

**Supplemental Document for
Missouri State Implementation Plan Revision**

**Cross-State Air Pollution Rule (CSAPR)
NO_x Annual Trading Program**

**Prepared for the
Missouri Air Conservation Commission**



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**Missouri Department of Natural Resources
Division of Environmental Quality
Air Pollution Control Program
Jefferson City, Missouri**

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Purpose

The purpose of the State Implementation Plan (SIP) revision described in this document is for the Missouri Department of Natural Resources' Air Pollution Control Program (Air Program) to assume allocation authority for the Missouri existing unit budget in the Transport Rule (TR) NO_x Annual Trading Program for the 2016 control period under the U.S. Environmental Protection Agency's (EPA) Cross-State Air Pollution Rule (CSAPR). The Air Program is submitting a SIP revision with adjusted individual unit level allocations that will replace the allocations from the existing unit budget established by the CSAPR Federal Implementation Plan (FIP) for the 2016 control period.

This supplemental document outlines the purpose, background, and authority to submit as a SIP revision the unit level allowance allocations for existing TR NO_x Annual units in Missouri for the 2016 control period. This supplemental document will be submitted to EPA, but the Air Program is only requesting SIP approval of the allowance allocations being submitted.

When the federal allowance allocation method is applied to Missouri's existing unit budget for the TR NO_x Annual Trading Program for the 2016 control period, there are nine (9) excess allowances in the existing unit budget due to rounding. The SIP revision described in this document will reallocate four (4) of these nine (9) excess allowances as follows: two (2) allowances to the facility owned by the City of Chillicothe and two (2) allowances to the facility owned by the City of Higginsville. These two facilities were not allocated any allowances under the federal allocation method. All other existing unit budget allowances will be distributed identically to the federal allocation method.

The SIP revision described in this document redistributes emission allowances for the 2016 control period only. The Air Program is pursuing a separate rulemaking and SIP revision to reallocate allowances for the control periods in 2017 and beyond.

1. Background

In 2005, the EPA finalized a federal emission trading program for the eastern half of the country. This trading program was known as the Clean Air Interstate Rule (CAIR). CAIR established three different federal emission trading programs that were designed to limit interstate transport of emissions that significantly contribute to nonattainment or interfere with maintenance in downwind states. States are required to address these emissions in accordance with Clean Air Act (CAA) Section 110(a)(2)(D)(i)(I). CAIR addressed these requirements for states that were included in the rule for two different NAAQS, the 1997 8-hour ozone NAAQS, and the 1997 fine particulate matter (PM_{2.5}) NAAQS. However, in 2008, the District of Columbia Circuit Court of Appeals (D.C. Circuit Court) remanded CAIR to EPA due to deficiencies found in the rule. EPA was directed by the courts to write a rule to replace CAIR and address these deficiencies. The EPA finalized the CSAPR on August 8, 2011 (76 FR 48208) in response to this court decision and was intended to replace CAIR beginning January 1, 2012.

However, in December 2011, prior to the implementation of CSAPR, the D.C. Circuit Court stayed the implementation of CSAPR pending the outcome of litigation that had been filed against the CSAPR. Then in August 2012, the D.C. Circuit Court issued a decision vacating CSAPR and directed EPA to continue to implement CAIR until they could implement a new replacement rule that addresses the Court's concerns. However, EPA appealed the D.C. Circuit Court's decision to the U.S. Supreme Court and in April 2014, the U.S. Supreme Court reversed the D.C. Circuit Court's decision that vacated the CSAPR. Then in June 2014, EPA filed a motion to the D.C. Circuit Court to lift the stay of the CSAPR and delay all compliance dates in the rule by three (3) years, which would require that phase I of CSAPR would begin in January 2015. In October 2014, the D.C. Circuit court granted EPA's motion to lift the stay of the CSAPR, and on December 3, 2014 the EPA promulgated an interim final rule (79 FR 71663) that extends the compliance dates of the CSAPR by three (3) years and clarifies that the rule will go into effect in 2015.

The CSAPR establishes four (4) separate federal emission trading programs for states located in the eastern half of the country. These four trading programs include the TR SO₂ Group 1 Trading Program, the TR SO₂ Group 2 Trading Program, the TR NO_x Annual Trading Program, and TR NO_x Ozone Season Trading Program. States that were found to be significantly contributing to a 1997 and/or 2006 PM_{2.5} NAAQS nonattainment area or interfere with maintenance of these PM_{2.5} NAAQS in a downwind state are included in one of the TR SO₂ Trading Programs, along with the TR Annual NO_x Trading Program. States that were found to be significantly contributing to 1997 Ozone NAAQS nonattainment areas or interfere with maintenance of this ozone NAAQS in a downwind state are included in the TR NO_x Ozone Season Trading Program.

The final CSAPR, which was published in the federal register on August 8, 2011, includes Missouri in the TR SO₂ Group 1 Trading Program and the TR NO_x Annual Trading Program. Missouri was not included in the TR NO_x Ozone Season trading program under the final rule. However, on December 27, 2011, EPA finalized a supplement to the final CSAPR (76 FR 80760), which added Missouri and five (5) other states to the TR NO_x Ozone Season Trading Program. Therefore, Missouri is included in the TR NO_x Ozone Season Trading Program beginning in 2015.

EPA is implementing CSAPR through a FIP beginning January 1, 2015 (79 FR 71663). Through the CSAPR, every state included in the rule has a statewide emission budget for each trading program in which it is included. These statewide budgets consist of a certain amount of allowances that are distributed to the CSAPR-affected units in that state. Applicability under the TR NO_x Ozone Season Trading Program is defined in 40 CFR 97.504. Each allowance permits a unit to emit one ton of the respective air pollutant for which the allowance is granted. Allowances may be used to cover emissions from a particular unit, they may be banked to be used in a future year, or they can be traded or sold to other affected units included in the respective trading program. There are several different compliance options for units subject to CSAPR. Some examples of compliance options include, but are not limited to, the installation of controls to lower emissions, purchasing allowances from units with excess allowances due to over-controlling emissions, transfer allowances from one unit to another, fuel-switching, improved unit operating procedures, unit efficiency improvements, and modifications to unit dispatch order.

The following two paragraphs are intended to summarize the method used by EPA in setting statewide and unit level allowance budgets under the CSAPR. Complete details regarding these methods can be found in the preamble to the CSAPR (76 FR 48208 – 48352).

EPA's method of setting statewide emission budgets through the CSAPR included the use of the future year modeling. EPA took into account all known or planned controls that would be operational on all affected units included in the CSAPR by January 1, 2012. EPA also took into account all cost effective controls that could be installed to control emissions at CSAPR-affected units. The modeling was performed using these inputs, and the emissions computed by the model at each unit were summed for each state included in the rule to develop the statewide emission budget. These statewide budgets cannot be increased by states through a SIP.

After calculating the statewide budgets, EPA allocated the allowances to individual units in each state. Under the FIP, the statewide budgets for each trading program are divided into two different budget pools, the existing unit budget and the new unit set-aside (NUSA). Existing units are defined as those in operation on or before January 1, 2010. The NUSA was established as a percent of the statewide budget, to cover emissions from units that commenced commercial operation after January 1, 2010. The allowances that remain in the statewide budget after the NUSA is subtracted make up the existing unit budget. Once these two budget pools were established, EPA allocated allowances to individual existing CSAPR-affected units (units that commenced operation prior to January 1, 2010) using a method that took into account both historical heat input and historical emissions at each unit.

These individual existing unit level allocations established through the FIP cannot be changed by states through a SIP for the 2015 control periods. However, for the 2016 control period, states can submit SIPs to alter the individual unit level allocations under the FIP from the existing unit budget. The unit level allocations in the NUSA cannot be changed by states through a SIP for the 2016 control periods. For the 2017 and beyond control periods, states can submit SIPs to alter the individual unit level allocations under the FIP from both the existing unit budget and the NUSA.

2. Missouri TR NO_x Annual Trading Program SIP Revision for 2016

2.1 Summary of Federal Allocation Method to Existing Units Under CSAPR

The following two paragraphs are intended to summarize the method used by EPA to set unit level allowance budgets for existing units under the CSAPR. Complete details regarding the federal allocation method can be found in the preamble to the CSAPR (76 FR 48208 – 48352).

Under the federal allocation method of the CSAPR, existing units are distributed allowances from the statewide existing unit budget based on their historical heat input and capped at their historical maximum emissions. Specifically, the highest (nonzero) three years of each unit's heat input from the control periods in 2006 – 2010 are averaged together. This value is then summed with every other unit in the state in order to determine a percentage of historical statewide heat input for each unit. This percentage is then multiplied by the statewide existing unit budget to calculate the initial allocation for each unit. This value is compared to historical high emissions value at that unit from the control periods in 2003 – 2010. If the initial allocation for the unit is lower than the historical high emissions value, the unit receives the initial allocation amount. If the initial allocation for the unit is higher than the historical high emissions value, the unit receives their historical high emissions value as their allocation and the remaining allowances are rolled back to the statewide existing unit budget. This process is repeated until the number of allowances allocated to existing units equals the amount of allowances in the statewide existing unit budget.

Once the number of allowances allocated to existing units equals the amount of allowances in the statewide existing unit budget, all allowances that have been allocated to existing units are rounded to the nearest whole number using conventional rounding. If more allowances are rounded down than rounded up, there will be excess allowances in the existing unit budget. If more allowances are rounded up than rounded down, there will not be enough allowances in the existing unit budget to cover the allowances that were allocated. In both cases, under the FIP, the difference would be made with the NUSA. In other words, under the FIP, any extra allowances in the existing unit budget due to rounding would be transferred to the NUSA, and allowances would be taken from the NUSA if needed to cover the existing unit budget as a result of rounding.

2.2 Missouri TR NO_x Annual Trading Program Allocation Method for 2016 Under the SIP

When the federal allocation method is applied to Missouri's existing unit budget for the TR NO_x Annual Trading Program for the 2016 control period, there are nine (9) excess allowances due to rounding. The SIP revision described in this document will reallocate four (4) of these nine (9) excess allowances as follows: two (2) allowances to the facility owned by the City of Chillicothe and two (2) allowances to the facility owned by the City of Higginsville. No other changes to the existing unit allowance allocations are being made.

Missouri's codified TR NO_x Annual Trading Program NUSA for the 2016 control period is six percent (6%) of the statewide budget, or 3,144 allowances. Missouri's SIP, as outlined in this document, is reallocating four (4) of the nine (9) excess TR NO_x Annual allowances to existing

units. Therefore, if Missouri's 2016 TR NO_x Annual SIP is approved by EPA, five (5) excess allowances from the existing unit budget will be placed in the NUSA for the 2016 control period, in which case Missouri's NUSA for the TR NO_x Annual Trading Program will contain 3,149 allowances for the 2016 control period.

2.3 Authority to Implement this SIP

Section 110(a)(2)(D)(i)(I) of the CAA requires States to develop SIPs to address their significant impact on downwind states' nonattainment and maintenance areas. If a state fails to address their significant impact on downwind states, then EPA can implement a FIP. States have the authority to revise their SIP in order to replace all or portions of a FIP if the requirements of the CAA are met.

Due to the timing of the requirements under the CSAPR FIP and the corresponding federal trading programs established under CSAPR, the EPA has issued regulations defining the states' authority to revise their SIP to replace the individual allocation method portions of the CSAPR FIP. 40 CFR 52.38 (a)(3) grants states the right to adopt and submit a SIP revision that would replace the TR NO_x Annual allowance allocation provisions in 40 CFR 97.411(a) for the 2016 control period provided that certain requirements are met. These requirements include that the State must provide a list of TR NO_x Annual Units and the allowances allocated to each of these units. All of the units on the list must be located in the state and must have commenced commercial operation before January 1, 2010. The total number of allowances must not exceed the total statewide budget listed in 40 CFR 97.410(a) for the 2016 control period minus the NUSA. The list must be submitted electronically in a format prescribed by EPA, and the SIP revisions must not provide for any change in the allocations on the list after approval of the SIP by EPA. The State must also have notified EPA of its intent to assume allocation authority for 2016 electronically in a format prescribed by EPA and the SIP revision must be submitted by April 1, 2015 (76 FR 48354).

As required by CSAPR, on October 17th, 2011, the Air Program notified EPA of its intent to assume the allocation authority for 2013 for the TR NO_x Annual Trading Program. As clarified in EPA's CSAPR Interim Final rule that was promulgated on December 3, 2014 (79 FR 71663), because implementation of the CSAPR was delayed through litigation for three (3) years, the letter of intent submitted back in 2011, still satisfies the requirement to submit such a letter in order for the state to assume allocation authority for existing units for the 2016 control period.

The Missouri Air Conservation Commission has the legal authority to develop, implement, and enforce regulations regarding air pollution, including the requirements of the SIP submittal described in this document, under section 643.050 of the Revised Statutes of Missouri, also known as the Missouri Air Conservation Law.

2.4 Public Participation and Outreach

In accordance with Section 110(a)(2) of the CAA, Missouri is required to hold a public hearing prior to adoption of a SIP revision and the subsequent submittal to the EPA. The Department notified the public and other interested parties of the public hearing and comment period thirty (30) days prior to holding such hearing for the SIP revision described in this document as follows:

- Notice of availability of the SIP revision described in this document was posted on the Department of Natural Resources' Air Pollution Control Program website by December 29, 2014: <http://www.dnr.mo.gov/env/apcp/stateplanrevisions.htm>
- The public hearing on the SIP revision described in this document was held on January 29, 2015, at 9:00 a.m. CST at the Bennett Springs Conference Room, 1730 E. Elm Street, Jefferson City, MO 65101.
- The comment period for the SIP revision described in this document opened on December 29, 2014 and closed on February 5, 2015, at 5:00 p.m. CST, which was seven (7) days after the public hearing.

The Air Program also held several stakeholder meetings and conference calls with CSAPR-affected facilities since the final CSAPR was promulgated on August 8, 2011. The goal of these meetings was to discuss the SIP revisions to assume allowance allocation authority under the CSAPR.

2.5 Missouri TR NO_x Annual Trading Program Allocations for 2016

Table 1, below, summarizes Missouri's TR NO_x Annual Trading Program Allocations for the 2016 control period. Appendix A includes the same allocations as Table 1, but is presented in EPA's prescribed format for submitting state allocations under the CSAPR.

For clarity, the following list notes the differences between Table 1 and Appendix A:

- Table 1 includes the facility plant names and ORIS codes for each facility; Appendix A includes the facility compliance account numbers that correspond to each plant as opposed to their names and
- Table 1 includes the state name in each row; Appendix A includes the state's primary reserve account number from which the allocations will be transferred to each facility.
- Table 1 does not have a specific column to indicate the vintage year of the allocations. Appendix A has a column to specify that the vintage year of the all the allocations is 2016.
- When Appendix A is submitted to EPA, it will be submitted electronically as a Microsoft Excel document and will be titled *Missouri 2016 Existing Unit Allocations – TR NO_x Annual Trading Program*.

By April 1, 2015, the Air Program will submit a SIP revision to EPA with Missouri's TR NO_x Annual Trading Program Allocations for the 2016 control period. The SIP revision will contain the table in Appendix A, and will be submitted electronically in the format prescribed by EPA.

Table 1. Missouri TR NO_x Annual Allocations for the 2016 Control Period

Plant Name	State	ORIS ID	Boiler ID	2016 TR NO _x Annual Allocation
Asbury	Missouri	2076	1	989
Audrain Power Plant	Missouri	55234	CT1	2
Audrain Power Plant	Missouri	55234	CT2	2
Audrain Power Plant	Missouri	55234	CT3	2
Audrain Power Plant	Missouri	55234	CT4	2
Audrain Power Plant	Missouri	55234	CT5	1
Audrain Power Plant	Missouri	55234	CT6	1
Audrain Power Plant	Missouri	55234	CT7	1
Audrain Power Plant	Missouri	55234	CT8	1
Blue Valley	Missouri	2132	3	141
Chamois Power Plant	Missouri	2169	2	278
Chillicothe	Missouri	2122	GT1A	2
Chillicothe	Missouri	2122	GT1B	0
Chillicothe	Missouri	2122	GT2A	0
Chillicothe	Missouri	2122	GT2B	0
Columbia	Missouri	2123	6	24
Columbia	Missouri	2123	7	67
Columbia	Missouri	2123	8	0
Columbia Energy Center (MO)	Missouri	55447	CT01	1
Columbia Energy Center (MO)	Missouri	55447	CT02	2
Columbia Energy Center (MO)	Missouri	55447	CT03	1
Columbia Energy Center (MO)	Missouri	55447	CT04	1
Dogwood Energy Facility	Missouri	55178	CT-1	33
Dogwood Energy Facility	Missouri	55178	CT-2	30
Empire District Elec Co Energy Ctr	Missouri	6223	1	1
Empire District Elec Co Energy Ctr	Missouri	6223	2	2
Empire District Elec Co Energy Ctr	Missouri	6223	3A	11
Empire District Elec Co Energy Ctr	Missouri	6223	3B	11
Empire District Elec Co Energy Ctr	Missouri	6223	4A	12
Empire District Elec Co Energy Ctr	Missouri	6223	4B	12
Essex Power Plant	Missouri	7749	1	9
Fairgrounds	Missouri	2082	CT01	0
Greenwood Energy Center	Missouri	6074	1	6
Greenwood Energy Center	Missouri	6074	2	5
Greenwood Energy Center	Missouri	6074	3	7
Greenwood Energy Center	Missouri	6074	4	8
Hawthorn	Missouri	2079	5A	2,445
Hawthorn	Missouri	2079	6	1
Hawthorn	Missouri	2079	7	7
Hawthorn	Missouri	2079	8	8
Hawthorn	Missouri	2079	9	21
Higginsville Municipal Power Plant	Missouri	2131	4A	2
Higginsville Municipal Power Plant	Missouri	2131	4B	0
Holden Power Plant	Missouri	7848	1	5
Holden Power Plant	Missouri	7848	2	6

Plant Name	State	ORIS ID	Boiler ID	2016 TR NO _x Annual Allocation
Holden Power Plant	Missouri	7848	3	5
Howard Bend	Missouri	2102	CT1A	0
Howard Bend	Missouri	2102	CT1B	0
Iatan	Missouri	6065	1	3,464
James River	Missouri	2161	**GT1	7
James River	Missouri	2161	**GT2	15
James River	Missouri	2161	3	232
James River	Missouri	2161	4	264
James River	Missouri	2161	5	487
John Twitty Energy Center	Missouri	6195	1	897
John Twitty Energy Center	Missouri	6195	CT1A	1
John Twitty Energy Center	Missouri	6195	CT1B	1
John Twitty Energy Center	Missouri	6195	CT2A	1
John Twitty Energy Center	Missouri	6195	CT2B	1
Labadie	Missouri	2103	1	2,321
Labadie	Missouri	2103	2	2,495
Labadie	Missouri	2103	3	2,695
Labadie	Missouri	2103	4	2,613
Lake Road	Missouri	2098	6	463
Lake Road	Missouri	2098	GT5	2
McCartney Generating Station	Missouri	7903	MGS1A	11
McCartney Generating Station	Missouri	7903	MGS1B	11
McCartney Generating Station	Missouri	7903	MGS2A	11
McCartney Generating Station	Missouri	7903	MGS2B	11
Meramec	Missouri	2104	1	724
Meramec	Missouri	2104	2	682
Meramec	Missouri	2104	3	1,204
Meramec	Missouri	2104	4	1,678
Meramec	Missouri	2104	CT01	0
Meramec	Missouri	2104	CT2A	0
Meramec	Missouri	2104	CT2B	0
Mexico	Missouri	6650	CT01	0
Moberly	Missouri	6651	CT01	0
Montrose	Missouri	2080	1	811
Montrose	Missouri	2080	2	795
Montrose	Missouri	2080	3	835
Moreau	Missouri	6652	CT01	0
New Madrid Power Plant	Missouri	2167	1	2,548
New Madrid Power Plant	Missouri	2167	2	2,432
Nodaway Power Plant	Missouri	7754	1	5
Nodaway Power Plant	Missouri	7754	2	5
Northeast Generating Station	Missouri	2081	11	0
Northeast Generating Station	Missouri	2081	12	0
Northeast Generating Station	Missouri	2081	13	0
Northeast Generating Station	Missouri	2081	14	0
Northeast Generating Station	Missouri	2081	15	0

Plant Name	State	ORIS ID	Boiler ID	2016 TR NO _x Annual Allocation
Northeast Generating Station	Missouri	2081	16	0
Northeast Generating Station	Missouri	2081	17	1
Northeast Generating Station	Missouri	2081	18	1
Peno Creek Energy Center	Missouri	7964	CT1A	11
Peno Creek Energy Center	Missouri	7964	CT1B	10
Peno Creek Energy Center	Missouri	7964	CT2A	10
Peno Creek Energy Center	Missouri	7964	CT2B	10
Peno Creek Energy Center	Missouri	7964	CT3A	11
Peno Creek Energy Center	Missouri	7964	CT3B	11
Peno Creek Energy Center	Missouri	7964	CT4A	10
Peno Creek Energy Center	Missouri	7964	CT4B	10
Ralph Green Station	Missouri	2092	3	1
Rush Island	Missouri	6155	1	2,086
Rush Island	Missouri	6155	2	2,106
Sibley	Missouri	2094	1	249
Sibley	Missouri	2094	2	245
Sibley	Missouri	2094	3	1,567
Sikeston	Missouri	6768	1	1,420
Sioux	Missouri	2107	1	2,098
Sioux	Missouri	2107	2	1,893
South Harper Peaking Facility	Missouri	56151	1	15
South Harper Peaking Facility	Missouri	56151	2	19
South Harper Peaking Facility	Missouri	56151	3	23
St. Francis Power Plant	Missouri	7604	1	31
St. Francis Power Plant	Missouri	7604	2	29
State Line (MO)	Missouri	7296	1	9
State Line (MO)	Missouri	7296	2-1	57
State Line (MO)	Missouri	7296	2-2	59
Thomas Hill Energy Center	Missouri	2168	MB1	928
Thomas Hill Energy Center	Missouri	2168	MB2	1,451
Thomas Hill Energy Center	Missouri	2168	MB3	2,993
Viaduct	Missouri	2096	CT01	0