

# **2007 Regional Haze SIPs: Region 4 Lessons Learned**

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# Overview

- **Focus:**
  - 2007 Regional Haze (RH) SIPs
  - Region 4 (R4) States
- **Lessons Learned in Region 4**
  - Policy Issues Identified & Resolved
  - EPA R4 SIP Reviews—Common Themes
  - Summary of Resulting Controls in R4 to date
- **Emerging RH Issues**

# **Policy Issues**

*Selection of policy issues raised in  
2007 Region 4 RH SIP process*

# Emission Limits

- ***Emission limits must be in the RH SIP\****

\* *Limits established by federal Consent Decree are not required to be placed in the SIP.*

➤ **Reasonable Progress (RP)**—40 CFR 51.308(d)(3)

➤ **Best Available Retrofit Technology (BART)**

- *40 CFR 51.308(e): emission limits and compliance schedules*

- *Where BART = Existing Controls*

- ✓ Include notation in title V permit stating BART also basis of existing requirement. Describe in SIP Narrative.

- *Where BART = No Control (in light of CAA factors)*

- ✓ No new applicable requirements => no TV permit changes required
- ✓ Describe in SIP Narrative.

# Emission Limits (*ctd.*)

- **Incorporate Emission Limits in SIP via conventional SIP methods:**
  - Rule
  - Source-specific (S-S) SIP revision
    - Relevant portions of a permit submitted
  - SIP Narrative
    - Relatively recent “addition” to standard SIP methods
    - *Can only be used if State can enforce SIP Narrative*
- **Include information used to assure compliance, e.g.,:**
  - Emission limits
  - Supporting conditions
    - Supporting conditions include monitoring, testing, recordkeeping, reporting
    - Work with EPA if referencing existing SIP document with these provisions

# BART Exemptions

- **Potential-to Emit (PTE) Emission Limits**
    - Use for PTE<250 tpy or for model plant criteria
    - Establish BART exemption limits by start of public comment period
    - Include exemption description in RH SIP narrative
      - Exemption limits not *required* to be housed in “regulatory” portion of the RH SIP.\*
    - Circumvention Provisions:
      - Recommend circumvention permit term or SIP provision.\*
      - Ensure that changes at source or in its permit that allow for increases in emissions would subject the source to BART review.
    - *Same principles apply to other types of exemptions from BART-subjectivity*
- \* *Not required by RH regulations—adding to SIP could strengthen it.*

# BART Analyses for Particulate Matter (PM)

- **Model Plant criteria – how address PM?**
  - Criteria address NO<sub>x</sub> and SO<sub>2</sub> only
  - Apply to PM with justification documented
    - *Address elements identified in November 2006 calls.*
    - *Contact Region 4 for more information on how to address.*
  - GA Methodology acceptable approach—account for any site-specific conditions
- **CAIR Electric Generating Units (EGUs):**
  - CAIR could satisfy BART for SO<sub>2</sub>, NO<sub>x</sub> (51.308(e)(4))
  - Need only evaluate PM impacts for BART
  - Ensure enforceability of PM BART controls
  - Model Plant: only PM needs to be evaluated against criteria for CAIR EGUs

# Reasonable Progress

- **Reasonable Progress Goals (RPGs)**

- Uncertainty OK & expected

- RPO analyses— if changes, include explanation
    - Uniform Rate of Progress is analytical tool—not to be used as “default” RPG
    - Can adjust at the 5-year check

- Reflect what expect vs. what want

- State Consultation documentation to identify if any inter-state disagreements
    - Notify EPA Regional Office

# Federal Land Manager (FLM) Provisions

- **Courtesy 60-day draft FLM/EPA SIP:**
  - In-person consult opportunity to FLMs at least 60 days prior to public hearing on SIP.
  - FLMs communicated need to see draft SIPs to provide meaningful feedback on 51.308(i)(2) topics
- **FLM Comments:**
  - Public Notice on Prehearing: *[CAA 169(A)(d)]*
    - In public notice, reference FLM comments in prehearing or summarize in public notice
  - Final SIP:
    - Can use final SIP “Response to Comments” document to sum FLM comments and how State addressed *(51.308(i)(3))*
    - Include comments from 60-day consult at minimum

# **EPA R4 SIP Reviews**

*Selection of key items looked for  
during R4 RH SIPs reviews*

# Emission Limits in SIP

- **Compliance Timeframes established?**
  - BART: If date = within 5 years of EPA's SIP approval, can leave ambiguity for sources.
  - RP: If compliance required towards end of planning period, must justify why.
- **SIP Completeness Checklist addressed for:**
  - Dates of State adoption and effectiveness of emission limits?
  - Legal authority to enforce limits?
    - Check if existing SIP authority adequate
    - Some States needed to establish BART and/or RP Rules to secure legal authority
- **Enforceable mechanisms included?**

# BART Analyses

- **Progression for each BART phase:**
  - Basis for “eliminating” sources from further review?
    - ⇒ Eligibility: VOC-only? Data corrections? PTE limit? Etc.
    - ⇒ Subject: Model < threshold? Model Plant?  
Controls < threshold or PTE < model plant? Etc.
    - ⇒ Determination: CAIR? Consent Decree?
- **BART Contribution Threshold**
  - Justification for threshold included?
  - BART Guideline factors addressed at minimum?
    - # of emission sources?
    - Magnitude of source impacts?
    - Location of sources?

# BART Analyses (ctd.)

- **Modeling Documentation**
  - See *“The What, Why, When and How of SIP Modeling Documentation”* presentation (8-21-08)
- **IMPROVE equation**
  - Old vs New equation used?
    - Specify which sources used old vs new?
    - Include EPA approval letter to State for New equation?
    - Consistent application for BART and RP?
  - Justification provided for changes?
    - Ex: Rationale for alternative sea salt concentrations used?

# BART Determinations

- **BART Factor Analyses:**

- If State relied on “dominant” BART factor(s) to screen for eligible controls:
  - Mention other BART factors in SIP for legal coverage?
  - Applied consistently for all sources?
- Cost threshold and rationale for selection?
  - State reliance on CAIR costs as threshold for non-EGUs also

- **Shutdown Provisions:**

- BART Guidelines: 70 FR 39169-39170 (July 6, 2005)
- If rely on Remaining Useful Life BART factor, identify:
  - Federal or State-enforceable restriction to prevent operation beyond permanent shutdown date? **-OR-**
  - If no shutdown date identified, did State add contingency to “trigger” BART if operate past BART compliance date?

# Reasonable Progress

- **RP Factor Analyses:**
  - Cost threshold and rationale provided?
  - If State relied on “dominant” factor(s) to screen for eligible controls:
    - Mention other RP factors in SIP for legal coverage?
    - Applied consistently for all sources?
  - If BART = RP as allowed per final RP Guidance:
    - 5-factor BART analysis completed?
    - For first planning period specified?
- **CAIR satisfies RP for SO<sub>2</sub>: (*VISTAS*)**
  - Address 4 RP factors to conclude reasonable?
    - States added CAIR rule language re: dominant factors of cost/time

# Area of Influence (AOI) Methodology

- **RP Contribution Threshold**

- Rationale for VISTAS 1% (or other) threshold?
  - Initial rationale relied on other programs' thresholds
  - Improved by evaluating sources “captured” by 1%

- **Alternative AOI methodologies**

- Justification provided per RH Rule Preamble: 64 FR 35735 (July 1, 1999)?
- Technically sound & legally defensible?
- Comparable results with VISTAS method?
- Case-specific data included to support AOI criteria?
- State-to-State Consultations: Agree to sources?

# AOI Methodology for RP (*ctd.*)

- **AOI Source Lists:**

- Basis for excluding listed sources from further 4-factor RP analysis identified?
  - *E.g.*, BART? CAIR? etc.
- Inclusion of sources impacting areas in/out of State?
  - Linkage in State-to-State Consultation documentation to sources on AOI lists?
  - States' agreements on sources to evaluate with RP factors?
  - Based on Class I State's AOI Method?

- ***Lessons Learned:***

- Evaluate contribution source-wide vs individual emission units in future plan periods

# Control Determinations

- **For BART and RP factor evaluations:**
  - OK to focus on dominant screening factor
  - Cost thresholds consistently applied?
  - If significant visibility impacts, justification sound and defensible if no controls pursued based on factors?
  - State's analysis of sources' proposed analyses and conclusions?
  - How were EPA and FLM comments on drafts addressed?
- **Assumptions documented?**
  - Consistent with EPA Control Cost Manual?
  - Justification & information sources for numbers included?
    - Vendor quotes provided to support estimates?
    - Other information sources provided?
  - Current state of the industry reflected?
  - *See also 8-21-08 Roundtable discussion on controls\**

# **Summary of Controls**

*Region 4 States*

*Based on Data Submitted to Date*

# Control Analyses--Results

- *For: AL, KY, MS, NC, SC, TN (MS prehearing)*
- BART:
  - 131 potentially BART-eligible sources
  - 114 exempted from further BART review
    - 74 Non-EGUs
    - 40 CAIR EGUs
  - 17 BART-subject facilities evaluated 5 factors
    - 8 facilities -- **No Control**
    - 9 facilities -- **Additional Control** (*3 relied on consent decrees*)
- RP:
  - 59 SO<sub>2</sub> sources within AOI
  - 33 CAIR = RP
  - 2 BART = RP
  - 24 sources evaluated 4 RP factors
    - 23 -- **No Control**
    - 1 -- **Additional Control**

# **Emerging Issues**

Regional Haze

# Emerging Issues--CAIR

- **CAIR Vacatur Implications on R4 RH SIPs:**
  - ⇒ CAIR = BART for SO<sub>2</sub>, NO<sub>x</sub> for CAIR EGUs
  - ⇒ CAIR = RP for SO<sub>2</sub> for CAIR EGUs
  - ⇒ RPGs reflect predicted CAIR reductions
  - ⇒ Cost Thresholds of \$2000/ton SO<sub>2</sub> based on CAIR
  - ⇒ Glide Path progress exceeded due to CAIR primarily in most R4 Class I areas
- Agency currently evaluating impacts, next steps
  - Effect on R4 RH SIPs?
  - Effect on planned RH Findings?

# Emerging Issues--*NSR*

- **New Sources:**

- How will new sources be assessed for RH impacts?
- What is required under the RH regulations?
  - Future emission inventory projections
  - Projections account for anticipated new source growth
  - At 5-year review, can adjust for unexpected growth
- What is required under Visibility regulations?
  - 51.300(a): consider procedures as needed for visibility analysis for new sources under 51.166 for both RH, RAVI
  - 51.307(c): NSR review--must check consistency with visibility goals set for both RH and RAVI.

# Emerging Issues--NSR

- **New Sources:** *(ctd.)*

- Are RH and PSD Programs at odds? **No...**

- ☐ *American Corn Growers* discussion:

- Programs are harmonized
    - CAA goals: protect & enhance air quality
    - PSD allows some localized emission increases for new growth, however, protection is overall goal
    - RH: long-term emission decreases expected regionally

- Some States relying on NSR regulations

- ☐ Process to systematically check for effects on RPGs?

- ☐ Overall new source “projected budget” vs. case by case?

- ☐ Potential for single source impacts?

# Emerging Issues—*RAVI*

- **Reasonably Attributable Visibility Impairment (RAVI):**
  - **EPA's Visibility Regulations require:**
    - 51.306(c): RAVI Long-term Strategy (LTS)
      - Coordinated RH/RAVI LTS required
      - Follow 5-year schedule in 51.308(g) once RH SIP
    - 51.308(d)(4): RH and RAVI monitoring strategy must be coordinated
      - Can satisfy by reliance on IMPROVE monitoring network.
    - 51.308(d)(3)(v)(A): LTS factor requires States to consider emission reductions from any RAVI measures

# Emerging Issues—RAVI

- **RH SIP Issues related to RAVI:**

- **RH LTS:**

- RAVI/RH LTS Coordination & Review not explicitly addressed in R4 RH SIPs.
  - Can this be clarified via letter? (*Pending*)
  - States without Class I areas:
    - » No RAVI FIPs to coordinate with RH LTS.
    - » Need process to address any newly-identified RAVI sources?

- **RAVI Federal Implementation Plans (FIPs)**

- States with Class I areas affected by 1980 RAVI regulations.
- States have partial or full FIPs in place.
  - If RAVI addressed in RH SIP, can FIPs be removed?

# Conclusions

- Kudos to R4 States and VISTAS for excellent work and leading the country in finalizing SIPs!
- Overall, technical analyses and descriptions were well documented and provide transparent plans to public.
- Suggestions for improvement in EPA/State coordination for future planning?
- Questions? Feedback?
- Feedback is welcome! *(Can also phone/e-mail your State Contact and Michele Notarianni, 404-562-9031 or [notarianni.michele@epa.gov](mailto:notarianni.michele@epa.gov).)*