



**PSD Permitting under 1-hr NO<sub>2</sub> and SO<sub>2</sub> NAAQS**

# **NACAA Permitting Workshop, Chicago June 14, 2011**

**Raj Rao, NSR Group Leader  
OAQPS, EPA**



## What We Will Cover Today

- 1-hour NO<sub>2</sub> Standard
- 1-hour NO<sub>2</sub> Implementation Guidance
- 1-hour SO<sub>2</sub> Standard
- 1-hour SO<sub>2</sub> Implementation Guidance
- Avenal Permit Issues/ Broader NO<sub>2</sub> Grandfathering



# 1-hour NO<sub>2</sub> Standard

- New 1-hour NO<sub>2</sub> NAAQS: Published in FR on 2/9/2010; effective date 4/12/2010
  - NAAQS = 100 parts per billion
  - Standard is attained when the 3-year average of the 98<sup>th</sup> percentile of the annual distribution of daily maximum 1-hour concentrations does not exceed 100 ppb
  
- Permitting problems immediately surfaced when sources experienced difficulty modeling compliance with the new 1-hour NO<sub>2</sub> NAAQS
  - Probabilistic form of NAAQS
  - Emergency equipment and other low-stack emissions units
  - Small property boundaries: “Ambient air”
  
- Two Guidance memos prepared for implementing PSD permit requirements



# 1-hour NO<sub>2</sub> Permit Implementation Guidance

- June 29, 2010 Phase I Guidance Memo
  - Permitting guidance
    - Credit for GEP height
    - Air quality-based emissions limits
    - Accounting for emergency equipment
    - Interim 1-hour NO<sub>2</sub> SIL
  - Modeling guidance:
    - 3-tiered approach for modeling NO conversion to NO<sub>2</sub> [Greater focus on tier 3 detailed modeling]
    - Probabilistic form of NAAQS
- March 1, 2011 Supplemental Modeling Guidance for NO<sub>2</sub>/SO<sub>2</sub>
  - Clarification of procedures for NAAQS compliance analysis using interim 1-hour NO<sub>2</sub> SIL
  - Clarification of use of Tier 2 and 3 options for NO<sub>2</sub> conversion
  - Recommended exclusion for “intermittent emissions”
  - Clarification of determination of background concentrations and their incorporation in cumulative analysis



# 1-hour SO<sub>2</sub> Standard

- New 1-hour SO<sub>2</sub> NAAQS: published in FR on 6/22/2010: effective date 8/23/2010
  - NAAQS = 75 parts per billion
  - Standard is attained when the 3-year average of the annual 99<sup>th</sup> percentile of 1-hour daily maximum concentrations does not exceed 75 ppb
  - Eventual revocation of annual and 24-hr NAAQS for SO<sub>2</sub>
- In anticipation of PSD compliance problems, EPA issued guidance to assist in the PSD permitting and modeling procedures



## 1-hour SO<sub>2</sub> Permit Implementation Guidance

- August 23, 2010 SO<sub>2</sub> Guidance Memo
- Permitting guidance
  - Importance of short-term emissions limits
  - Interim 1-hour SO<sub>2</sub> SIL
  - Air quality-based emissions limits
  - Proper use of GEP stack height
  - Retention of existing annual and 24-hr increments for SO<sub>2</sub>
- Modeling guidance:
  - Accounting for probabilistic form of 1-hr NAAQS
  - Representativeness of available monitoring data
  - Appropriate methods for combining modeled concentrations with monitored background data



# Avenal Energy Permit Issues

- Avenal Energy (Avenal) proposes a 600 MW natural gas-fired combined –cycle power plant near Avenal, California, in the San Joaquin Valley. Project proposed in a severe EJ area
- Avenal sued EPA for not taking final permit action within one year of the application being deemed complete
- Federal Judge ordered on May 26, 2011 that EPA take final action on the PSD permit by August 27, 2011
- Complying with a prior commitment to the court, EPA issued the PSD permit to construct on May 27, 2011



## Avenal Energy Permit Issues (Cont.)

- For this permit EPA “grandfathered” Avenal from the new 1-hour NO<sub>2</sub> and SO<sub>2</sub> National Ambient Air Quality Standards (NAAQS) and also from the new greenhouse gas (GHG) PSD requirements
- Ongoing permit challenges by several environmental groups and citizens related to environmental justice and “grandfathering” issues





# Avenal – Key Dates

- March 2008 - EPA deems application complete
- March 2010 –Avenal sues EPA for inaction on permit
- April 2010 - EPA adopts new 1-hour NO<sub>2</sub> NAAQS
- August 2010 - EPA adopts new 1-hour SO<sub>2</sub> NAAQS



## Avenal – Key Dates(Cont.)

- Jan. 2011- GHGs Regulated Under PSD
- May 26, 2011 Federal Judge Rules
- May 27, 2011 EPA issues PSD permit



# Avenal – CAA Statutes

- Sec. 165(c) requires EPA to take final permit action no later than one year after an application is deemed complete.
- Avenal sued EPA over this deadline
- Sec. 165(a)(3) says that for permit issuance the applicant needs to demonstrate compliance with any NAAQS.
- Environmental groups are challenging EPA's permit regarding compliance with the 1-hour NO<sub>2</sub> and SO<sub>2</sub> NAAQS.



## Avenal – What’s Next

- Await rulings regarding Avenal related permit challenges, including EAB and possible court actions.
- EPA is considering if, and under what conditions, such “grandfathering” may be applied to other sources with permitting histories similar to Avenal.