

# **MARAMA State Implementation Plan (SIP) Training Course and Workshop**

**Prepared for MARAMA by Leah Weiss**

**February 22, 2017**

**Gettysburg Pennsylvania**



# Acknowledgments (1)

- US Environmental Protection Agency
- Zac Adelman, University of North Carolina
- Northeast States for Coordinated Air Use Management
- Western States Air Resources Council
- Bob Bielawa, NY
- Paul Bodner, CT
- Peg Gardner, NJ
- Merrily Gere, CT
- Dave Healy, NH
- Kate Knight, CT
- Bennet Leon, VT
- Judy Rand, NJ
- Michele Roberge, NH
- Angela Skowronek, NJ
- Nicholle Worland, NJ

# Acknowledgments (2)

- Mike Abraczinskas, NC
- Tad Aburn, MD
- Tom Ballou, VA
- Jackie Burkhardt, MARAMA
- Sharon Davis, NJ
- Sue Dilli, MARAMA
- David Fees, DE
- Michael Gordon, EPA Region III
- Gavin Huang, EPA Region III
- Joseph Jakuta, OTC
- Nick Lazor, PA
- Sushma Masemore, NC
- Brian Rehn, EPA Region III
- Joe Schulingkamp, EPA Region III
- Emlyn Velez-Rosa, EPA Region III
- Sean Wenrich, PA
- Susan Wierman, MARAMA
- Danny Wong, NJ

# Day One Course Outline

- **Overarching requirements, roles, and responsibilities in SIP planning**
  - Clean Air Act (CAA) history and structure re: SIPs
  - CAA requirements for attainment
  - What is a SIP?
  - Key SIP Planning Tasks
  - 1990 CAA Amendments (CAAA) SIPs—the backbone
  - Federal SIP-related Actions

# Day Two Course Outline

- **Programs, Policies, & Tools in SIP Planning**
  - The role of the SIP planner
  - SIPs and state plan planning in non-ozone and non-violation contexts
  - Implications of NAAQS Update Cycle
  - Quantifiable, surplus, enforceable, permanent
  - Transport
  - Key SIP policy issues
  - Alternative ways to develop SIPs

# Clean Air Act History and Structure

Leah Weiss

# Clean Air Act (CAA) History

- July 9, 1970 : President Nixon created the US Environmental Protection Agency (EPA) by Executive Order
- December 2, 1970: EPA opened its doors
- December 31, 1970: Congress passed the Clean Air Act (the Muskie Bill)

# 1970 CAA Framework and Requirements

- EPA to establish National Ambient Air Quality Standards (NAAQS) by April 1971
- States to meet NAAQS by 1975
- States to develop SIPs; EPA to approve them
- New industries to meet emission standards—New Source Performance Standards (NSPS)
- 95% reduction in emissions from new cars by 1975
- Hazardous air pollutants program



# 1977 CAA Amendments

- First designation of nonattainment areas
- New Source Review (NSR)
- Prevention of Significant Deterioration (PSD)
- Class I areas for protection/ visibility program
- Extended deadlines for attaining NAAQS
- Clean Air Scientific Advisory Committee—reviews NAAQS analyses

# 1990 CAA Amendments (1)

- Created extensive specific controls for nonattainment areas
- Extensive new requirements for vehicles and fuels
- Established interstate transport regions (section 176A), the Ozone Transport Region (OTR) and Commission (section 184(a)) and OTR requirements (section 184 (b)–(d))
- New cap-and-trade Acid Rain Program (SO<sub>2</sub>)

# 1990 CAA Amendments (2)

- Stratospheric Ozone Protection provisions
- Established new Title V Operating Permit Program
- Extensive new enforcement authorities
- Expanded authority for the Hazardous Air Pollution program

# 1990 CAA Amendments (3)

- Title I Attainment and Maintenance of National Ambient Air Quality Standards
- Title II Mobile Sources
- Title III General Provisions, Emergency Authority
- Title IV Acid Deposition Control
- Title V Operating Permits
- Title VI Stratospheric Ozone Protection
- Title VII Enforcement
- Title VIII Miscellaneous Provisions
- Title IV Clean Air Research
- Title X Disadvantaged Business Concerns
- Title XI Clean Air Employment Transition Assistance

# CAA Title I Overview

- **Part A: Air Quality & Emissions Limitations**
  - CAA Sections 101 – 131
- Part B: Stratospheric Ozone (repealed for CAAA Title VI)
- **Part C: Prevention of Significant Deterioration**
  - CAA sections 160–169B
- **Part D: Nonattainment Area Plan Requirements**
  - CAA sections 171–193
  - Subparts 1-6

# CAA Title I, Part A: Air Quality & Emissions Limitations

- **Sec 107: Air Quality Control Regions**
  - Responsibilities, designations, redesignations
- Sec 108: Air Quality Criteria and Control Techniques
- Sec 109: National Ambient Air Quality Standards
- **Sec 110: Implementation Plans**

# CAA Title I, Part C: Prevention of Significant Deterioration

- Subpart 1: PSD permitting program
  - New Source Review preconstruction permitting program for new major sources and major modifications in attainment areas
- Subpart 2: Visibility
  - Regional Haze program

# CAA Title I, Part D: Plan Requirements for NAAs

- Subpart 1: sec 171–179B, NAAs in General (focus on sec 172)
- Subpart 2: sec 181–185B, Additional Provisions for Ozone NAAs (focus on sec 182)
- Subpart 3: sec 186–187, Additional Provisions for Carbon Monoxide NAAs (focus on sec 187)



# CAA Title I, Part D: Plan Requirements for NAAs

- Subpart 4: sec 188–190, Additional Provisions for Particulate Matter NAAs (focus on sec 189)
- Subpart 5: sec 191–192, Additional Provisions for Areas Designated Nonattainment for Sulfur Oxides, Nitrogen Dioxide, or Lead (focus on sec 191)
- Subpart 6: sec 193 Savings Provisions
  - Rules or controls for NAAs pre-11/15/90 remain in effect
  - New rules/mods must ensure = or > reductions

# CAA Title I, Parts A and D: Anti-backsliding

- Section 110 (l) (noninterference)
  - EPA cannot approve a SIP if it would interfere with any applicable requirement concerning attainment and reasonable further progress (sec 171), or any other applicable CAA requirement
- Section 172 (e)
  - If EPA relaxes a standard, it must promulgate requirements for areas that have not yet attained that yield air quality improvements
- Section 175A(d)
  - any control measure removed from a SIP at redesignation must be retained as a contingency measure in the maintenance plan

# Resources

## CAA Title I Online

- <https://www.epa.gov/clean-air-act-overview/title-i-air-pollution-prevention-and-control>
- [https://www3.epa.gov/region1/topics/air/sips/REVISED\\_CLEAN\\_AIR\\_ACT\\_KEY\\_SIP\\_PROVISIONS.pdf](https://www3.epa.gov/region1/topics/air/sips/REVISED_CLEAN_AIR_ACT_KEY_SIP_PROVISIONS.pdf)

# Federal Citation for CAA: U.S. Code

- Title 42: The Public Health and Welfare
- Chapter 85: Air Pollution Prevention and Control (sections 7401-7671)
- Subchapter 1: Programs and Activities (Subchapters refer to the CAA Titles)
- Part D: Plan Requirements for Nonattainment Areas

# Federal Codification Example

- SUBPART 2—ADDITIONAL PROVISIONS FOR OZONE NONATTAINMENT AREAS
  - 7511. Classifications and attainment dates.
  - 7511a. Plan submissions and requirements.
  - 7511b. Federal ozone measures.
  - 7511c. Control of interstate ozone air pollution.
- <https://www.gpo.gov/fdsys/pkg/USCODE-2008-title42/pdf/USCODE-2008-title42-chap85.pdf>

# Federal Regulations: CFR

- Title 40: Protection of Environment
- Chapter 1: Environmental Protection Agency
- Subchapter C: Air Programs (Parts 50 to 99)
  - Part 50: NAAQS
  - **Part 51: Preparing Implementation Plans (“SIP manual”)**  
[www.ecfr.gov](http://www.ecfr.gov)
    - 22 subparts and many sections
  - **Part 52: Approval of Implementation Plans (State-specific SIP (Pennsylvania: Subpart NN. (sec. 52.2020–52.2063))**

**Any questions or comments?**

# Clean Air Act Requirements for Attainment

Leah Weiss



# Plan Goals

## (per section 172(c))

- Provide for the implementation of all reasonably available control measures (including RACT) as expeditiously as practicable.
- Attain the primary NAAQS (to protect public health)

# Plan Components per section 110 (a)(2)(A–C)

- Enforceable emission limitations and other control measures
- Monitoring data
- Program to enforce control measures

# Plan Components per section 110 (a)(2)(D)

- Contain adequate provisions that prohibit emissions (from sources or activities) with the state in amounts that will
  - *contribute significantly to nonattainment or interfere with maintenance of a NAAQS;*
  - *interfere with measures to prevent significant deterioration of air quality or protect visibility*
- Ensure compliance with sections 126 and 115 (interstate and international transport)

# Plan Components per section 110 (a)(2)(E–M)

- Assure that resources are available to implement the programs
- Monitor and periodically report on emissions sources
- Revise the plan when a NAAQS is revised, or as needed
- Provide public process and consultation
- Permitting fees

# Part D Requirements

- **For designated nonattainment areas in general, and then specific to each criteria pollutant**
- Increase in number and stringency, depending upon the classification of a designated nonattainment area (for ozone)
- Covered in the Implementation Rule issued by EPA after it promulgates a new NAAQS.
- Include findings of failure to submit, incompleteness or disapprovals of Part D SIP elements commence sanctions and FIP clocks

# Plan Components per section 172(c)

- Reasonable further progress (RFP)
- Inventory
- Identify and quantify allowed emissions from major new/modified stationary sources, and their permits
- Measures to attain by the attainment date
- Provisions to comply with sec 110(a)(2)
- Contingency measures

# Overview of CAA Ozone Planning & Control Requirements by Classification

		NSR offset ratio	Major source threshold	
<b>EXTREME</b> (20 years to attain)	TRAFFIC CONTROLS DURING CONGESTION	1.5 : 1 Extreme	10	
	CLEAN FUELS REQUIREMENT FOR BOILERS			
<b>SEVERE</b> (15/17 years to attain)	PENALTY FEE PROGRAM FOR MAJOR SOURCES	1.3 : 1 Severe	25	
	LOW VOC REFORMULATED GAS			
	VMT GROWTH OFFSET			
<b>SERIOUS</b> (9 years to attain)	VMT DEMONSTRATION (& TCMs IF NEEDED)	1.2 : 1 Serious	50	
	NSR REQUIREMENTS FOR EXISTING SOURCE MODS			
	ENHANCED I/M			CLEAN FUELS PROGRAM (IF APPLICABLE)
	MODELED DEMO OF ATTAINMENT			MILESTONE CONTINGENCY MEASURES FOR RFP
	18% RFP OVER 6 YEARS			ENHANCED MONITORING PLAN
	STAGE II GASOLINE VAPOR RECOVERY			
<b>MODERATE</b> (6 years to attain)	BASIC I/M	1.15 : 1 Moderate	100	
	15% RFP OVER 6 YEARS			CONTINGENCY MEASURES FOR FAILURE TO ATTAIN
	MAJOR SOURCE VOC/NO <sub>x</sub> RACT			ATTAINMENT DEMONSTRATION
	TRANSPORTATION CONFORMITY DEMONSTRATION			
<b>MARGINAL</b> (3 years to attain)	NEW SOURCE REVIEW PROGRAM	1.1 : 1 Marginal	100	
	BASELINE EMISSION INVENTORY (EI)			MAJOR SOURCE EMISSION STATEMENTS
	PERIODIC EMISSION INVENTORY UPDATES			

## Designations and Implementation: Tentative Timeline



<b>Designation Schedule</b>		
	<b>Schedule</b>	<b>Tentative Date</b>
State and Tribe Recommendations	Within 1 year after NAAQS promulgation	October 1, 2016
EPA responds to state and tribal recommendations		June 1, 2017
Final Designation	Within 2 years after NAAQS promulgation (Administrator has discretion to extend the deadline by one year to collect sufficient information.)	October 1, 2017 Effective date may vary. (Air quality data years: 2014 -2016)
<b>Implementation Schedule</b>		
Infrastructure SIP	Within 3 years after NAAQS promulgation	October 2018
Attainment Plans Due	Within 36 - 48 months after designations depending on classification	October 2020-2021

## Tentative Timeline for 2015 Ozone NAAQS

<b>Attainment Schedule by Classification</b>	
<b>Classification</b>	<b>Schedule*</b>
Marginal	3 years to attain
Moderate	6 years to attain
Serious	9 years to attain
Severe	15 to 17 years to attain
Extreme	20 years to attain

\*Areas must attain as expeditiously as practical, but not later than the schedule in the table. Two one-year extensions are available in certain circumstances based on air quality.



# Ozone Transport Region

- Interstate transport regions and commissions are defined in section 176A.
- OTR and the OTC established in section 184
- Membership: ME, NH, VT, MA, CT, RI, NY, NJ, DE, PA, MD, DC and Northern VA
- Additional requirements designed to ameliorate pollutants and their transport

# Additional OTR Requirements (1)

- Entire state considered moderate ozone NAA\* re: requirements applicable to major stationary sources of VOC and NOx. This means:
  - Nonattainment NSR applies statewide for VOC and NOx
  - PSD continues to apply in the designated attainment areas for the pollutants for which they are attainment
  - RACT for NOx and VOC apply statewide

\* OTR NAAs classified higher than moderate must meet the Part D requirements for the higher classification.

# OTR Additional Requirements (2)

- Enhanced Vehicle Inspection & Maintenance (I/M)
  - required in MSAs and adjoining counties with a population >100,000 (versus 200,000)
- Stage II Vapor Recovery (or equivalent)
- No VOC or NOx opt-outs
- See section 184 for details

**Any questions or comments?**

**Time for a break!**

***Please be back in 15 minutes.***