October 8, 1998

NOTE TO AIR AND RADIATION DOCKET & INFORMATION CENTER (6102)

SUBJECT: Revision #2 to Docket Number A-96-56, VI-C-01

Please find attached a revised table of contents for the subject document. JoAnn Allman has assigned this revision document number VI-C-01(b).

If you have any questions, please call me at 919/541-5565.

(signed)

David G. Cole
Air Quality Strategies
and Standards Division

Table of Contents

Introduction 1

1. Response to Comments on Legal, Administrative, and Procedural Issues Related to the Ozone Transport SIP Call Rulemaking
   - A. Statutory and Regulatory Background 3
   - B. Interpretation of Section 110(a)(2)(D) 3
   - C. Definition of Significant Contribution 9
   - D. Definition of Nonattainment 21
   - E. Need for State-specific Demonstration of Contribution 25
   - F. Section 126 Petitions 28
   - G. Availability of Key Information 29
   - H. Legal Authority 35
   - I. Use of 176A/184 Transport Commissions 39
   - J. Regulatory Structure 43
   - K. Miscellaneous Legal Issues 45
   - L. Maintenance of NAAQS 52
   - M. Addendum 53

II. Response to Comments on Implementation of Ozone Transport SIP Call
   - A. Statewide Emissions Budgets versus Partial-State Emissions Budgets 64
   - B. Implementation of Revised Air Quality Standards 65
   - C. Implementation Date for Required Controls 67
   - D. SIP Submittal Date 91
   - E. SIPApprovability Criteria 94
     - 1. Approval Criteria 94
     - a. Monitoring Requirements 94
     - b. Legal Authority and the “Commons” Phenomenon 95
     - c. Suggested Additional Approval Criteria 98
     - 2. Reassessment of Transport 99
     - 3. Comments on Section 51.121 100
     - 4. Federal Implementation Plans 102
   - F. OTAG Process 103

III. Response to Comments on Modeling Issues 107
   - A. New Modeling Analyses: General 107
   - B. New Modeling Analyses: State-related 108
     - 1. Virginia 108
     - 2. Michigan 114
     - 3. Indiana 115
     - 4. North Carolina 117
     - 5. South Carolina 119

6. Kentucky 121
7. Alabama 123
8. Tennessee 124
9. Ohio 126
10. Illinois 129
C. Modeling Systems 130
1. Episodes 130
2. Domain Size; Grid Resolutions; Databases 131
3. Modeling Inventories 132
4. UAM-V Model Performance/Evaluation 136
5. UAM-V Model Availability/Status 137
6. ROM 137
D. Significance Test 138
1. Criteria in “Noise” Level of Model 138
2. Bright Line Test 139
3. Transport/Trajectory Analyses 140
4. Ozone Cloud/Spatial Correlation Analysis 142
5. Current vs. 2007 as Base 143
6. Emissions 143
7. Inclusion/Exclusion of Certain States 145
E. Approaches and Metrics - Air Quality Part of Weight of Evidence 147
1. State-by-State 147
2. CAMx Modeling 149
3. Zero-out Modeling 150
4. Metrics 151
5. Nonattainment Receptors 152
6. Treatment of 8-hour NAAQS 153
F. Modeling Information 154
1. Point vs. Low-level NOx Reductions; Need for NOx Controls; NOx vs.VOC 154
2. NOx Disbenefits 155
3. Emission Reductions Locally 156
4. Upwind States Contribution 157

IV. Response to Comments on Control Strategies 161
A. Phase-in of Control Measures 161
B. Seasonal vs. Annual Controls 162
. C. Emissions Reporting Requirements for States 165
D. NOx Waivers and NOx Disbenefits 172
E. System Reliability 173

V. Response to Comments Relating to State Emissions Budgets 181
A. Electric Utility Budget Component 181

i. Methodology Used to Determine the EGU Budget Component 181
ii. Comment on 0.15 lb/MMBtu Emissions Rate for Large EGUs 183
iii. Input versus Output 184

B. Area and Nonutility Point Source Budget Component 188
1. 70% Control 188
2. Cement Industry 189
3. 0.20 Rate for Industrial Sources 190
4. Industrial Costs 190
iv. Multiple Fuels 191
v. Sources Lacking Control Information 191
vi. Timeframe for Achieving Emissions Reductions192
vii. Impact of Budgets on Small Entities 192
viii. Impact on Government Entities 193
ix. Case-by-case Analysis of Control Measures 193
x. Cost Effectiveness 194
xi. Continuous Emissions Monitoring Systems (CEMS) 194
xii. Cut off for Small Sources 195
xiii. Exemptions 196
xiv. Municipal Waste Combustors (MWCs) 196
xv. State Flexibility 197
xvi. Growth 197
C. Highway Vehicle Budget Component 198
1. Affected Entities 198
2. Budget Component Determination Method 199
3. Seasonal/Weekday/Weekend Adjustment 200
4. Growth Considerations 201
D. Nonroad Budget Component 201
1. Affected Entities 201
2. Budget Component Determination Method 201
3. Growth Considerations 202
E. Recalculation of Budgets 202

VI. Response to Comments Relating to the Base Year Emissions Inventories Used to Calculate State Emissions Budgets
A. Electric Utilities Inventory 206
1. Heat Input Corrections 207
2. Miscellaneous Data Corrections 208
3. General Concerns 208
4. Types of Units Included 209
5. Specific Units to Include or Exclude 209
B. Nonutility Point Sources Inventory 210
C. Stationary, Area and Nonroad Mobile Source Inventory 212

D. Highway Vehicles Inventory 212

VII. Response to Comments Relating to Uniform Controls versus Alternative Proposals . . 213

VIII. Response to Comments on the Regulatory Analysis and Cost Considerations of the Rulemaking 217
A. General Comments 217
B. Economic Impacts of Rule 229
C. Inclusion of Benefits in Analysis 239
D. Coordination of Rule With Other EPA Regulations 240
E. Impact on Small Entities 240
F. Unfunded Mandates Reform Act 243
G. Cost of Controls 244
H. Use of NOx Reductions vs. Ozone Reduction for Cost Effectiveness 266
I.` Trading-Related Costs 266
J. Cost of Downwind Local Reductions vs. Upwind Regional Reductions 271

IX. Response to Comments Regarding Cap and Trade Program 273
A. General Program Approach 273
B. Applicability 280
C. Monitoring 289
D. Emissions Limitations/Allowances 319
E. Banking 343
F. Allowance Trading and Tracking 353
G. Enforcement/Penalty Provisions 358
H. Integration with Other Programs 361
I. State Model Rule Adoption 365
J. Program Audits 368
K. General Legal Authority Issues 368
L. Miscellaneous Comments 370
M. Permitting 375

X. Response to Comments on Non-ozone Benefits of NOx Emissions Decreases 380

XI. Response to Comments on Interaction with Title IV NOx Rule 381

XII. Misplaced Comments 384

References 385

Appendix A - EGU Addition Requests to Inventory 388

Appendix B - EGU Deletion Requests to Inventory 407
Appendix C - EGU Heat Input Correction Requests to Inventory 416
Appendix D - Non-EGU Source Correction Requests to Inventory 442