

Cross-State Air Pollution Rule and Impacts on Missouri

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MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Overview

- Final Cross-State Air Pollution Rule (CSAPR) Overview
- Comparing CSAPR vs. Clean Air Interstate Rule (CAIR)
- Proposed Supplement to CSAPR
- Missouri Utilities' Perspective

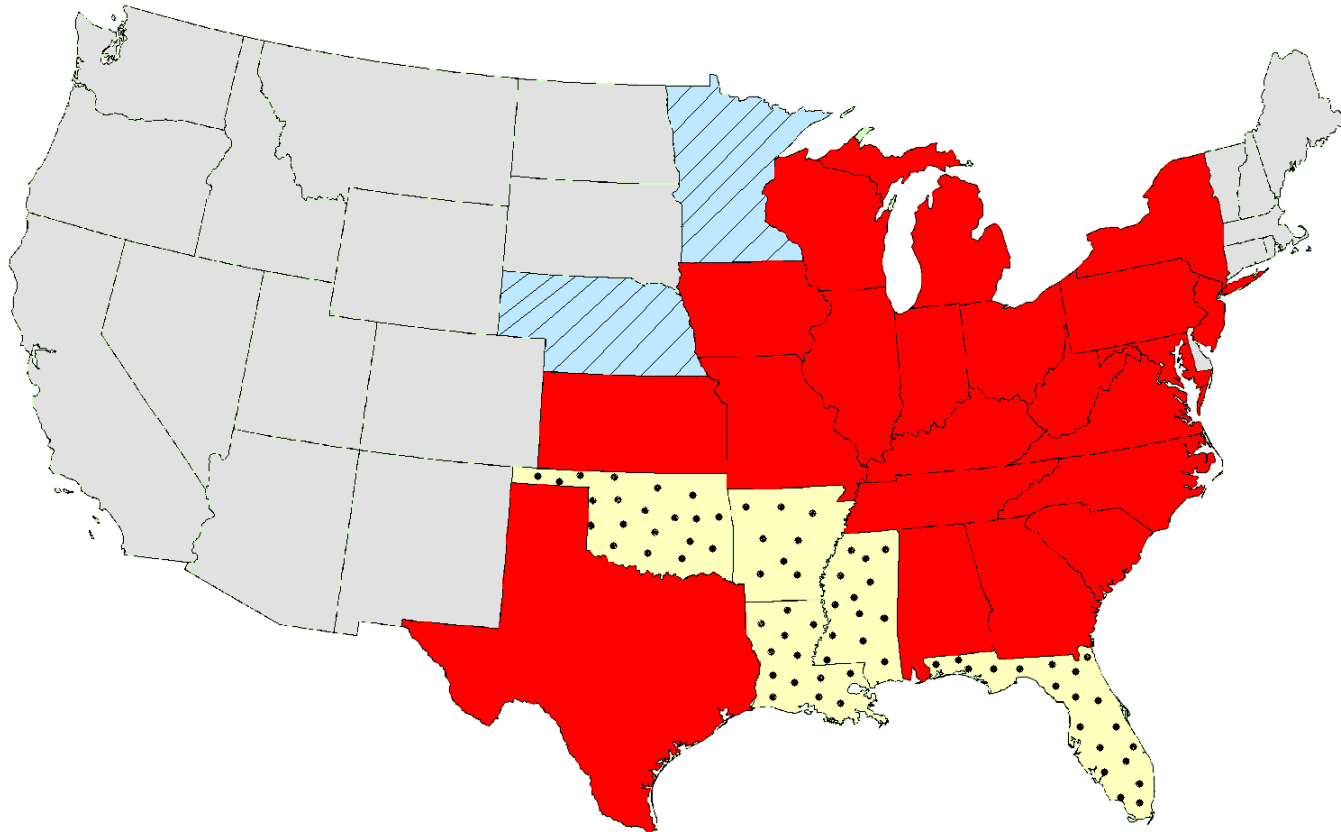
Reason for CSAPR





- Replaces CAIR, which was remanded to EPA by the Courts
- Addresses impacts that 28 states have on downwind nonattainment/maintenance areas for three separate NAAQS:
 - 1997 Ozone NAAQS,
 - 1997 annual PM_{2.5} NAAQS, and
 - 2006 24-hour PM_{2.5} NAAQS
- Helps address states' infrastructure SIP obligations for these standards

Summary of CSAPR

- Based on regional trading of emission allowances for Electric Generating Units (EGUs)
- Establishes 4 different regional trading programs
 - Annual SO₂ Group 1
 - Annual SO₂ Group 2
 - Annual NO_x
 - Ozone Season NO_x
- Implemented through Federal Implementation Plans
- Begins January 1st, 2012

States Covered Under CSAPR



-  States controlled for both fine particles (annual SO₂ and NO_x) and ozone (ozone season NO_x) (21 States)
-  States controlled for fine particles only (annual SO₂ and NO_x) (2 States)
-  States controlled for ozone only (ozone season NO_x) (5 States)
-  States not covered by the Cross-State Air Pollution Rule

State Budgets and Unit Allowances

- State budget levels
 - EPA took into account all current and planned control technology for 2012
 - EPA then performed model runs to determine statewide emission levels that could be achieved in 2012 and 2014 if additional cost-effective controls were implemented
- Unit allowances: state emission budgets were allocated to individual power plants based on historical heat input and emissions

Missouri Statewide Budgets Under CSAPR

Trading Program	2012 - 2013 Statewide Allocations	2014 + Statewide Allocations	2010 Actual Statewide Emissions
Annual SO ₂	207,466 Tons	165,941 Tons	236,231 Tons
Annual NO _x	52,374 Tons	48,717 Tons	58,518 Tons
O ₃ Season NO _x *	22,762 Tons	21,073 Tons	25,569 Tons

* Note: The supplement to the Final CSAPR was proposed July 6, 2011, which adds Missouri to the ozone season NO_x trading program. This is expected to be finalized in November 2011.

New Unit Set Asides (NUSA) (FIP Requirements)

- Units with online dates after January 1, 2010 are considered new units under CSAPR
 - Missouri has 2 new units: Iatan Unit II, and Southwest Unit II
- NUSA budgets are different for each state and can also vary for each trading program
- If NUSA budgets are not used, they are divided proportionally among existing units
- If existing units do not operate for two consecutive years, then on the fourth year, following the initial inactivity, those allowances are placed in the NUSA budgets

CSAPR Penalties for Non-Compliance

- Automatic penalty of two allowances (1 for offset and 1 as a penalty)
- Maximum civil penalty is \$25,000 per ton x number of days in the control period
- i.e.
 - Annual Program = \$25,000 x 365 days =
 - \$9,125,000 per ton (maximum civil penalty)
 - O₃ Season Program = \$25,000 x 153 days =
 - \$3,825,000 per ton (maximum civil penalty)

Variability and Assurance Provisions

- Variability is the amount of allowances over the state budget that can be spent in a single year without penalty
 - Annual NO_x and SO₂ Variability: 18% of the statewide budget
 - Ozone season NO_x Variability: 21% of the statewide budget
- Variability + Initial Budget = Assurance Level

Missouri Variability/Assurance Levels

Trading Program	Variability Percentage
Annual SO ₂	18%
Annual NO _x	18%
O ₃ Season NO _x *	21%

Trading Program	2012 - 2013 Statewide Assurance Level	2014+ Statewide Assurance Level	2010 Actual Emissions
Annual SO ₂	244,810 Tons	195,810 Tons	236,231 Tons
Annual NO _x	61,801 Tons	57,486 Tons	58,518 Tons
O ₃ Season NO _x *	27,542 Tons	25,498 Tons	25,569 Tons

* Note: The supplement to the Final CSAPR was proposed July 6, 2011, which adds Missouri to the ozone season NO_x trading program. This is expected to be finalized in November 2011.

Assurance Provision Penalties

- Assurance provision penalties only occur if both of the following happen for a Designated Representative (DR) Group:
 - The entire state exceeds its assurance level during a control period
 - The DR Group exceeds its combined individual assurance level during a control period
- There is a 2 to 1 allowance penalty for the state, which is proportionally divided between DR groups that exceeded their individual assurance levels

Assurance Provision Penalty Example

- Statewide budget is 300 tons. Three DR Groups each have individual budgets of 100 tons. Variability is 18%.

DR Group	Budget	Assurance Level	Emissions	Percent of Individual Exceedances	Penalty
Group A	100 tons	118 tons	188 tons	$70/100 = 70\%$	98 tons
Group B	100 tons	118 tons	148 tons	$30/100 = 30\%$	42 tons
Group C	100 tons	118 tons	88 tons	NA	NA
Totals	300 tons	354 tons	424 tons	NA	140 tons

- The entire state exceeded the assurance level by 70 tons, therefore 140 tons in penalties for the state are proportioned to the groups that exceeded their individual assurance levels.

CSAPR vs. CAIR

- CSAPR adds new states that were not included under CAIR (e.g., KS, OK, NE)
- Annual SO₂ Program Differences
 - CSAPR includes two trading Groups for SO₂
 - CSAPR is completely separate from the Acid Rain Program
- CSAPR limits interstate trading
- CSAPR lowers statewide NO_x and SO₂ budgets

Comparing NOx Budgets CSAPR vs. CAIR

Trading Program	2012 CAIR Statewide Allocations	2012 CSAPR Statewide Allocations	2010 Actual Statewide Emissions
Annual NO _x	59,871	52,374 Tons	58,518 Tons
O ₃ Season NO _x	26,678	22,762 Tons	25,569 Tons

Trading Program	2015 CAIR Statewide Allocations	2014 CSAPR Statewide Allocations	2010 Actual Statewide Emissions
Annual NO _x	49,982	48,717 Tons	58,518 Tons
O ₃ Season NO _x	22,231	21,073 Tons	25,569 Tons

Proposed Supplement to CSAPR

- Adds Missouri and 5 other states to the Ozone Season NO_x Trading Program in the rule (IA, MI, OK, KS, WI)
- Expected to be finalized in November 2011
- Alleviates MO from demonstrating compliance with obsolete NO_x SIP Call program
- Ensures “permanent and enforceable” NO_x controls during ozone season to support redesignating St. Louis to attainment for 1997 ozone NAAQS

SIP Options/Timelines

- Total statewide budgets cannot be changed
- For 2012, the federal allocations may not be changed by states
- For 2013 and beyond, states can modify individual allocations that EGUs receive through a SIP revision
 - For 2013, SIP revision due **April 1st, 2012**
 - For 2014 and 2015, SIP revision due **December 1st, 2012**

Missouri Utilities' Perspective

- Appears to be an overall concern that NO_x allocations will be insufficient for the entire State
- Most utilities would prefer the state assume allocation authority
- Several power plants are studying plans and economics of adding NO_x or SO₂ controls as a result of CSAPR and other upcoming federal rules
- Some small EGUs have zero allowances

Conclusion

- Significant emission reductions expected in Missouri: 30% SO₂ and 17% NO_x
- Some difficult decisions for the state
- Timing is a concern for both SIP purposes and compliance
- Addresses Missouri's interstate transport obligations, allowing for PM_{2.5} and Ozone infrastructure SIP approvals
- Supports redesignating St. Louis to attainment for 1997 ozone and annual PM_{2.5} NAAQS

Questions???

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