

NAAQS Reviews and Modeling  
for Minor New Source Review  
under the  
Arkansas Infrastructure SIP

January 22, 2014

# AGENDA

- I. Introduction of participants – 5 minutes
- II. Review of Objectives by Business Community Stakeholders, ADEQ & EPA – 10 minutes
- III. Brief overview of CAA and CFR requirements for minor NSR SIPs – 15 minutes
- IV. Review of AR SIP elements with focus on minor NSR – 40 minutes
- V. Articulation of specific conflicts between Act 1302 and AR SIP – 10 minutes
- VI. Wrap up and action items – 5 minutes
- VII. Future meetings on this topic? – 5 minutes

## II. OBJECTIVES

- Articulate exact conflicts between the AR SIP and Act 1302
- Expectations of ADEQ for this conference
- Expectations of U.S. EPA for this conference
- List of action items following conference

# III. OVERVIEW OF CAA AND CFR REQUIREMENTS

# §110(a)(2) Infrastructure SIP Elements

- (A) Emission Limits and Other Control Measures
- (B) Ambient Air Quality Monitoring/Data System
- (C) Programs for Enforcement of Control Measures and for Construction or Modification of Stationary Sources** (*excluding Nonattainment NSR*)
- (D) Interstate Pollution Transport and Abatement; International Air Pollution
- (E) Adequate Resources and Authority
- (F) Stationary Source Monitoring and Reporting
- (G) Emergency Episodes
- (H) SIP Revisions
- (I) Consultation with Gov't Officials, Public Notice, Visibility Protection
- (J) Air Quality Modeling and Submission of Modeling Data
- K) Permitting Fees
- (L) Consultation and Participation by Affected Local Entities

# CAA §110(a)(2)(C) Includes

## 3 Infrastructure SIP Sub-elements

- 1) **Enforcement** - A program for enforcement of the emission limits and control measures described in 110(a)(2)(A)
- 2) **Minor New Source Review** - A state-wide program to regulate
  - new construction and modification of minor stationary sources *and*
  - minor modification of major stationary sources
  - A “PSD *major* source” is often subject to *minor* NSR
  - All Title V (Reg. 26) minor permit modifications and many significant permit modifications are PSD minor modifications, even when the source is a major PSD source
- 3) **Major New Source Review** – A preconstruction permitting program to regulate
  - new construction of major stationary sources *and*
  - major modification of major stationary sources
  - in areas designated attainment or unclassifiable for the subject NAAQS as required by CAA Title I Part C (i.e., PSD)

# What is the federal legal basis for “NAAQS Review” in permitting?

- **Section 110(a)(2)(C) of the CAA**
  - “a program to provide for *the...regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that the national ambient air quality standards are achieved*, including a permit program as required in parts C and D;”
- **40 CFR 51.160(a)**
  - “procedures...to determine whether the construction or modification of a facility...will result in a violation of applicable portions of the control strategy; *or interference with attainment or maintenance of a national standard...*”

# What is New Source Review (NSR)?

- A program to review the construction and modification of minor and major stationary sources, *as necessary*, to assure that SIP control measures are met and that the NAAQS are achieved
- NSR often involves a case-by-case permitting review at the time of initial construction and/or modification of a stationary source
- NSR requirements are sometimes met programmatically without a case-by-case review and/or without issuance of a permit
- Depending on the specific circumstances, NSR may include
  - Control technology reviews (e.g., RACT, BACT, LAER)
  - Emission reduction offset requirements (e.g., NNSR offsets)
  - Ambient monitoring
  - Dispersion modeling
  - Visibility and other impacts analyses
- Major NSR is comprised of highly prescribed requirements
- Minor NSR varies widely from state to state



# What is Major NSR?

- Major NSR applies to
  - The initial construction of a stationary source with PTE equal to or greater than the PSD and/or NNSR major source thresholds
    - Includes a change to an existing minor source if the change would constitute a major source by itself
  - The major modification of a PSD or Nonattainment major stationary source
    - Project emissions increase and net emissions increase are equal to or greater than the PSD and/or NNSR significant emission rates
- Major NSR includes
  - Prevention of Significant Deterioration (PSD)
    - For any pollutant for which a NAAQS is established or any precursor of the NAAQS pollutant, PSD applies in attainment and unclassifiable areas
    - PSD also applies to NSR-regulated pollutants for which there is no NAAQS (e.g., H<sub>2</sub>S)
  - Nonattainment NSR (NNSR)
    - For any pollutant for which a NAAQS is established or any precursor of the NAAQS pollutant, NNSR applies in designated nonattainment areas
  - Both PSD and NNSR can apply simultaneously to the same project for different NAAQS

# What is Minor NSR?

- “The procedures [*SIP*] must identify the types and sizes of facilities...which will be subject to review...” 40 CFR 51.160(e)
- Generally, Minor NSR applies, *as specified in the applicable SIP*, to
  - The construction of any minor stationary source (i.e., with PTE less than the applicable PSD/NNSR major source thresholds)
  - The modification of any minor stationary source
  - The modification of any major stationary source resulting in emissions increases less than the applicable PSD/NNSR significant increase thresholds
- Minor NSR requirements
  - May include a case-by-case permit review and issuance
  - May include controls or other substantive requirements
  - May include modeling, source testing, or monitoring
  - Vary widely from state to state

# Minor NSR Flexibility

Excerpts from U.S. Court of Appeals 5<sup>th</sup> Circuit, 2012

*Luminant Generation Company, LLC et al vs. EPA*

- In stark contrast [*to major NSR*] the CAA prescribes only the barest of requirements for “minor” NSR
- For minor NSR, the Act requires simply that each SIP “include . . . regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that [NAAQS] are achieved.” 42 U.S.C. § 7410(a)(2)(C).
- The implementing regulations for minor NSR are likewise sparse, spanning less than two pages in the Code of Federal Regulations. See 40 C.F.R. §§ 51.160–51.164.
- The EPA has recognized that because “the Act includes no specifics regarding the structure or functioning of minor NSR programs” and because the implementing regulations are “very general[,] . . . SIP-approved minor NSR programs can vary quite widely from State to State.” 74 Fed. Reg. 51,418, 51,421 (Oct. 6, 2009).
- Minor NSR is “a cooperative federalism regime that affords sweeping discretion to the states to develop implementation plans and assigns to the EPA the narrow task of ensuring that a state plan meets the minimum requirements of the Act.”

# Examples of Minor NSR occurring without case-by-case permit reviews

- General permits
- Permits by rule
- Construction of a stationary source with emissions below SIP-established permitting thresholds
- Physical changes and changes in the method of operation at a stationary source resulting in increases below SIP-established permitting thresholds
- Insignificant activities

*In all of these examples, the “NAAQS Review” occurs on a programmatic basis*

# Arkansas SIP

# What is the Arkansas Approved SIP for New Source Review?

## 1. Major NSR (PSD)

EPA approved Regulation 19, Chapter 9 as meeting 40 CFR 51.165

## 2. Minor NSR is divided into 2 categories

A. Major source review (Title V Non-PSD NSR or Reg. 26 Sources)

B. Minor source review (Non-Title V Minors or Reg. 19 Sources)

# What is the Arkansas Approved SIP for New Source Review? (continued)

## 2. Minor NSR

### A. Major source review (Title V Non-PSD NSR, or Reg. 26 Sources)

- Includes construction of sources that are *“major” as defined under Title V of the CAA, but “minor” as defined under PSD*
- Includes modification of *“major” sources as defined under Title V (including “major” PSD sources) but for which the modification results in emissions increases that are less than the PSD significant increase thresholds*
- EPA approved as meeting 40 CFR 51.160 – 51.164 requirements for NSR:
  - Reg. 19 Chapter 11 (which incorporates parts of Reg. 26 by reference);
  - Reg. 19.302 and 19.303
  - Reg. 19.502 and 19.504

# What is the Arkansas Approved SIP for New Source Review? (continued)

## 2. Minor NSR

### B. Minor source review (Non-Title V Minors, or Reg. 19 Sources)

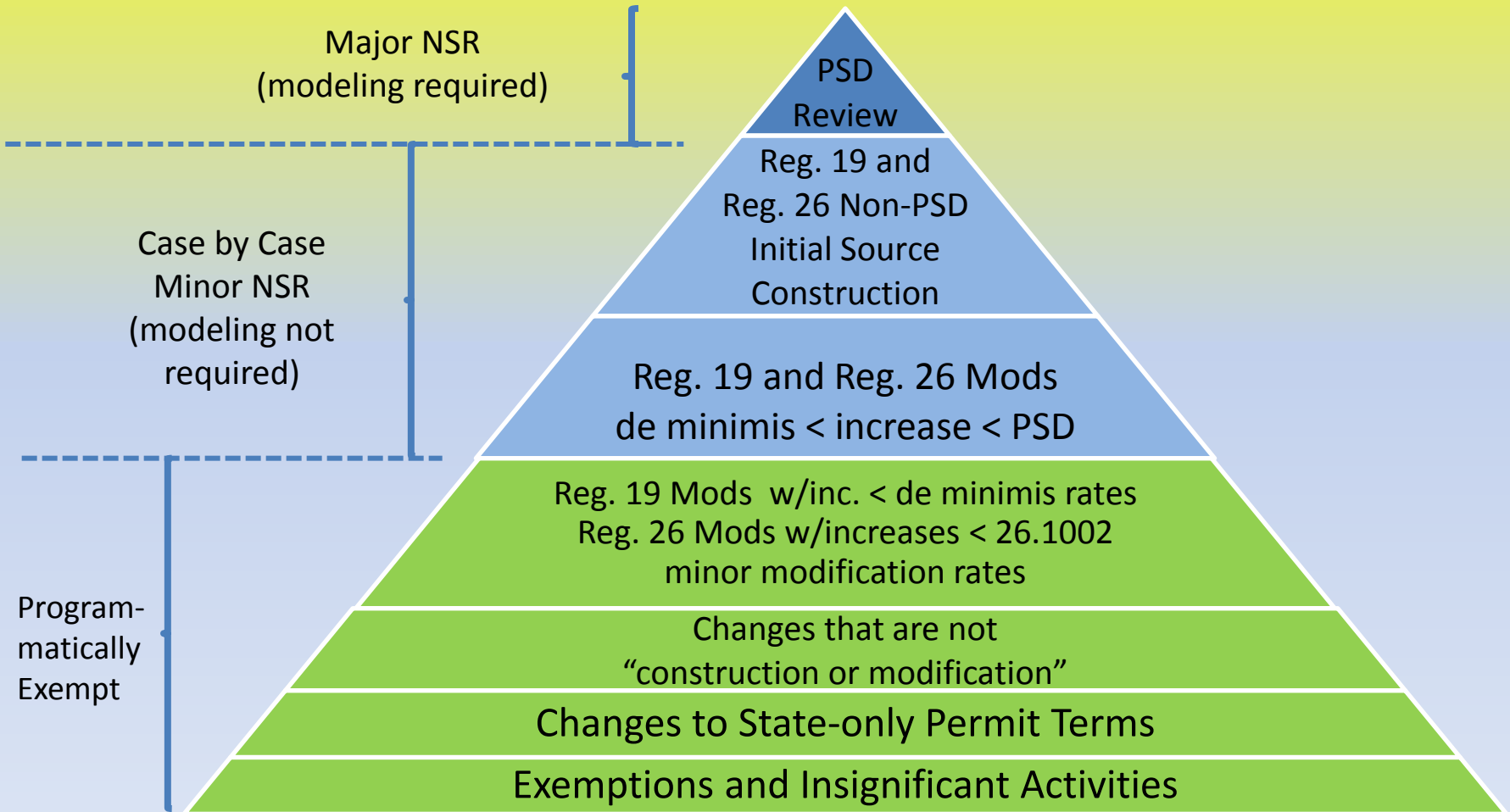
- Includes construction and modification of sources that are *“minor” as defined under Title V of the CAA*
- EPA approved as meeting 40 CFR 51.160 – 51.164 requirements for NSR:
  - Reg. 19 Chapter 4;
  - Reg. 19.303; and,
  - Reg. 19.502 and 19.504



# When is a case-by-case “NAAQS Review” required under the Arkansas SIP?

- What is meant by a “NAAQS review”?
  - A review “to determine whether the construction or modification of a facility...will result in...interference with attainment or maintenance of a national standard...” (40 CFR 51.160(a))
- The SIP requirement for conducting a NAAQS review and the level of rigor of the NAAQS review are contingent on the environmental significance of the construction or modification proposed
- A case-by-case NAAQS review is **not** required for several categories of sources and changes that have trivial environmental impact

# The Arkansas NSR NAAQS Review Pyramid



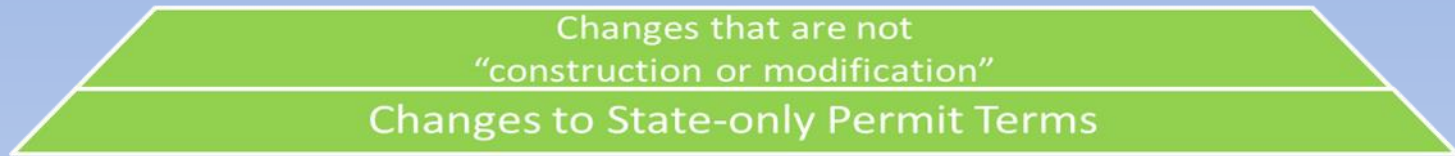
# A NAAQS Review is NOT Required for...

## Exemptions and Insignificant Activities

- Changes and Activities Exempt from Permitting
  - Construction of or changes to sources with emissions below the Reg. 18.315 registration thresholds
  - Construction of or changes to sources with emissions below the Reg. 19.401 permitting thresholds
  - Insignificant Activities
  - Changing among Alternative Operating Scenarios
  - Changes resulting in no emission increases (Reg. 19.415 and 26.802)
  - Changes that involve a physical change or change in the method of operation but do not result in an increase in emissions over permitted rates

***No NAAQS review is required because the approved SIP has identified these categories as exempt from NSR procedures, i.e., exempt from a case-by-case NAAQS review***

# A NAAQS Review is NOT Required for...



- Changes to State-only Permit Terms
  - No NAAQS review is required because federal NSR requirements do not apply to state-only terms*
- Permits for changes at Reg. 19 or Reg. 26 sources that do not involve “construction or modification”, such as
  - Administrative Amendments
  - Reg. 19.407(C) De minimis changes
  - Reg. 26 minor modifications that satisfy Reg. 19.407 de minimis criteria
  - Reg. 26 significant modifications involving only changes to monitoring, recordkeeping, reporting or adding an applicable requirement
  - Modifications resulting in emissions increases only of non-NAAQS pollutants
  - Changes that increase emissions but do not involve a physical change or change in the method of operation

***No NAAQS review is required because federal NSR requirements only apply to the construction and modification of stationary sources***

# A NAAQS Review is NOT Required for...

Reg. 19 Mods w/inc. < de minimis rates  
Reg. 26 Mods w/increases < 26.1002  
minor modification rates

- Modifications at Reg. 19 or Reg. 26 sources
  - with emissions increases below the respective de minimis or minor modification emission thresholds
  - Includes some permit revisions under
    - Reg. 19, Chapter 4, Minor Source Review
    - Reg. 26.1010, Significant Modifications
- All Reg. 26.1002 Minor Modifications are programmatically exempt from NAAQS Review

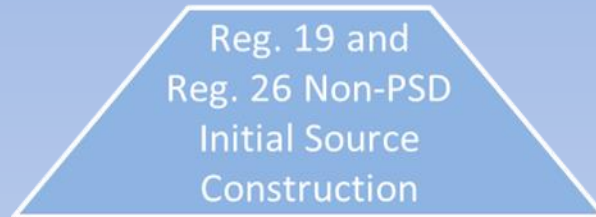
***No further NAAQS review is required because the approved SIP has already made a programmatic determination that de minimis increases have a trivial environmental impact***

# A NAAQS Review is required for...

Reg. 19 and Reg. 26 Mods  
de minimis < increase < PSD

- Modifications at Reg. 19 or Reg. 26 sources
  - with emissions increases over permitted rates greater than or equal to the de minimis/Minor Modification thresholds, but which do not trigger PSD review
  - Includes *some* permit revisions under
    - Reg. 19, Chapter 4, Minor Source Review
    - Reg. 26.1010, Significant Modifications
  - No programmatic determination for these minor NSR modifications
  - The permit review must consider whether the modification would interfere with attainment or maintenance of the NAAQS
  - Modeling is not explicitly required by the AR SIP, 40 CFR or CAA

# A NAAQS Review is required for...



- Initial permit for construction of a Reg. 26 source (Title V non-PSD)
  - With PTE equal to or greater than Reg. 26 major source thresholds but less than PSD major source thresholds
  - Includes all permits for initial source construction under Reg. 26.404 with emissions of NAAQS pollutants
- Initial permit for construction of a Reg. 19 source (non-Title V Minors)
  - With PTE equal to or greater than Reg. 19.401 permitting thresholds but less than Title V major source thresholds
  - Includes all permits for initial source construction under Reg. 19.401 with emissions of NAAQS pollutants
- No programmatic determination for these minor NSR modifications
- The permit review must consider whether the modification would interfere with attainment or maintenance of the NAAQS
- Modeling is not explicitly required by the AR SIP, 40 CFR or CAA

# A NAAQS Review is required for...



- Initial permit for Construction of a PSD major source
  - PTE greater than the PSD major source thresholds
  - Includes a change to an existing minor source if the change would constitute a major source by itself
- The major modification of a PSD major stationary source
  - Project emissions increase and net emissions increase are equal to or greater than the PSD and/or NNSR significant emission rates
- A detailed NAAQS Review is specifically prescribed by the SIP, CFR and CAA for each pollutant triggering review
  - Ambient Air Quality Impact Analysis (AAQIA) is required
  - Modeling is specifically required
- Class I impact analysis is required
- Other impacts analysis is required
- Must follow Reg. 19 Chapter 9 in addition to Reg. 26



# Reg. 26 Permitting and NSR NAAQS Review Requirements

- Initial permit for a proposed Part 70 stationary source, Reg. 26.404
  - NAAQS review based on PSD modeling required if proposed source is major under PSD, for any PSD pollutant above significance thresholds
  - NAAQS review required for any other NAAQS pollutant with emissions above de minimis threshold, but modeling not required
- Administrative permit amendments, Reg. 26.901
  - No NAAQS review required
- Minor permit modifications, Reg. 26.1002
  - No NAAQS review required

# Reg. 26 Permitting and NSR

## NAAQS Review Requirements (continued)

- Significant permit modifications, Reg. 26.1010
  - NAAQS review based on PSD modeling required if proposed change is a major modification under PSD, for any PSD pollutant above significance thresholds
  - NAAQS review required for any other NAAQS pollutant with emissions above de minimis threshold, but modeling not required
  - No NAAQS review required for NAAQS pollutants with increases less than de minimis
  - No NAAQS review required for any NAAQS pollutant if the proposed change is not a physical change or change in method of operation with increases greater over permitted rates
- Title V Permit Renewals
  - No NAAQS review required unless the renewal will authorize construction or modification otherwise subject to a NAAQS review

# How is a NAAQS review performed for minor NSR changes?

The NAAQS review can be satisfied by consideration of several factors, such as:

- The level of the emissions increase
  - in comparison to the de minimis thresholds or PSD significance thresholds,
  - in comparison to the facility PTE or area-wide emissions inventory, and/or
  - in comparison to previous NAAQS evaluations.
- The location of the construction or modification
  - in an attainment or unclassifiable area,
  - in relation to other pollutant-emitting activities or industrial sources,
  - in relation to ambient monitoring stations, and/or
  - in relation to potentially sensitive receptors
- The nature of the source or emissions unit

# Impact of Act 1302 on SIP Implementation

- The approved SIP does not require a NAAQS review for many permitting actions for which ADEQ was routinely conducting modeling
- For minor NSR changes for which the SIP does require a NAAQS review as part of the permitting process, modeling is not required to conduct the review
- The SIP requires modeling as part of the permit review only for PSD permitting
- Act 1302 does not affect PSD permitting and does not restrict ADEQ from conducting NAAQS reviews for minor NSR

# Remaining Agenda Items

- V. Articulation of specific conflicts between Act 1302 and AR SIP – 10 minutes
- VI. Wrap up and action items – 5 minutes
- VII. Future meetings on this topic? – 5 minutes