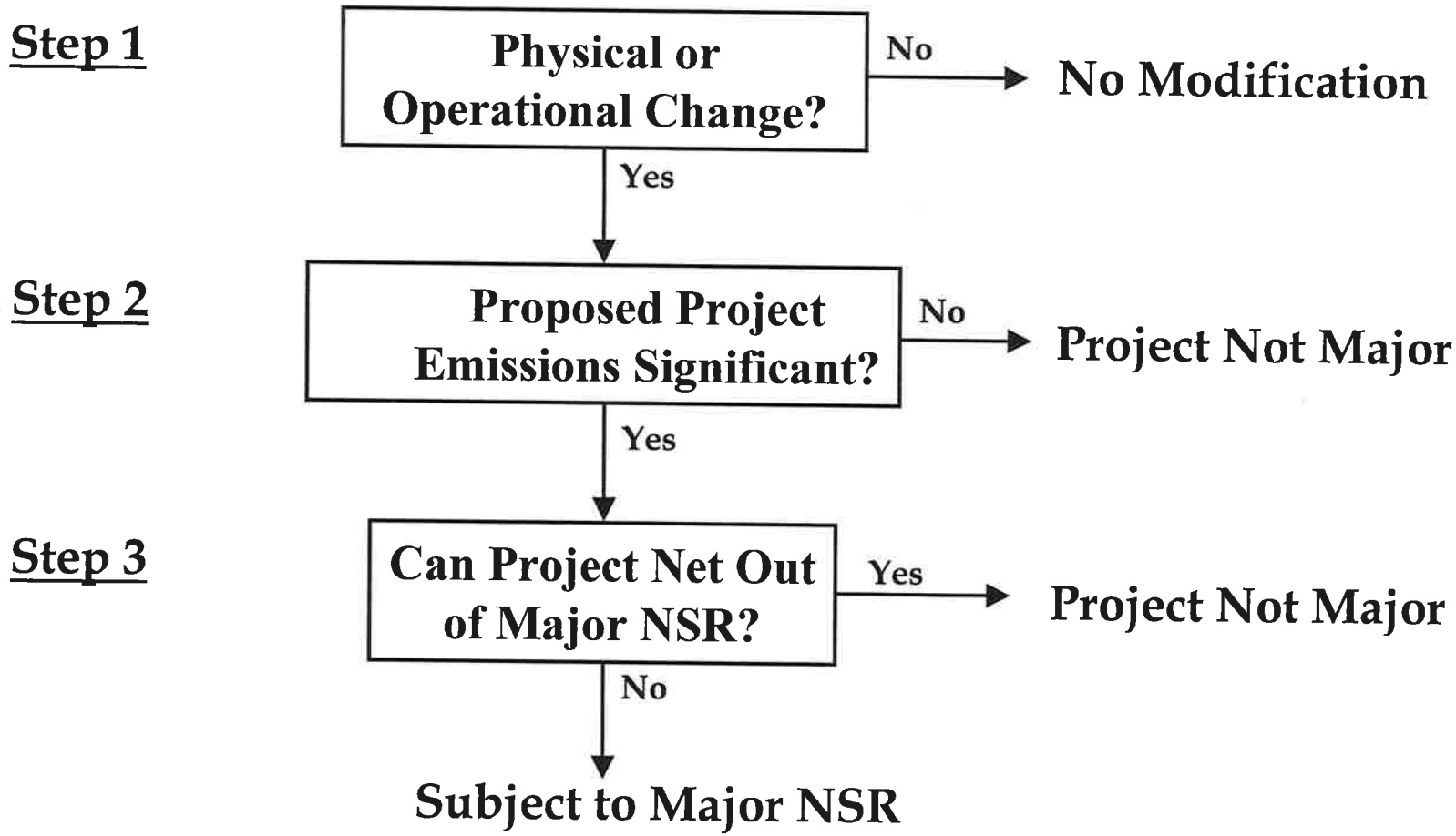
Full Page Overheads

NSR Applicability Steps



Attainment Classification

Air Quality Attainment Status?

Attainment

PSD Review

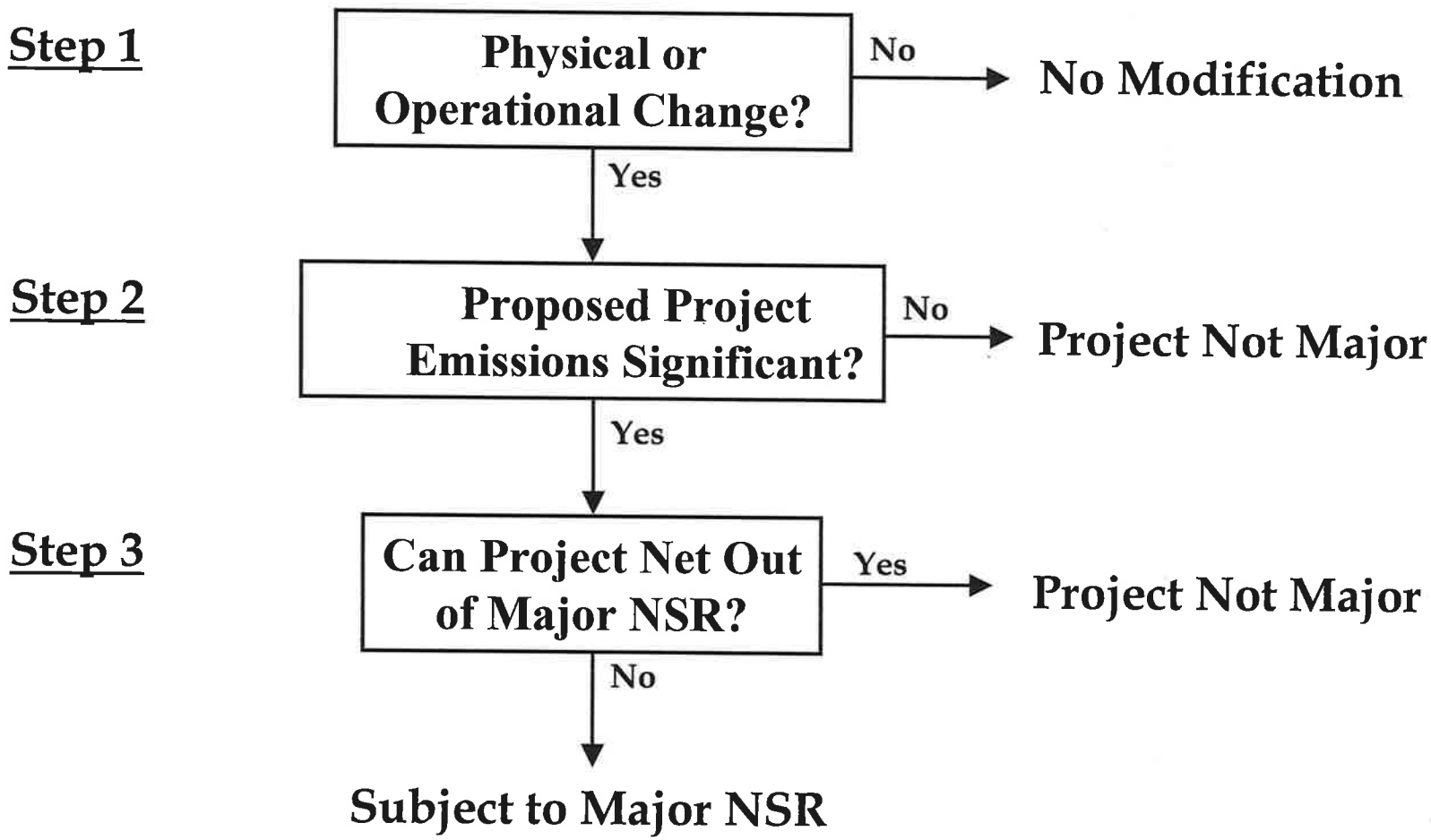
- Best Available Control Technology (BACT)
- Modeling
  - •NAAQS
  - •Increment
- Secondary Impacts

Nonattainment

Nonattainment NSR

- Lowest Achievable Control Technology (LAER)
- Offsets
- Net Air Quality Benefits
- Alternatives Analysis
- Corporate Compliance

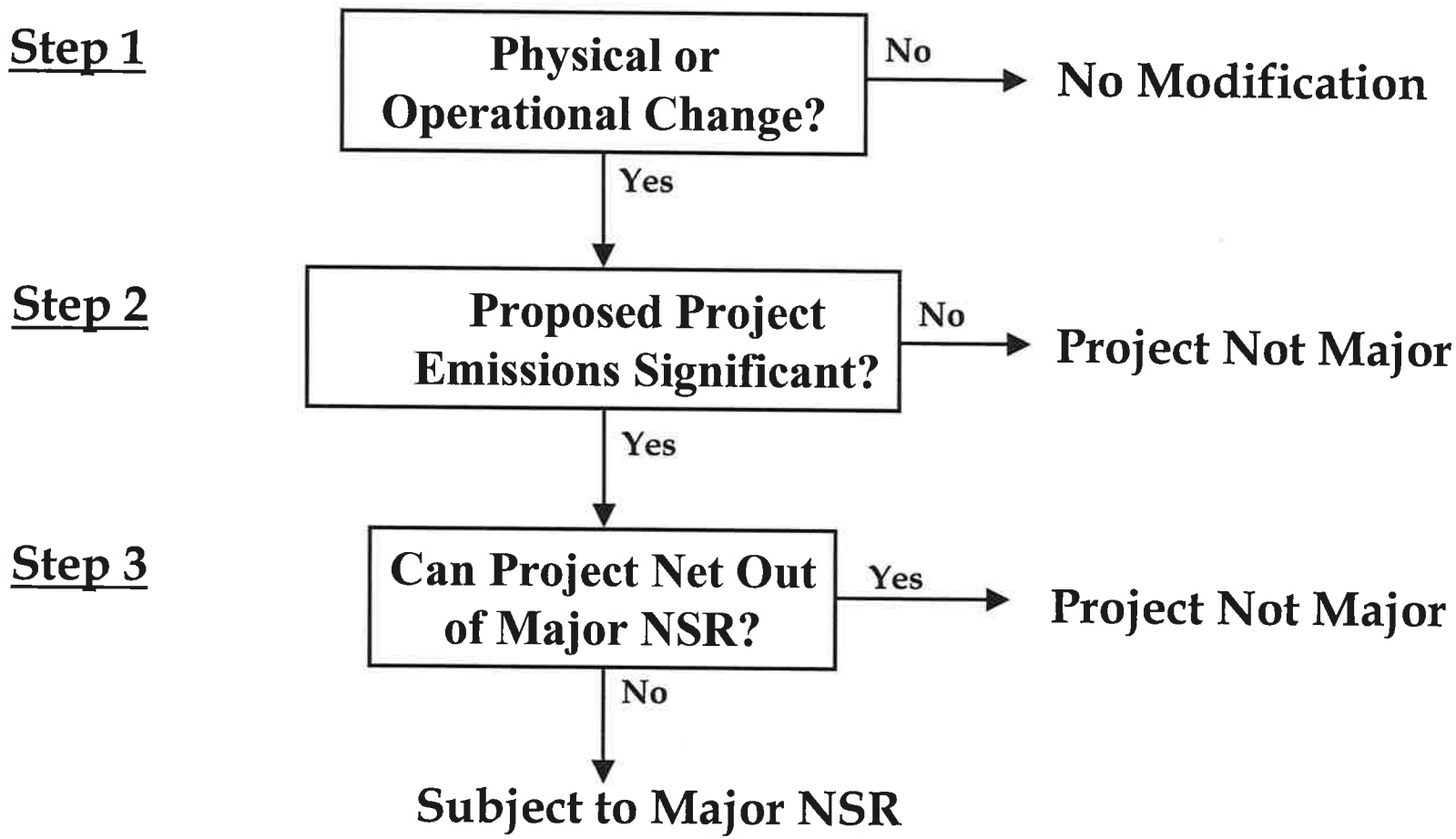
NSR Applicability Steps



Significant Emission Rates [PSD and NAA]

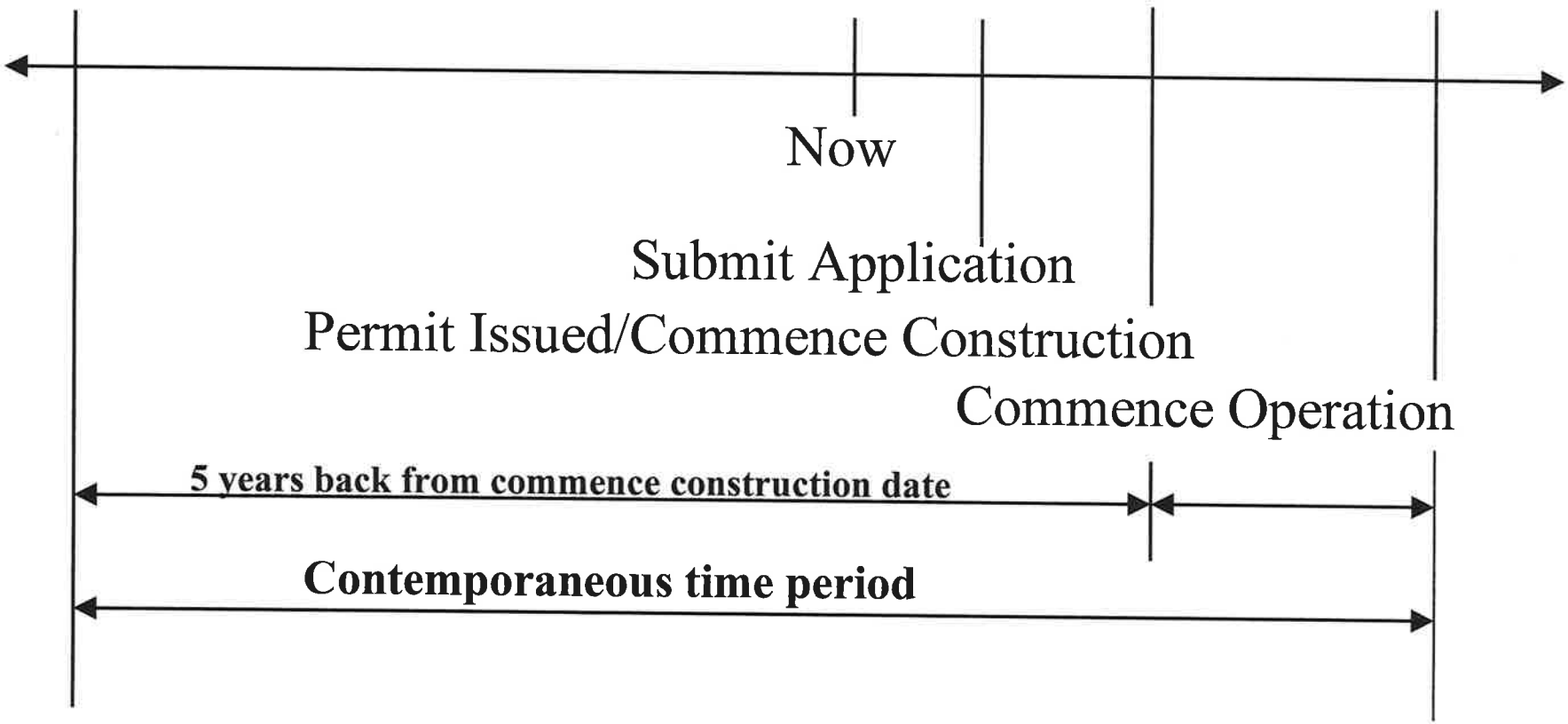
Federally Regulated PSD Pollutant	Tons Per Year
PM-10	15
SO_2	40
NO_2	40
VOC (Ozone)	40
CO	100
Lead (Pb)(Elemental)	0.6
PM	25
Fluorides	3
Sulfuric Acid Mist	7
Total Reduced Sulfur (TRS) Compounds	10
Hydrogen Sulfide (H_2S)	10
Municipal Waste Combustor (MWC) Acid Gases	40
MWC Metals	15
MWC Organics	$3.5*10^{-6}$
Ozone Depleting Substances (ODS)	Any increase
Mun. Solid Waste Landfill Emissions (NMOC)	50

NSR Applicability Steps

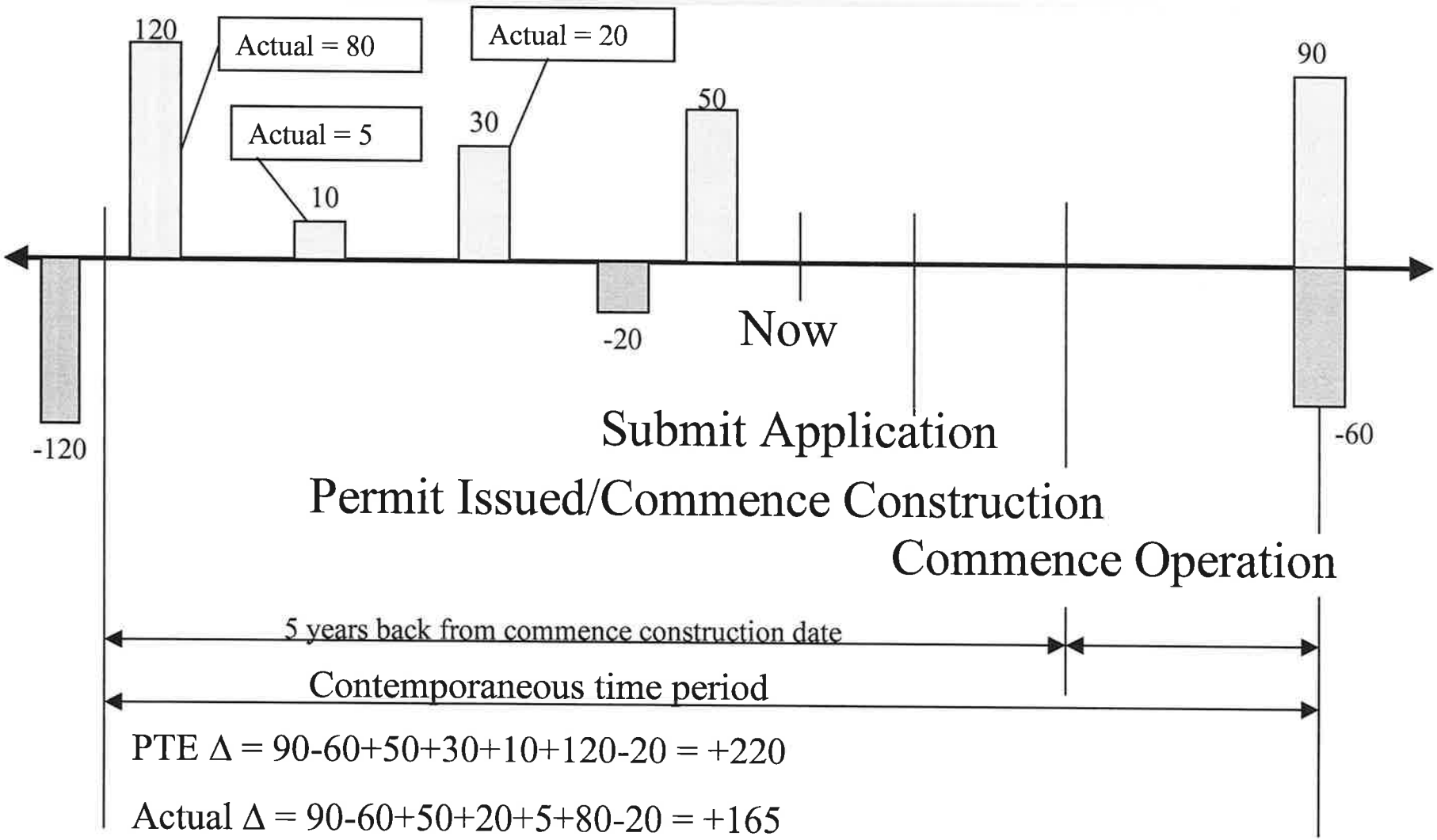


Contemporaneous…

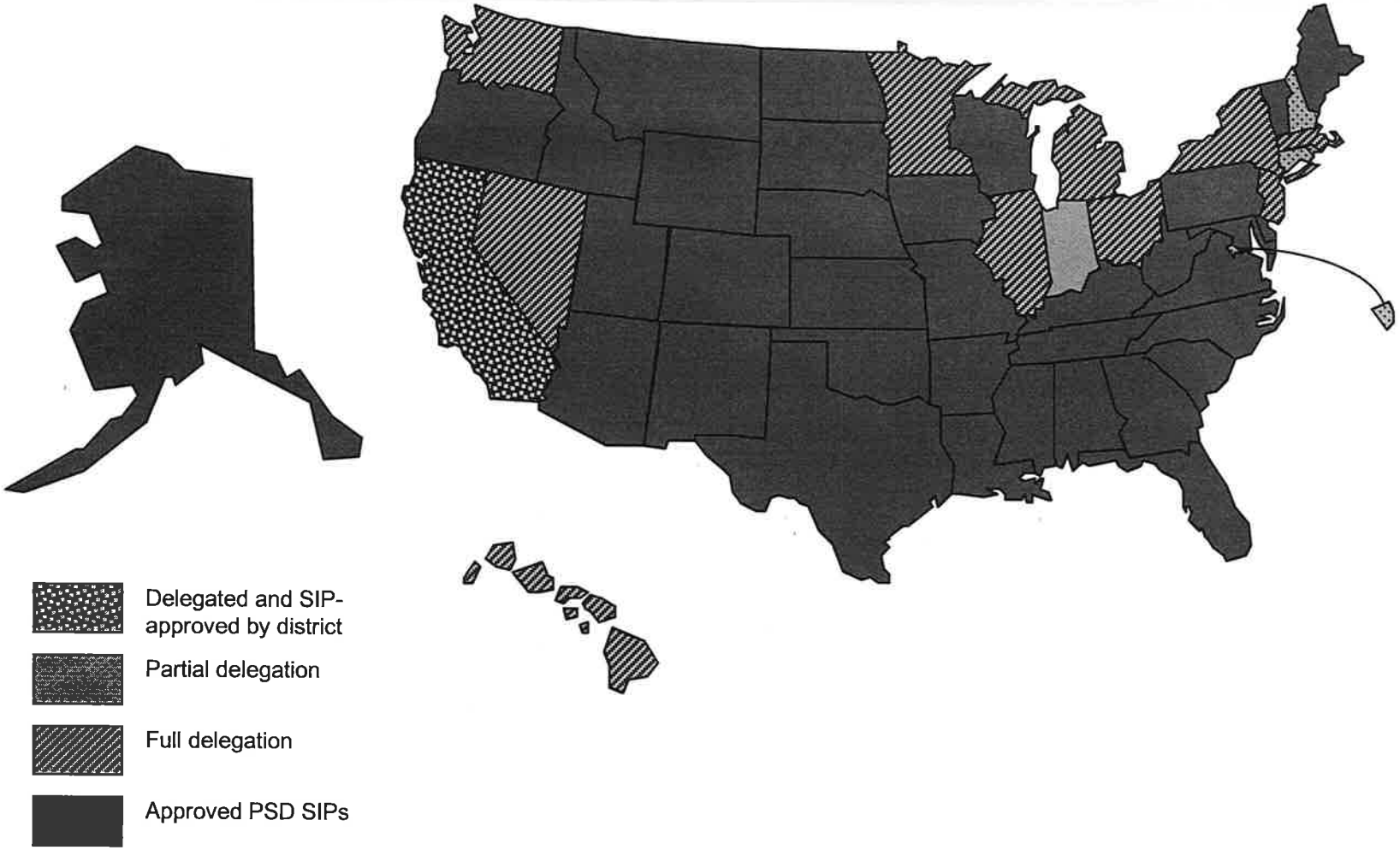
Contemporaneous time period determined by dates construction and operation are expected to commence:



Contemporaneous emissions netting



PSD Program Status



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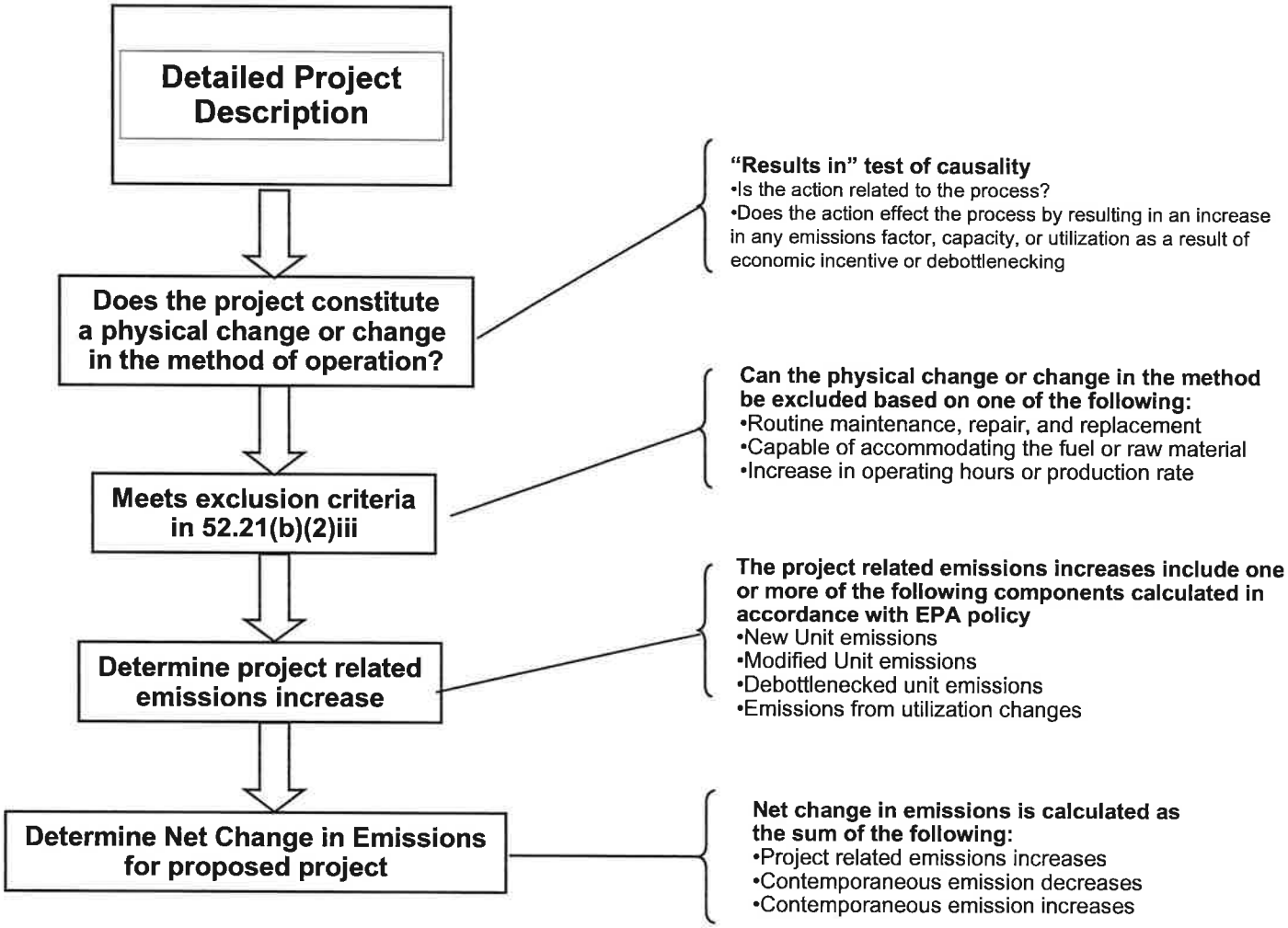
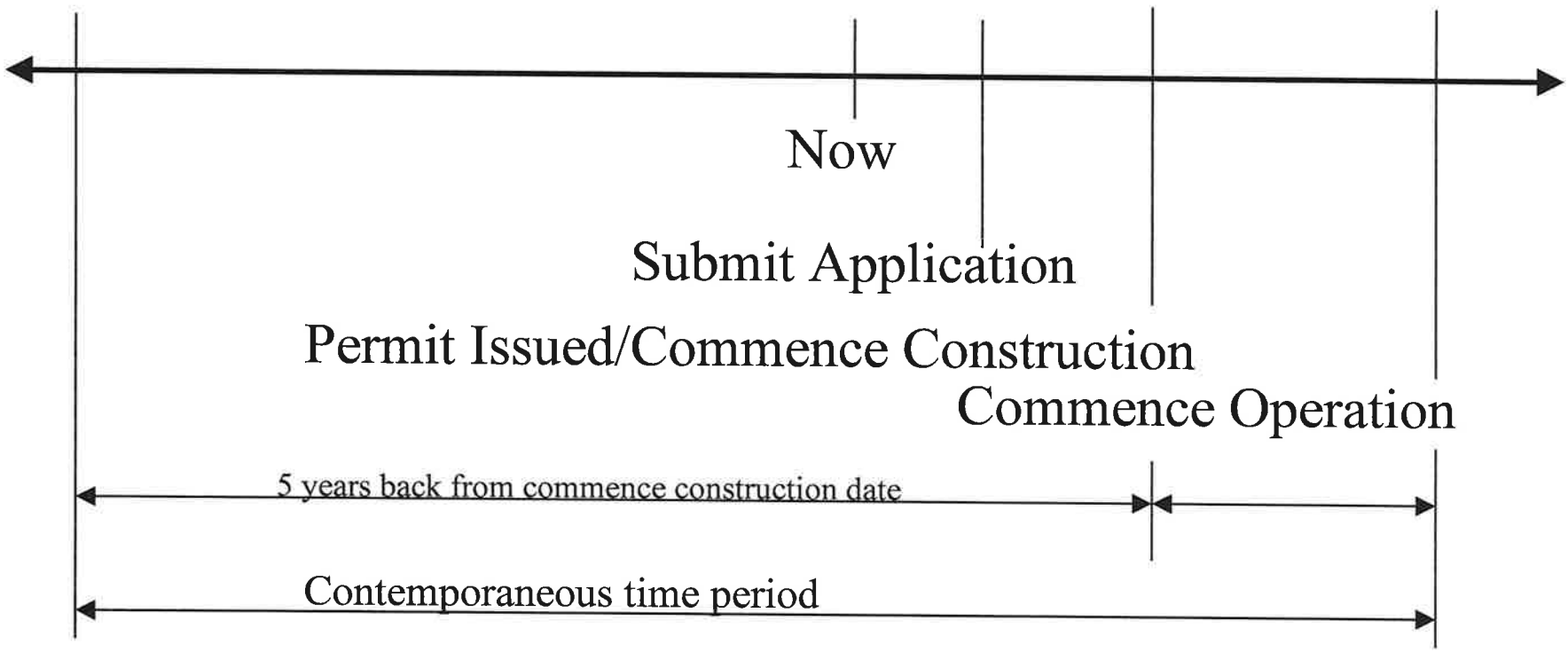
Total Reduced Sulfur (TRS) Compounds	10
Hydrogen Sulfide (H_2S)	10
Municipal Waste Combustor (MWC) Acid Gases	40
MWC Metals	15
MWC Organics	$3.5*10^{-6}$
Ozone Depleting Substances (ODS)	Any increase
Mun. Solid Waste Landfill Emissions (NMOC)	50
Plus, for Sources Within 10 Km of a Class I Area, Any >1 mg/m^3, 24 Avg. Impact on That Area	-

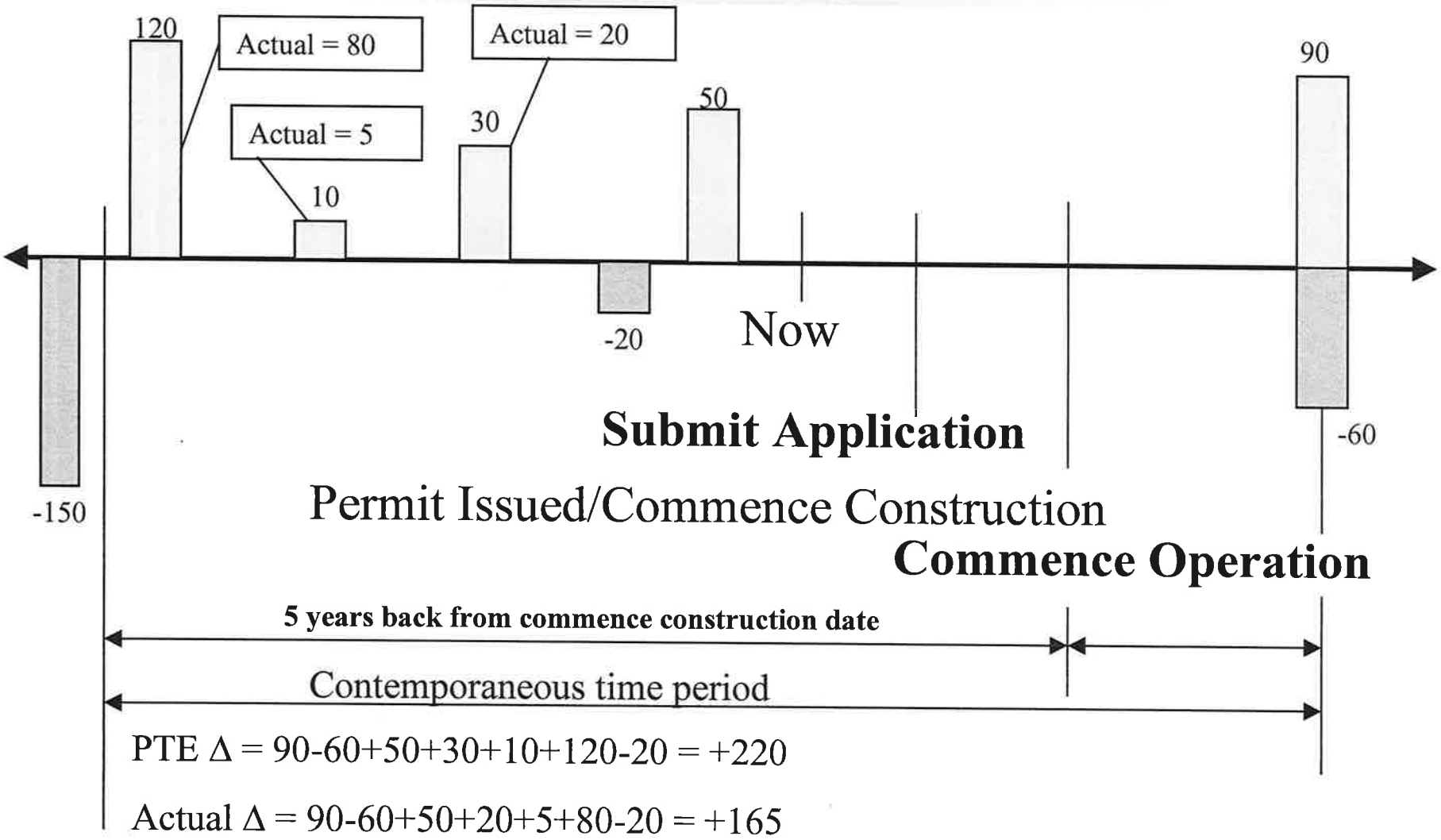
PSD Applicability Steps



Creditable…


Now
Submit Application
Permit Issued/Commence Construction
Commence Operation
5 years back from commence construction date
Contemporaneous time period

Contemporaneous emissions netting



Netting Example-2

Emission Unit	History
A and B	Built in 1972 and still operational
C and D	Built in 1972; retired 11/86
E	Built in 1972 and still operational
F	PSD unit. 01/86, commenced construction ; 01/87, operation
G	New unit; plan to start construction 10/90, operation 1/92

Netting Example –3

Actual Emissions, tpy

Year	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F
1983	70	130	60	85	50	0
1984	75	130	75	75	60	0
1985	80	150	65	80	65	0
1986	110	90	0	0	70	0
1987	115	85	0	0	75	75
1988	105	75	0	0	65	70
1989	90	90	0	0	60	65

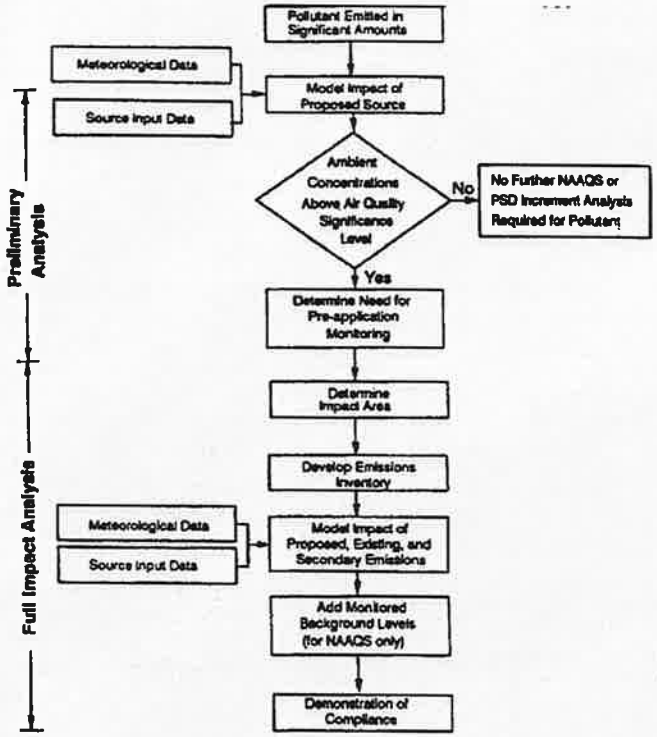
Major Thresholds by Area Classification

	TPY
● Ozone (VOC/NOx)	
■ Marginal	100
■ Moderate	100
■ Serious	50
■ Severe	25
■ Extreme	10
● PM10 Serious	70
● CO Serious	50

Offset Ratios for Ozone - Nonattainment Areas

• Marginal.....	• 1.1:1
• Moderate.....	• 1.15:1
• Serious.....	• 1.2:1
• Severe.....	• 1.3:1
• Extreme.....	• 1.5:1
• Transport Region.....	• 1.15:1

BASIC AQ ANALYSIS STEPS



(NAAQS and PSD Increments)

Significance Levels for Air Quality Impacts in Class II Areas[a] ($\mu g/m^3$)

Pollutant	Annual	24-hour	8-hour	3-hour	1-hour
SO_2	1	5	--	25	--
TSP	1	5	--	--	--
PM_{10}	1	5	--	--	--
NO_X	1	--	--	--	--
CO	--	--	500	--	2000
O_3	--	--	--	--	b

a This table does not apply to Class I areas. If proposed source is located within 100 kilometers of a Class I area, an impact of 1 ug/m^3 on a 24-hour basis is significant.

b No significant ambient impact concentration has been established. Instead, any net emissions increase of 100 ton per year of VOC subject to PSD would be required to perform an ambient impact analysis.

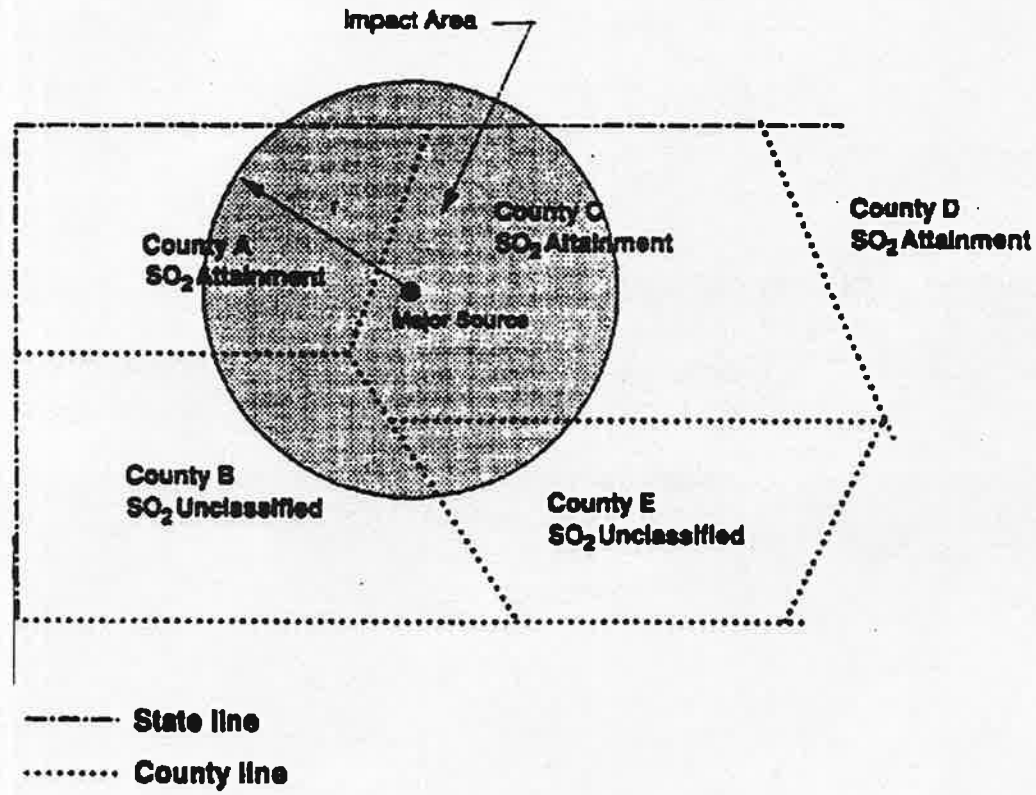
Significant Monitoring Concentrations

Pollutant	Air Quality Concentration (ug/m^3) and Averaging Time	
Carbon Monoxide	575	(8-hour)
Nitrogen dioxide	14	(Annual)
Sulfur dioxide	13	(24-hour)
Particulate Matter, TSP	10	(24-hour)
Particulate Matter, PM_{10}	10	(24-hour)
Ozone	A	
Lead	0.1	(3-month)
Fluorides	0.25	(24-hour)
Sulfuric Acid Mist	B	
Total reduced sulfur (including H_2S)	B	
Reduced sulfur (including H_2S)	B	

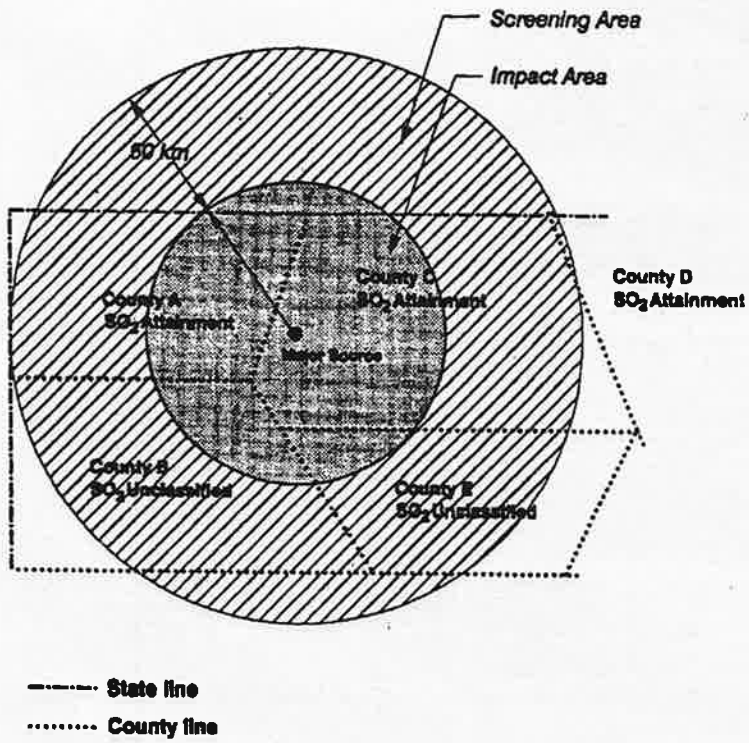
A No significant air quality concentration for ozone monitoring has been established. Instead, applicants with a net emissions increase of 100 tons/year or more of VOC's subject to PSD would be required to perform an ambient impact analysis, including pre-application monitoring data.

B Acceptable monitoring techniques may not be available at this time. Monitoring requirements for this pollutant should be discussed within the permitting agency.

DETERMINING IMPACT AREA



EMISSIONS INVENTORY SCREENING AREA



NAAQS Point Source Model Input Data

Averaging Time	Emission Limit (#/MMBtu/hr)	X	Operating Level (MMBtu/hr) [1]	X	Operating Factor (e.g., hr/yr, hr/day)
Proposed Major New or Modified Source					
Annual and Quarterly	Maximum allowable emission limit or Federally enforceable permit		Design capacity or Federally enforceable permit condition		Continuous operation (i.e., 8760 hours) [2]
Short term (24 hours or less)	Maximum allowable emission limit or Federally enforceable permit limit		Design capacity or Federally enforceable permit condition [3]		Continuous operation (i.e., all hours of each time period under consideration) (for all hours of the meteorological data base) [2]
Nearby Background Source(s) [4]					
Annual and Quarterly	Maximum allowable emission limit or Federally enforceable permit		Actual or design capacity (whichever is greater), or Federally enforceable permit condition		Actual operating factor averaged over the most recent 2 years [5]
Short term	Maximum allowable emission limit or Federally enforceable permit limit		Actual or design capacity (whichever is greater), or Federally enforceable permit condition [3]		Continuous operation (i.e., all hours of each time period under consideration) (for all hours of the Meteorological data base) [2]

NAAQS Point Source Model Input Data (continued)

Averaging Time	Emission Limit (#/MMBtu/hr)	X	Operating Level (MMBtu/hr) [1]	X	Operating Factor (e.g., hr/yr, hr/day)
Other Background Source(s) [6]					
Annual and Quarterly	Maximum allowable emission limit or Federally enforceable permit limit		Annual level when actually operating, averaged over the most recent 2 years [5]		Actual operating factor averaged over the most recent 2 years [5]
Short term	Maximum allowable emission limit or Federally enforceable permit limit		Annual level when actually operating, averaged over the most recent 2 years [5]		Continuous operation (i.e., all hours of each time period under consideration) (for all hours of the meteorological data base) [2]

[1] Terminology applicable to fuel burngin sources; analogous terminology (e.g., #/throughput) may be used for other types of sources.

[2] If operation does not occur for all hours of the time period of consideration (e.g., 3 or 24 hours) and the source operation is constrained by a Federally enforceable permit condition, an appropriate adjustment to the modeled emission rate may be made (e.g., if operation is only 8:00 a.m. to 4:00 p.m. each day, only these hours will be modeled with emissions from the source. Modeled emissions should not be averaged across non-operating time periods).

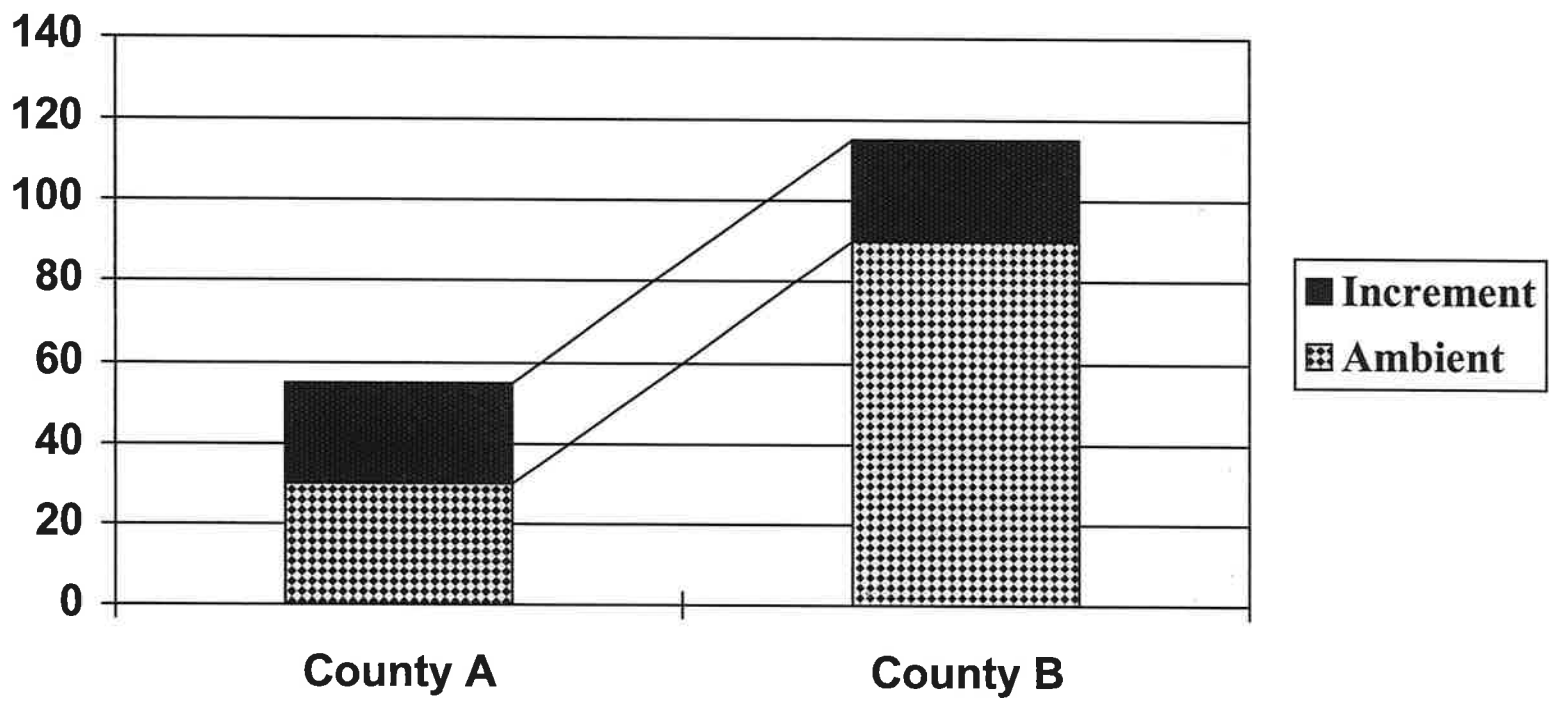
[3] Operating levels such as 50 percent and 75 percent of capacity should also be modeled to determine the load causing the highest concentration.

[4] Includes existing facility to which modification is proposed if the emissions from the existing facility will not be affected by the Modification. Otherwise use same parameters as for major modification.

[5] Unless it is determined that this period is not representative.

[6] Generally, the ambient impacts from non-nearby background sources can be represented by air auality data unless adequate data do not exist.

PSD Increment



PSD Increments

	Class I Areas	Class II Areas	Class III Areas
Sulfur Dioxide			
SO_2, annual[a]	2	20	40
SO_2, 24-hour[b]	5	91	182
SO_2, 3-hour[b]	25	512	700
Particulate Matter			
PM10, annual[a]	4	17	34
PM10, 24-hour[b]	8	30	60
Nitrogen Dioxide			
NO2, annual[a]	2.5	25	50

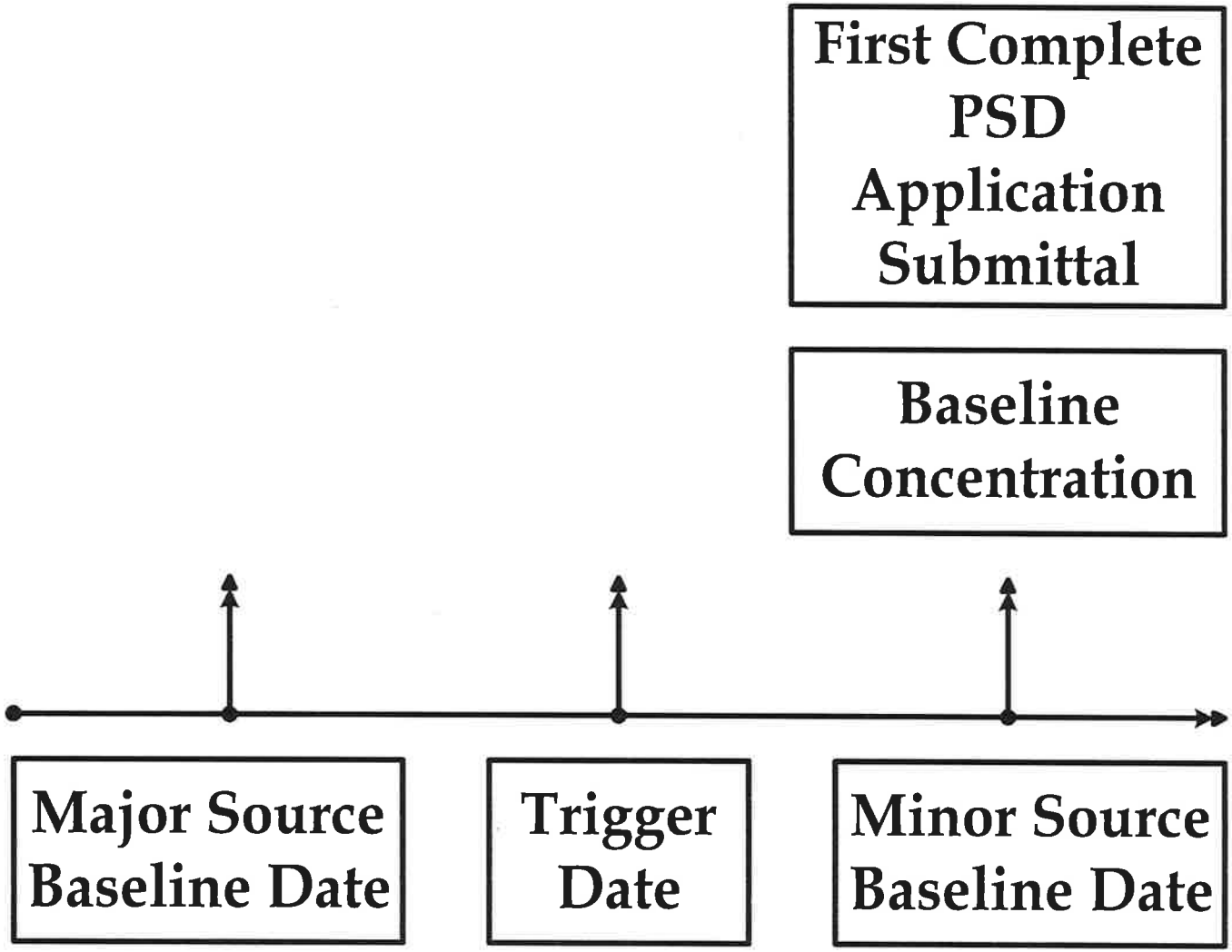
[a]Never to be exceeded.

[b]Not to be exceeded more than once per year.

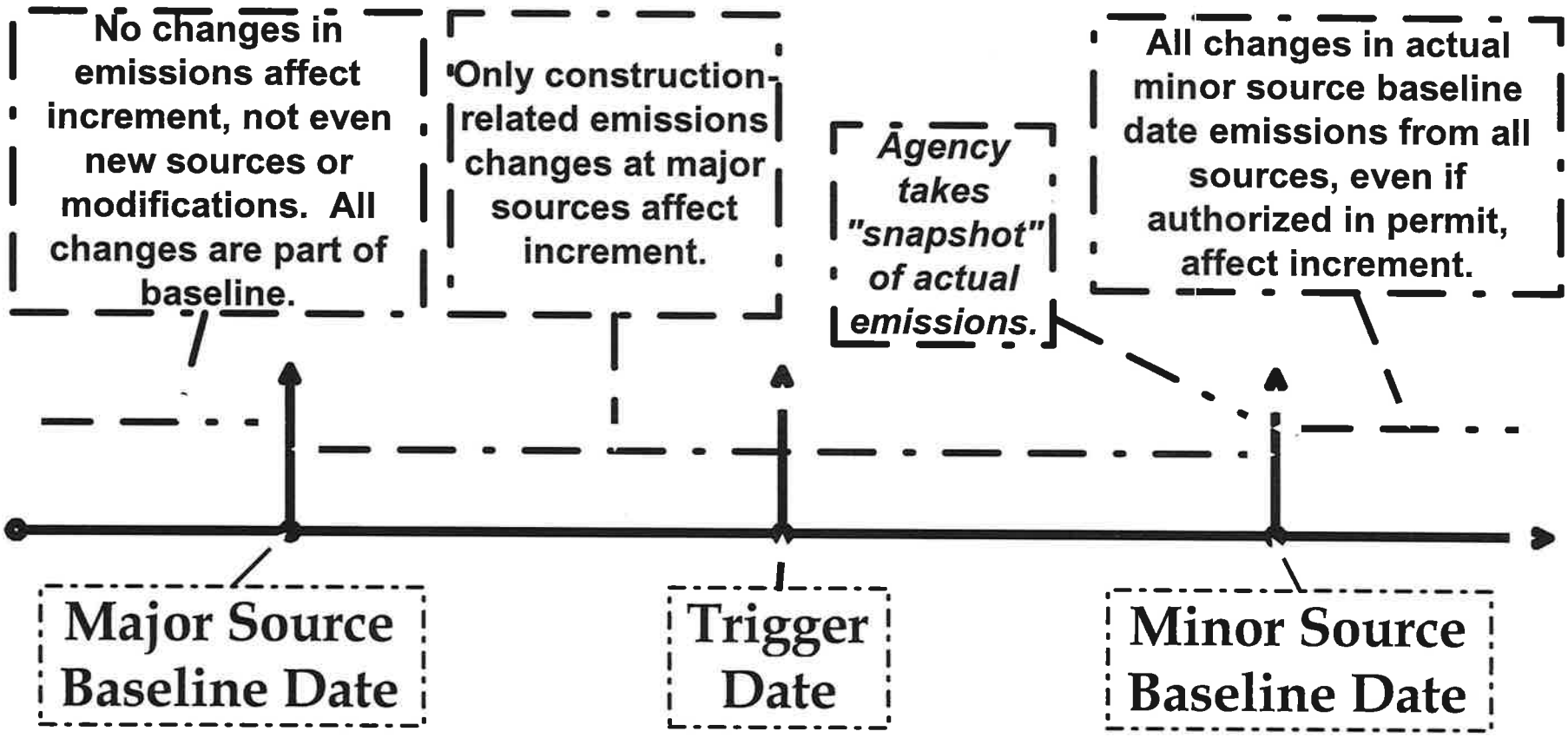
PSD Baseline Dates Table

Pollutant	Major Source Baseline Date	Trigger Date
PM	January 6, 1975	August 7, 1977
SO_2	January 6, 1975	August 7, 1977
NO_2	February 8, 1988	February 8, 1988

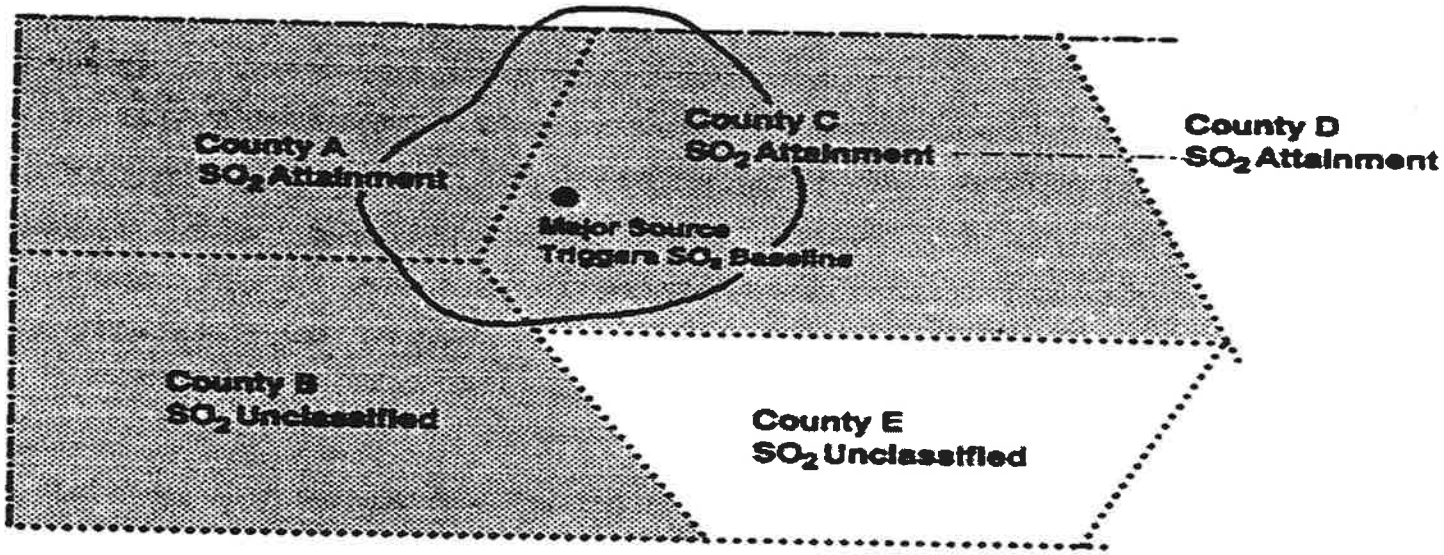
PSD Increment Timeline



Increment Consumption



ESTABLISHING BASELINE AREA

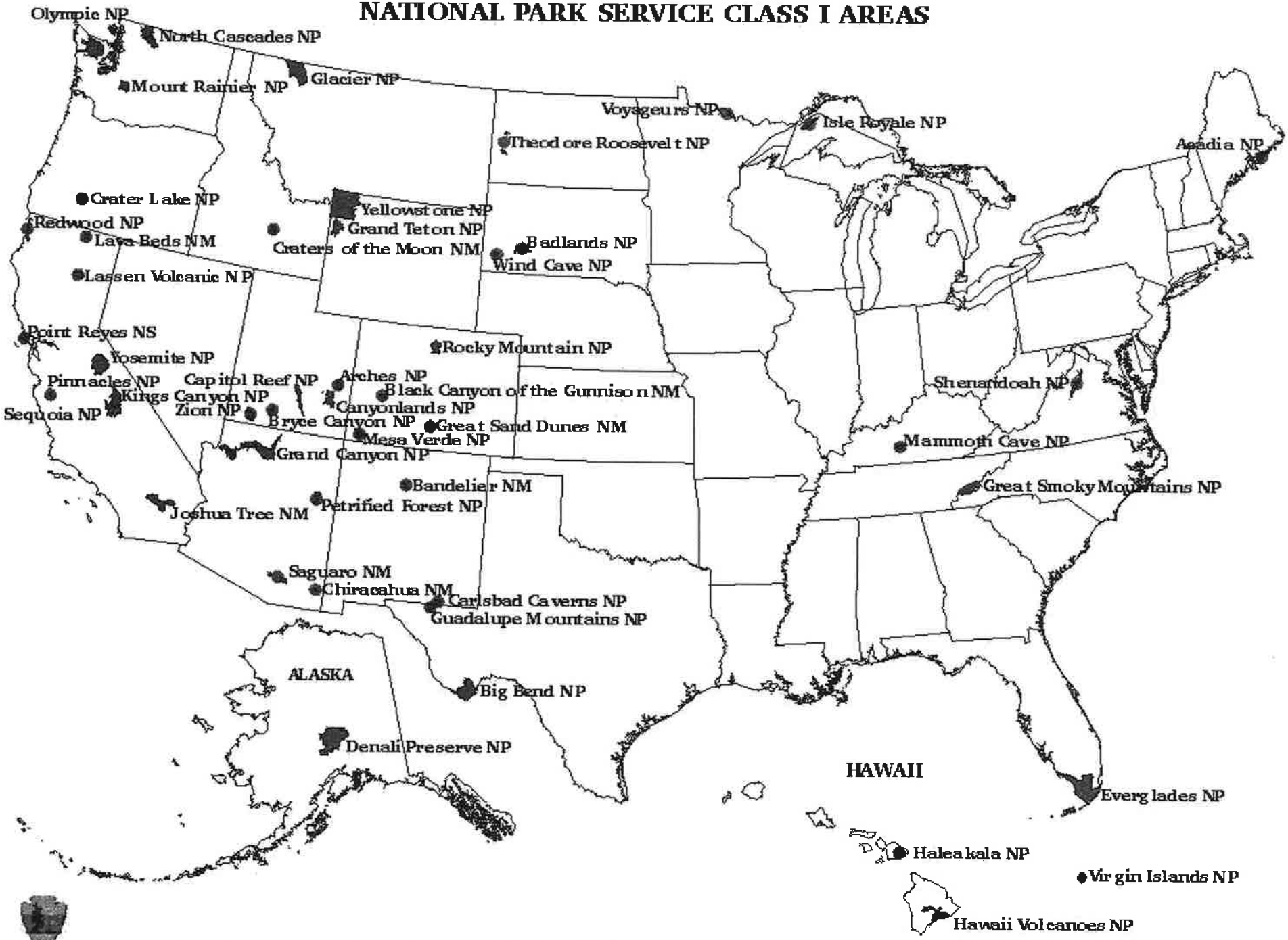


Baseline Date Triggered 10/6/78

State line

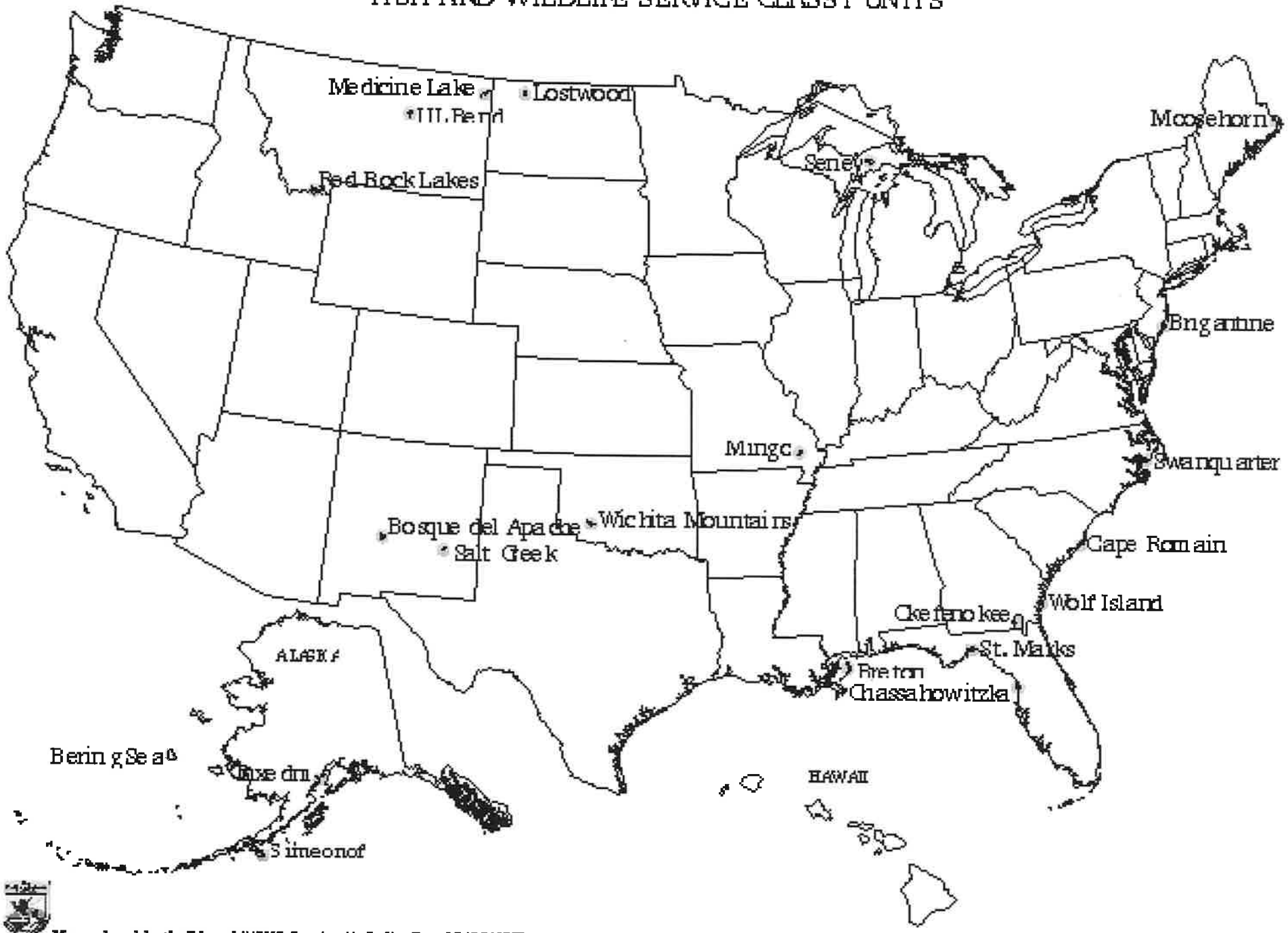
County line

NATIONAL PARK SERVICE CLASS I AREAS



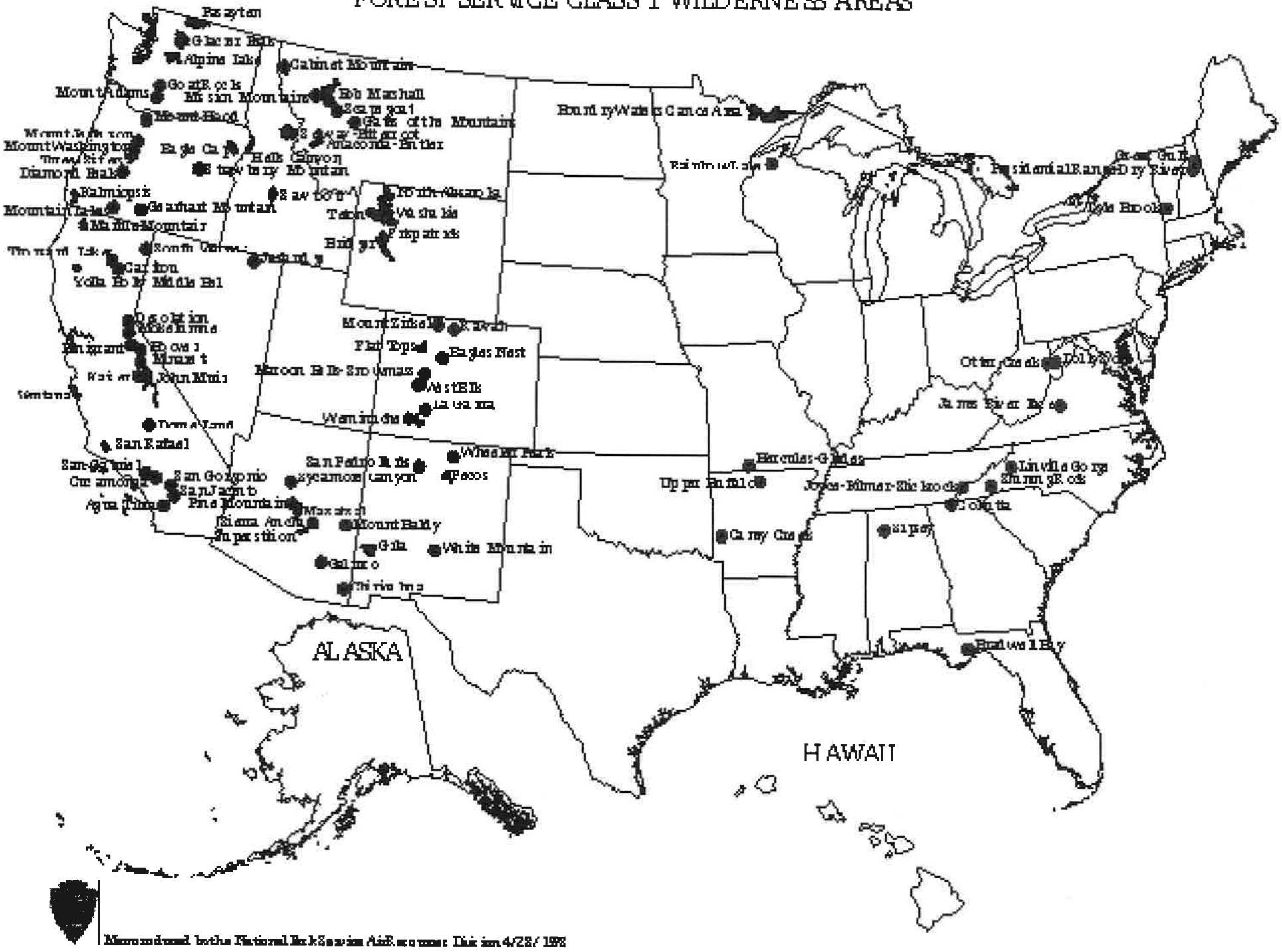
Map produced by the National Park Service Air Resources Division 01/02/1998

FISH AND WILDLIFE SERVICE CLASS I UNITS



Map produced by the Fish and Wildlife Service Air Quality Branch 2/27/1998

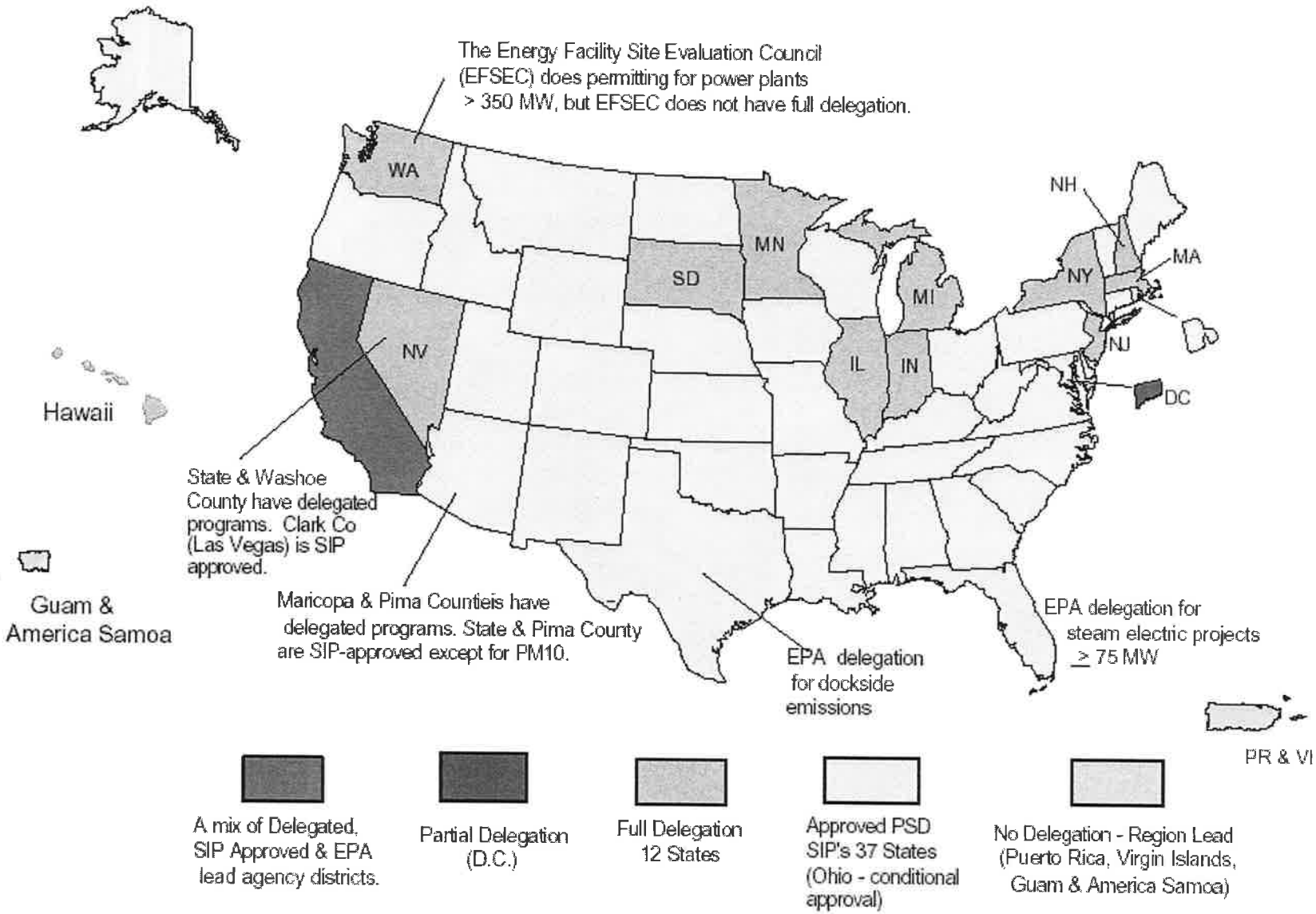
FOREST SERVICE CLASS 1 WILDERNESS AREAS



Macroreduced by the National Park Service Air Resources Division 4/28/1998

PSD Program Status

June 2002



Section II

Title V
Operating Permits

TITLE V PERMITTING

Slide 1

Introduction to Title V

- Purpose of Permitting
  - Single document to contain all CAA requirements
  - Improved ability to ensure compliance
  - Unlawful to operate a source without permit - civil penalties
- History and Status of 40 CFR Part 70
  - 40 CFR 70 regulates permit programs, not sources

Slide 2

Introduction to Title V - 2

- Minimum requirements for State and local permit programs
- Proposed May 1991/Promulgated July 1992
- Points of controversy
  - » Modification procedures and notice
  - » Permit shield
  - » Challenged in court by both business and environmentalists

Slide 3

Purposes of Permitting

- Provides improved ability to monitor compliance with all air pollution regulations
- Collects all regulatory requirements in a single document

Slide 4

40 CFR Part 70

- Regulations governing development of operating permit programs
- Contains minimum program elements
- Details implementation of legislative intent

Slide 5

Controversies

- Minor permit modification procedures
- Permit shield
- Program interfaces

Slide 6

Applicability of Permits
(Which Sources get Permits?)

- Major Sources
  - All Major Sources (based on PTE)
    - » Air toxics
      - 10/25 tpy
      - lesser quantity cutoffs possible
      - 100 tpy
    - » Title 1 nonattainment
      - depends on classification of area and
      - pollutant (VOC, NOx, PM-10, CO)

Slide 7

Part D, Title 1 Major Source

	TPY
Ozone (VOC and NOx)	
Serious	50
Transport regions not severe or extreme	50/100
Severe	25
Extreme	10
Carbon Monoxide	
Serious (stationary sources contribute significantly)	50
PM-10	
Serious	70

Slide 8

Applicability of Permits - 2
(Which sources get Permits?)

- Other Sources, Regardless of Size
  - Section 111 (NSPS)
  - Section 112 (NESHAP)
  - PSD/NSR
  - Acid Rain
  - Other designated by EPA

Slide 9

Source Category Exemptions

- No exemptions for Major sources, Acid Rain, Solid Waste Incinerators
- Deferral for Nonmajors
  - Unless subject to existing NSPS and NESHAP
  - State option to include nonmajor sources in program
- Permanent Exemptions
  - Wood heaters
  - Asbestos demolition and renovation

Slide 10

Emission Unit Applicability

- For Major Stationary Source:
  - All units except insignificant
- For Minor Source:
  - Only triggering unit

Slide 11

Fugitive Emissions

- Count when calculating emissions to trigger permit for some source categories (40 CFR Part 70.2)
- May be subjected to fees in all cases

Slide 12

GENERAL PERMITS

Slide 13

Definition of General Permit

- Operating permit initiated by permitting authority covering numerous similar sources

Slide 14

Purpose of General Permit

- Reduce the permit application review and approval process.
- Provide an alternative means for permitting sources for which the normal permitting process would be overly burdensome.

Slide 15

Features of a General Permit

- Standard review process for the general permit, but minimal review for sources permitted under it
- Simplified application process - sources show they meet the criteria for coverage under the general permit
- Drastic reduction in time and effort - EPA estimates that the effort of getting a general permit is only 4% compared to a specific permit.

Slide 16

Who Might be Covered by a General Permit?

- Any source, large or small, that meets criteria set by the permit program may be covered by a general permit
- Any source that is "numerous and similar", or subject to similar requirements. No acid rain sources.
- Examples: dry cleaners, degreasers, service stations, small boilers and storage tanks

Slide 17

Part 70 Affected Source

- Any source under the Acid Rain provisions of Title IV

Slide 18

Major Toxic Source

- Any stationary source or group of stationary sources with potential to emit:
  - 10 tpy or more of any hazardous air pollutant listed in Section 112(b) of the Act
  - 25 tpy of any combination of hazardous air pollutants
  - Lesser quantity if specified by Administrator

Slide 19

Section 302 Definitions of Major Source

- Any stationary facility or source of air pollutants which directly emits, or has the potential to emit 100 tons per year or more of any air pollutant

Slide 20

STATE PERMIT PROGRAMS

Slide 21

Role of State and Local Permitting Programs

- Sources permitted in accordance with State or local permit programs
- Programs overseen by EPA
  - Federal intervention
  - Assumption of permitting authority
    - » Done by EPA if no approved State program
    - » EPA uses 40 CFR 71

Slide 22

Mandatory Program Elements

- Application Forms
- Monitoring and Reporting Requirements
- Permit Fee Provisions
- Requirements for Adequate Resources
- Legal Authority
- Streamlined Procedures
- Protection Against Inaction
- Public Access to Information
- Incorporation of New Standards
- Minor Permit Revision Procedures

Slide 23

Other Program Requirements from the Regulations

- Fee Demonstration
- Statement of Adequate Resources
- Commitment to Report Enforcement Information
- Provisions for Permit Term Continuation
- Transition Plan

Slide 24

PERMIT APPLICATIONS

Slide 25

Application Completeness Determination

- "Complete" means application contains all information needed to begin processing
- Completeness criteria must be:
  - Established by permitting authority
  - Included in program submittal
- Completeness determination required for all applications, except for minor permit modifications

Slide 26

Application Completeness Determination - 2

- Default Completeness if no notice 60 days after receipt
- Timely updates do not affect completeness

Slide 27

Application Shield

- Applies only to "timely" and "complete" applications
- Begins at time of completeness
- Protects source from "operating without a permit" if permit issuance is delayed
  - Delay does not affect source obligation to meet all applicable requirements
- Is lost for failure to make timely updates

Slide 28

Compliance Plans

- Address compliance status with respect to all applicable air pollution control requirements
- Sources in compliance:
  Statement of continuing compliance
- Sources with compliance dates effective in future:
  - Statement that applicable requirements will be met on a timely basis

Slide 29

Compliance Plans - 2

- Sources not in compliance with current requirements:
  - Narrative description of how compliance will be achieved
  - Detailed schedule of compliance with interim steps and remedial measures
  - Schedule for submission of progress reports
- Additional conditions as needed to meet more stringent applicable requirements or other Federally enforceable obligations

Slide 30

Compliance Certification

- Contents
  - Certification by "responsible official" of compliance status for all applicable requirements
  - Statements of methods for determining compliance
  - Schedule for submitting periodic compliance certifications
  - Statements of compliance status with respect to enhanced monitoring and compliance certification requirements

Slide 31

FEE STRUCTURE

Slide 32

Core Title V Requirements

- State fee program must cover all direct and indirect "Permit Program Costs"
- Required fees collected from all permitted sources
- Air Agency retains fees
- Required fees used solely for permitting program support

Slide 33

The Demonstration

- Relates program costs to expected fee revenues using a schedule of fees based on emissions

Slide 34

LEGAL AUTHORITY

Slide 35

Certification Authority

- Agency General Counsel or Attorney General certifies that the State has the authority to:
  - Issue permits and ensure compliance
  - Fixed-term permits
  - Incorporate SIP requirements
  - Address operating permits
  - Enforcement
  - EPA approval

Slide 36

Streamlined Procedures

- Completeness Determinations
- Public Notice and Comment
- Processing of Permits
- Judicial Review

Slide 37

Issues

- Protection against inaction by State or local permitting agency
- Public access
- Incorporation of new standards
  - Permit revision
- Minor permit revision

Slide 38

PERMIT APPLICATIONS

Slide 39

Timely Application Submittals

- Application submittals for sources applying the first time
  - Within 12 months of (the later):
    - » Program approval, or
    - » Commencing operation
  - Earlier date established by permitting authority
- Application submittal for renewals:
  - 6 to 18 months prior to permit expiration
  - Timeframes should prevent lapsing permits

Slide 40

Timely Appl. Submittals - 2

- Application submittals for PSD, NSR, and Section 112(g) sources:
  - Within 12 months of commencing operation, or
  - Earlier date established by the PA
  - Revision needed before operation, if permit prohibits
- Application submittal for Phase II Acid Rain sources:
  - SO_2 = January 1, 1996
  - NO_x = January 1, 1998

Slide 41

Source's Ability to Operate Without a Permit

- In effect from date application determined or deemed complete until final permit issued -- provided applicant submits any requested additional information by deadline specified by permitting authority

Slide 42

Certification of Truth, Accuracy, and Completeness

- Duty of "Responsible Official"
- Required for each:
  - Application form
  - Compliance certification
  - Monitoring report
  - Progress report

Slide 43

Confidential Information

- May require submission of information
- Agency responsible for keeping such information safe

Slide 44

Supplemental or Corrected Information

- Must submit supplemental or corrected information to agency upon request or when need is recognized
- Supply any additional information about source prior to receiving permit

Slide 45

Required Application Information

- Identifying information about source
- Description of processes and products (SIC Code)
- Emissions-related information
  - Pollutants emitted
  - Emission point(s) and rate(s)
  - Control equipment
  - Other information
- Air pollution control requirements

Slide 46

Req'd Appl. Information - 2

- Proposed Exemptions
- Information necessary to define operational flexibility, alternative operating scenarios, or rule-based trading provisions
- Compliance plan
- Compliance certification
- Certification of truth, accuracy, and completeness

Slide 47

Source Duty to Include Information in the Permit Application

- The source must include all information necessary to determine the applicability of any air pollution control requirement
- The source must include all information necessary to determine the applicability of any fee

Slide 48

PERMIT CONTENT

Slide 49

Permit Content Overview

- Emissions/other limitations assuring compliance with applicable requirements
  - Monitoring, recordkeeping, and reporting requirements
  - "Extra State requirements" not federally enforceable
  - Origin and authority of each permit requirement
- SIP Compliance Provisions
- Fixed Term (5 years or less)
- Operational Flexibility Provisions

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Permit Content Overview - 2

- Optional Shield Available Where Addressed
- Schedule of Compliance and Semi-Annual Progress Reports for Out-of-Compliance Sources
- Annual Compliance Certification
- Severability Clause
- Permit Fee Schedule
- Emissions Trading Authority
- Standard Provisions Required by 40 CFR Part 70.6 (a)(6)

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Federal Enforceability of Permit Terms

- Permit enforceable by EPA under Section 113 and citizens under Section 304
- The permitting authority must designate as not federally enforceable terms that are not "required under the act or any of its applicable requirements"
  - EPA does not intend to routinely review

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Federal Enforceability...2

- After "period for challenging", any terms not otherwise designated are federally enforceable, including:
  - Emissions cap taken to avoid a federal requirement such as new source review
  - More stringent State requirements within pending SIP revision

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Operating Permits vs. State Implementation Plan

- SIP requirements remain in effect
- SIP requirements must be included in operating permit

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Permit Coverage

- Major source permits must address emissions units emitting regulated and "major" air pollutants
- Permits for non-major sources must address emissions units causing source to be subject
- Permits must address fugitive emissions in the same manner as stack emissions
- Permitting authority may issue a single permit or multiple permits

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Compliance Provisions

- Permits must contain or require:
  - Method to ensure compliance with permit terms
  - Inspection and entry authority
  - Schedules of compliance and provisions for yearly compliance certification
  - Submission of reports consistent with compliance schedule
  - Compliance certification by responsible official

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General Permits

- Permitting authority may issue general permit
- Authority must specify criteria for qualifying
  - Similar operations, processes, or emissions
  - Subject to same requirements (monitoring, reporting, or recordkeeping)
  - Case-by-case standards

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Standard Operating Permits Vs. General Permits

- Standard Operating Permit
  - Source specific
  - Responsive to source application
- General Permit
  - Applicable to a category of sources
  - Proactively issued by Permitting Authority
  - Numerous and similar sources apply to operate under the provision of the General Permit

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Temporary Sources

- Construction Related Sources
- Batch Asphalt Plants
- Architectural Coating Operations

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Permit Shield

- Section 504(f) provides that compliance with the permit may be deemed to be compliance with other applicable requirements of that Act
  - Application of the permit shield is discretionary with the permitting authority
  - EPA may limit the shield by rule
- Shield must be specifically stated in permit
- If not stated, there is no shield protection

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Permit Shield - 2

- Section 70.6(f) allows application of the permit shield to requirements where either:
  - Requirements are included and specifically identified in the permit or;
  - Permitting authority finds the requirements not to be applicable and lists these requirements in the permit
- Shield may not apply to:
  - Requirements promulgated after permit issuance
  - Revisions processed as minor permit modifications

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Permit Shield - 3

- "Off-permit" actions and other operational flexibility changes not provided for in the permit
- Emergency orders issued under Section 303
- Violations existing at time of permit issuance
- Acid rain requirements
- Information request requirements under Section 114

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Permit Shield - 4

- Misinterpreted and omitted requirements
  - Shield applies to misinterpreted requirements, including erroneously finding a requirement is not applicable
  - Shield may not apply to a requirement not addressed in the permit

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Emergency Provisions

- "Emergency" is a sudden and unforeseeable event
- Must be demonstrated by contemporaneous operating logs
- Available as affirmative defense for non-compliance with technology-based emissions standards
- Permittee must notify State within 2 working days

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Compliance Schedule

- Required for sources not currently in compliance
- Establishes milestones for achieving compliance
- <u>Creates a federally enforceable commitment on the part of source</u>

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PERMIT REVIEW PROCESS

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Permitting Authority Review

- Applications and permits reviewed for completeness
- Application assumed to be complete unless source notified within 60 days
- Minor modifications do not require a completeness check

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EPA Oversight

- Copies to Administrator
  - Proposals/final approval/modifications
  - Summary forms
  - Potential waiver for some non-majors
- 45-day review
  - May be waived for all categories of sources except major sources
- EPA objection halts process
  - State must respond within 90 days
  - After 90 days, EPA may issue or deny permit

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Affected States

- Affected States are:
  - Contiguous States whose air quality might be affected by source emissions
  - Any State within 50 miles of the source
- Notice and response
- Refusal to accept affected State recommendations
- Minor permit modifications to be reported as soon as possible

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Public Participation

- Notices in newspapers and through mail
- Contents of notice
- 30 days for comments
- Record of commenters and issues
- Public may petition for additional EPA review

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Final Action

- Within 18 months of complete application

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PERMIT REVISIONS AND MODIFICATIONS

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