c), (b)(50)(i), (b)(51), (l)(2) and (p)(2); or

2) “Air Pollution Control Officer” as defined in Rule 2.

- b. The phrase “paragraph (q) of this section” in 40 CFR 52.21(p)(1) shall read as follows: the public notice and comment provisions of Rule 26.7, New Source Review - Notification.

**(p) *Sources impacting Federal Class I areas-additional requirements -***

(1) *Notice to Federal land managers.* The Administrator shall provide written notice of any permit application for a proposed major stationary source or major modification, the emissions from which may

affect a Class I area, to the Federal land manager and the Federal official charged with direct responsibility for management of any lands within any such area. Such notification shall include a copy of all information relevant to the permit application and shall be given within 30 days of receipt and at least 60 days prior to any public hearing on the application for a permit to construct. Such notification shall include an analysis of the proposed source's anticipated impacts on visibility in the Federal Class I area. The Administrator shall also provide the Federal land manager and such Federal officials with a copy of the preliminary determination required under ~~paragraph (q) of this section~~ the public notice and comment provisions of Rule 26.7, New Source Review - Notification, and shall make available to them any materials used in making that determination, promptly after the Administrator makes such determination. Finally, the Administrator shall also notify all affected Federal land managers within 30 days of receipt of any advance notification of any such permit application.

**(q) Public participation.** The Administrator shall follow the applicable procedures of 40 CFR part 124 in processing applications under this section. The Administrator shall follow the procedures at 40 CFR 52.21(r) as in effect on June 19, 1979, to the extent that the procedures of 40 CFR part 124 do not apply.

### Appendix C Global Warming Potentials for Certain Greenhouse Gases

Global warming potentials (GWPs) are used to compare the abilities of different greenhouse gases to trap heat in the atmosphere. GWPs are based on the radiative efficiency (heat-absorbing ability) of each gas relative to that of carbon dioxide (CO<sub>2</sub>), as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO<sub>2</sub>. The GWP provides a construct for converting emissions of various gases into a common measure, which allows climate analysts to aggregate the radiative impacts of various greenhouse gases into a uniform measure denominated in carbon or carbon dioxide equivalents.

<b>Comparison of 100-Year GWP Estimates from the IPCC's Second (1996) and Third (2001) Assessment Reports</b>		
Gas	1996 IPCC GWP <sup>a</sup>	2001 IPCC GWP <sup>b</sup>
Carbon Dioxide	1	1
Methane	21	23
Nitrous Oxide	310	296
HFC-23	11,700	12,000
HFC-125	2,800	3,400
HFC-134a	1,300	1,300
HFC-143a	3,800	4,300
HFC-152a	140	120
HFC-227ea	2,900	3,500
HFC-236fa	6,300	9,400
Perfluoromethane (CF <sub>4</sub> )	6,500	5,700
Perfluoroethane (C <sub>2</sub> F <sub>6</sub> )	9,200	11,900
Sulfur Hexafluoride (SF <sub>6</sub> )	23,900	22,200

This page last updated August 12, 2002  
 IPCC Global Warming Potential page  
<http://www.eia.doe.gov/oiaf/1605/gwp.html>

**Appendix D**  
**Definition of Major Stationary Source**  
**40 CFR 52.21 (b)(1)(a)**

(i) *Major stationary source* means:

( a ) Any of the following stationary sources of air pollutants which emits or has the potential to emit 100 tons per year or more of any regulated NSR pollutant:\*

1. Fossil Fuel-Fired Steam Electric Plants of more than 250 million British thermal units per hour heat input
2. Coal Cleaning Plants (with thermal dryers)
3. Kraft Pulp Mills
4. Portland Cement Plants
5. Primary Zinc Smelters
6. Iron And Steel Mill Plants
7. Primary Aluminum Ore Reduction Plants (with thermal dryers)
8. Primary Copper Smelters
9. Municipal Incinerators capable of charging more than 250 tons of refuse per day
10. Hydrofluoric Acid Plants
11. Sulfuric Acid Plants
12. Nitric Acid Plants
13. Petroleum Refineries
14. Lime Plants
15. Phosphate Rock Processing Plants
16. Coke Oven Batteries
17. Sulfur Recovery Plants
18. Carbon Black Plants (Furnace Process)
19. Primary Lead Smelters
20. Fuel Conversion Plants
21. Sintering Plants
22. Secondary Metal Production Plants
23. Chemical Process Plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140)
24. Fossil-Fuel Boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input
25. Petroleum Storage And Transfer Units with a total storage capacity exceeding 300,000 barrels
26. Taconite Ore Processing Plants
27. Glass Fiber Processing Plants
28. Charcoal Production Plants

\* except greenhouse gases, for which the threshold is 100,000 tons per year.

## Appendix E Ambient Air Increments

In areas designated as Class I, II or III, increases in pollutant concentration over the baseline concentration shall be limited to the following:

Pollutant	Maximum allowable increase(mg/m <sup>3</sup> )
Class I (Parks and Wilderness)	
Particulate matter:	
PM-10, annual arithmetic mean	4
PM-10, 24-hr maximum	8
Sulfur dioxide:	
Annual arithmetic mean	2
24-hr maximum	5
3-hr maximum	25
Nitrogen dioxide:	
Annual arithmetic mean	2.5
Class II (Default Classification)	
Particulate matter:	
PM-10, annual arithmetic mean	17
PM-10, 24-hr maximum	30
Sulfur dioxide:	
Annual arithmetic mean	20
24-hr maximum	91
3-hr maximum	512
Nitrogen dioxide:	
Annual arithmetic mean	25
Class III (None designated)	