Technical Support Document (TSD)
for the Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS
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Allowance Allocation

Final Rule TSD

U.S Environmental Protection Agency

Office of Air and Radiation

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Allowance Allocation to Existing and New Units under the Transport Rule Federal Implementation Plan (FIP)

This Technical Support Document (TSD) provides information that supports EPA's determination of unit-level allocations for existing and new units under the final Transport Rule. Section VI of the preamble discusses state budgets, and section VII.E discusses how the budgets are apportioned (i.e., allocated) to existing and new units under FIP program structure. This TSD provides additional information in support of unit level allocations and elaborates on the data and methodology used to arrive at the final allocations. The TSD is organized as follows:

1) Overview
2) New Unit Set-Asides and Allocations
3) Allocation Methodology for Existing Units
    a. List of Existing Units
    b. Data and Calculations
    c. States with state-approved allocation methodologies

EPA anticipates that some states will submit State Implementation Plans (SIPs) with revised unit-level allocations to existing units that will replace those defined in the FIP. Section VII.F of the final CSAPR Update preamble explains when and how states may replace the FIP allocations for vintage year 2018 or later through specific SIP procedures.

1. Overview

As discussed in preamble section VI, each state's budget is comprised of the emissions that EPA estimates remain after the state has made the reductions required to eliminate, or make progress towards the elimination of, its significant contribution to nonattainment and interference with maintenance of the relevant National Ambient Air Quality Standards (NAAQS) in downwind states in an average year. EPA finalized the CSAPR Update with a limited interstate trading program. Emission allowances are used in the implementation of this program. Specifically, EPA creates one allowance for each ton of emissions allowed in each year under each state's budget. Each allowance has a "vintage" year, which is the year for which the allowance is issued. Covered sources are required to submit such an allowance for each ton of the relevant pollutant emitted during the compliance year. To implement the programs, allowances are initially allocated among covered sources within a state.

As discussed in the preamble, under the FIP, EPA allocates allowances to sources in the state equal to that state's total budget. The methodology used to determine states' budgets is independent of and not affected by the methodology used to determine initial allowance allocations. In other words, initial allowance allocations in no way impact the state budget. The state budgets are determined independently through the multi-factor analysis outlined in sections V and VI of the CSAPR Update preamble. Regardless of the methodology used by EPA or a state to allocate allowances to sources within the state, emissions in each covered state that significantly contribute to nonattainment or interfere with maintenance in another state will be prohibited. In sum, the allocation methodology has no impact on the

rule's ability to satisfy the statutory mandate of CAA section 110(a)(2)(D)(i)(I) to eliminate significant contribution and interference with maintenance in downwind states.

As discussed in section VII.D of the preamble, under the FIPs, EPA will distribute the entire budget to units located in the state subject to the FIP. However, this budget would first be divided into three different subgroups listed below (note, amounts vary by state):

1) New unit set-aside (NUSA)
2) Indian Country new unit set-aside (Indian country NUSA)
3) Existing unit budget

An initial amount of the state budget (91% to 98%, depending on the state) would be distributed to existing units (i.e., units online before January 1, 2015) in advance of the vintage year for which they are issued. The remaining amount would be held back for new units in NUSA and Indian country NUSA accounts. If any of the NUSA or Indian country NUSA allowances remain unclaimed two weeks prior to the allowance transfer deadline, then they would be allocated to existing units on the same basis as the initial existing unit budget so they will be available to existing units for compliance.

The final CSAPR Update identifies potentially covered existing CSAPR Update units and allocations for each of those units under the FIP. This TSD details how the list of existing units was determined, how allocations were calculated, and how the quantity of allowance set-asides for new units and Indian Country new units were determined. Following these descriptions, an appendix showing each affected EGU's allocation under the final CSAPR Update FIP along with the underlying data and calculations used to derive the allocation comprises most of the document.

2) New Unit Set Asides and Allocations

As explained in section VII.E, the final CSAPR Update uses January 1, 2015 as the cut-off date used to distinguish "new units" from "existing units" for purposes of allowance allocation. Allocations to existing units are based on historic heat input over a five-year baseline as well as historic emissions data over an eight-year baseline. To allocate using this methodology, EPA needs at least one full year of heat input and emissions data from an "existing unit" to determine its allocation. If a unit did not come online prior to January 1, 2015, it cannot have provided a full year of data at the time of the CSAPR Update's finalization. For this reason, EPA could not use a date later than January 1, 2015 for the cut-off date. Units that came online after January 1, 2015 are considered "new units" for purposes of allocation under the final CSAPR Update FIPs and will receive their allocations from the NUSA or Indian country NUSA for their states.

The new unit set-aside for ozone season NO_X for each state is a percentage of the state's total budget. This percentage is the sum of a "base" percentage that all states receive for "potential" new units and a state-specific percentage reflecting emissions from "planned" units. For purposes of this document, the "potential" units on which the new source set-aside base percentage relies are those units that are projected new builds in the IPM modeling of the CSAPR Update. In other words, they are units that do not show up in the modeling input, but do show up in the modeling output. "Planned" units, on which the state-specific percentage of the new source set-aside is based, are those units that are already identified in the modeling input because they are specific plants that are already built or are under construction, but that commence commercial operation on or after January 1, 2015. Because the location of these "planned" units is already known and identified in the modeling input, the portion of the new unit set-aside corresponding to these units is state-specific.

Both at proposal and final, EPA utilizes the base percentage of the new unit set-aside of 2 percent established in the original Cross State Air Pollution Rule finalized in 2011. In the original CSAPR, EPA had identified the 2 percent value as a reasonable set-aside for potential new units as it reflected the high end of state-level emissions from projected – or potential – new units. EPA determined that this 2 percent level was reasonable for the CSAPR Update as well and received little comment suggesting otherwise. Moreover, EPA replicated the analysis used to identify the initial 2 percent value, but using the latest EPA power sector base case and found that 2 percent still reflected a reasonable upper bound of state-level share of emissions from new units. By selecting the high-end percentage, EPA chose a conservative envelope that would provide a pool of new unit set-aside allowances large enough to cover emissions from "potential" new units in states.[1] EPA chose this basis in order to preserve a reasonable amount of allowances for new unit allocations in every state, as new units may not be sited in the same locations that EPA's modeling assumes for analytical purposes.

The "state-specific" percentage represents the share of each state budget that EPA projects to be emitted from "planned" units in 2020. As discussed previously, determining the state-specific percentage is necessary given the new unit definition used in the final rule. EPA is determining a state-specific percentage for projected emissions from "planned" units because unlike the location of new capacity that the model projects to be built, the location of planned units is already known.

The base and state-specific percentages were added for each state to determine the size of that state's new-unit set asides, which are shown in Table 1 below.[2]

Table 1: New Unit Set-Asides (NUSA) and Indian Country NUSAs

State	$1,400 per-ton Emission Budgets (tons)	Variability Limit (tons)	Portion set aside for new units (%) [1,2]	NUSA for new units not in Indian country (tons) [2]	Indian country NUSA (tons)
Alabama	13,211	2,774	2	255	13
Arkansas	12,048/9,210	2,530/1,934	2/2	240/185	
Georgia[3]	*8,481*	*1,781*	*2*	*168*	
Illinois	14,601	3,066	2	302	
Indiana	23,303	4,894	2	468	
Iowa	11,272	2,367	3	324	11
Kansas	8,027	1,686	2	148	8
Kentucky	21,115	4,434	2	426	
Louisiana	18,639	3,914	2	352	19

[1] As explained in the preamble for the final CSAPR Update, after 5 years of non-operation, the allocation for existing units is redirected to the new unit set asides, thereby offsetting the need for additional allowances to be withheld from existing unit allocations for purposes of the new unit set asides.

[2] Three states (Alabama, Missouri, and New York) have provided EPA with SIP submittals regarding the allocation of ozone season NO_X allowances under the original CSAPR before the CSAPR Update. In order to honor the allocation methodologies reflected in these SIP submittals, for these three states EPA's FIP unit level allocations utilized the methodology submitted by the state. This is reflected in total portion of the state budget set-aside for new units as well as the portion for new units not in Indian country. The amount of the Indian country NUSA is unaffected.

[3] The amounts shown in the table for Georgia apply only if Georgia elects to participate in the CSAPR NO_X Ozone Season Group 2 Trading Program through a SIP revision as provided in 40 CFR 52.38(b)(6).

Maryland	3,828	804	4	152	
Michigan	17,023	3,575	4	665	17
Mississippi	6,315	1,326	2	120	6
Missouri	15,780	3,314	2	324	
New Jersey	2,062	433	9	192	
New York	5,135	1,078	5	252	5
Ohio	19,522	4,100	2	401	
Oklahoma	11,641	2,445	2	221	12
Pennsylvania	17,952	3,770	3	541	
Tennessee	7,736	1,625	2	156	
Texas	52,301	10,983	2	998	52
Virginia	9,223	1,937	6	562	
West Virginia	17,815	3,741	2	356	
Wisconsin	7,915	1,662	2	151	8

For each control period, any allowances remaining in a state's new unit set-aside (after allocations are made to new units in accordance with the CSAPR regulations) are distributed to the existing units in that state in proportion to the existing units' original allocations. This ensures that total allocations to units in the state are equal to the state budget in that year.

Each Indian country new unit set-aside equals a proportion of the "base" new unit set-aside included in this final CSAPR Update (the base percentage, as described above, is 2 percent of the state budget). EPA is reserving allowances for the Indian country new unit set-aside only from each state's "base" percentage of the new unit set-aside. EPA is not reserving these allowances from the state-specific percentage of each state's new unit set-aside because that percentage is specifically calculated on the basis of projected emissions from "planned" units, none of which are located in Indian country. EPA is creating Indian country set-asides in each state as a share of that state's base percentage portion of the new unit set-aside, i.e., as a share of the 2 percent portion of the total budget in that state. EPA is determining the size of the Indian country set-aside (within that 2 percent portion of the state budget) on the basis of the percentage of Indian country relative to the entire state. EPA calculates the maximum percentage of Indian country in any state within the CSAPR Update region equal to 5 percent, and is using that level as a basis for establishing Indian country set-asides for all states whose geographic boundaries encompass Indian country. Therefore, the Indian country set-aside is 5 percent of the base percentage new unit set-aside, which is equivalent to 0.1 percent of the total state budget (i.e., 5 percent of 2 percent is 0.1 percent). EPA assessed the share of Indian country within each state using the American Indian Reservations/Federally Recognized Tribal Entities dataset, which contains data for the 562 federally recognized Tribal entities in the contiguous U.S. and Alaska. EPA analyzed the share of square miles of Indian country within the total square miles of a state whose geographic boundaries encompass that Indian country. As explained above, EPA then took the highest percentage as the number to be applied across all states with Indian Country to determine the Indian Country new unit set-aside. The Indian country new unit set-asides in the following CSAPR Update states with Indian country are shown in Table 1.

New units are allocated allowances from the set-aside accounts described above. The final rule provides that a unit's new unit set-aside allocation initially equals that unit's emissions for the control period in the preceding year. EPA determines whether the total amount of initial allowance allocations for all units in a state for a control period exceeds the amount in the state's new unit set-aside for the control period. If the amount in the new unit set-aside is exceeded, EPA allocates each unit a proportionate share of the new unit set-aside based on the unit's initial allocation amount. If allowances

remain in the new unit set-aside, EPA then allocates additional allowances to each new unit that commenced commercial operation during the year of the control period or the prior year in order to bring the unit's total allocation up to the amount of the unit's emissions in the control period, if sufficient allowances are available. Any unallocated allowances in the new unit set-aside are allocated to existing units in proportion to their share of the current existing-unit allocations. Unused allowances in the Indian country new unit set-aside are first transferred to the respective state's new unit set-aside. If allowances remain unused in the state's new unit set-aside, they are then proportionally distributed, as previously described, to existing units in that state.

3) Allocation Methodology for Existing Units

The allocation methodology bases a unit's allocation on the unit's historical heat input but limits any unit's allocation to its historical maximum emissions. Implementation of this methodology involves identifying potentially covered units and determining appropriate data baselines for each unit. EPA first identified the list of potential covered units. Next, EPA compiled reported data on each unit and calculated its share of heat input. Both stages are described below.

a) List of Potential Existing CSAPR Update Units

The list of units to which allocations are made in the final rule is based on final applicability criteria discussed in section VII.E of the preamble and Section 97.804 of the final CSAPR Update regulations. Existing units are units that are covered under these criteria and that commenced commercial operation prior to January 1, 2015. This cutoff date is used in the definition of existing unit because it assures that at least one full year of historical data is available to determine each existing unit's allocation. The baseline years used in the proposal ended in 2014 for similar reasons. Since publishing the proposal, the 2015 data has been reported and verified. Because an additional year of data is available, EPA updated the cut-off date for existing units to January 1, 2015, the heat input baseline from 2010-2014 to 2011-2015, and the historical emission baseline to 2008-2015. These final allocation tables contain a list of units that EPA believes, based on best available data, meet the covered and existing unit criteria. As described above, the percent of the state budgets allocated to existing units varies between 91% and 98% for each state depending on the number of planned units in each state.

To identify the potential existing CSAPR Update units, EPA relied largely on data reported to EPA. The great majority of units are units that were already identified and reporting as subject to CSAPR trading programs and other trading programs under the Clean Air Interstate Rule (CAIR) or the Acid Rain Program (ARP). A small number of additional units are also included that may meet the CSAPR applicability criteria, but which were not already reporting under other trading programs.

b) Data and Calculations

For the units identified through the process in section 3a) above. EPA used reported heat-input and emissions data from the EPA database for the years 2008-2015 because they were already reporting under the CSAPR, CAIR, and/or ARP programs. For units included in the list of potential existing CSAPR Update units that were not reporting under one of these ongoing EPA trading programs, EPA used historical heat input and emissions data from Energy Information Administration (EIA) forms, 860, 906, 920, and 923. These data are publicly available at http://www.eia.doe.gov/cneaf/electricity/page/data.html. The heat input-based allocation method finalized and described below is used to allocate the existing unit portion of the state's budget (i.e., the state budget less the state's new unit set-aside and, if applicable, the Indian country new unit set-aside for the state).

Specifically, the heat input approach with the historical maximum emissions upper bound establishes a baseline historical heat input value for each potential existing unit and sets a unit's share of available allowances under the CSAPR Update trading program equal to the unit's percentage share of the total baseline historical heat input for all potential existing CSAPR Update units in the state. This approach is applied to each state separately, using the portion of that state's budget available for potential existing CSAPR Update units in that state. In instances where the heat input-based allocation to a given unit exceeds the unit's historical maximum emissions over the baseline period, this historical maximum emissions is used as an upper bound on the allocation and the unit's allocation is set equal to this emission level.

Allocations under this approach for each existing unit are determined by applying the following steps.

1. For each unit in the list of potential existing CSAPR Update units, ozone season heat input values for the baseline period of 2011 through 2015 are identified using data reported to EPA or, where EPA data are unavailable, EIA. For a baseline year for which a unit has no data on heat input (e.g., for a baseline year before the year when a unit started operating), the units is assigned a zero value. (Step 2 explains how such zero values are treated in the calculations.) The allocation method uses a five-year baseline in order to improve representation of a unit's normal operating conditions over time.

2. For each unit, the three highest, non-zero ozone season heat input values within the 5 year baseline are selected and averaged. Selecting the three highest, non-zero ozone season heat input values within the five-year baseline reduces the likelihood that any particular single year's operations (which might be negatively affected by outages or other unusual events) determine a unit's allocation. If a unit does not have three non-zero heat input values during the five-year baseline period, EPA averages only those years for which a unit does have non-zero heat input values. For example, if a unit has only reported data for 2013and 2014 among the baseline years and the reported heat input values are 2 and 4 mmBtus respectively, then the unit's average heat input used to determine its pro-rata share of the state budget is (2+4)/2 = 3.

3. Each unit is assigned a baseline heat input value calculated as described in step 2 above. This baseline heat input value is referred to in the data tables in the rulemaking docket, and on the website referenced previously, as the "three-year average heat input."

4. The three-year average heat inputs of all potential existing units in a state are summed to obtain that state's total "three-year average heat input."

5. Each unit's three-year average heat input is divided by the state's total three-year average heat input to determine that unit's share of the state's total three-year average heat input.

6. Each unit's share of the state's total three-year average heat input is multiplied by the existing-unit portion of the state budget (i.e., the state budget less the state's new unit set-aside and, if applicable, the Indian country new unit set-aside for the state) to determine that unit's initial allocation.

7. An eight-year (2008-2015) historical emissions baseline is established for ozone season NO_X based on data reported to EPA or, where EPA data are unavailable, EIA data. This eight-year historical emissions baseline is used in order to capture the unit-level emissions before and after the promulgation of the original CSAPR.

8. For each unit, the maximum ozone season NO_X emissions from the eight-year baseline for each unit is identified. These values are referred to as the "maximum historical baseline emissions" for each unit.

9. If a unit has a historical heat-input based allocation (as determined in step 6) that exceeds its maximum historical baseline emissions (as determined in step 8), then its allocation equals the maximum historical baseline emission for that unit.

10. The difference (if positive) under step 9 between a unit's historical heat-input-based allocation and its "maximum historical baseline emissions" would be reapportioned on the same basis as described in steps 1 through 6 to units whose historical-heat-input-based allocation does not exceed its maximum historical baseline emissions. Steps 7, 8, and 9 are repeated with each revised allocation distribution until the entire existing-unit portion of the state budget is allocated. The resulting allocation value is rounded to the nearest whole number using conventional rounding. The table below provides an example application of the steps 1-10 in a hypothetical state.

Source data can be found at ampd.epa.gov/ampd and www2.epa.gov/energy/egrid

Table 2: Demonstration of Allocations Using Final Allocation Methodology in a Three-Unit State With a 80 Ton State Budget

	Step 1-6	**Step 7,8,9**	**Step 10**
	Historical Heat-input-based Initial Allocation	**Maximum Historical Baseline Emissions**	**Final Allocation**
Unit A	20	16	16
Unit B	30	50	32
Unit C	30	50	32

Where can I find this data?

The unit level allocations can be found in the separate file titled "Unit Level Allocations and Underlying Data for the CSAPR for the 2008 Ozone NAAQS" published as an Excel file and available in the docket and on the website at https://www.epa.gov/airmarkets/final-cross-state-air-pollution-rule-update. The file contains six worksheets. The first, titled "Final Allocations", identifies each unit and its final 2017 and 2018 allocations under the trading program. The second worksheet, titled "Underlying Data for 2017 FIP", shows all the data and calculations that are enumerated above. Each of the ten steps is color coded and displayed in sequential order moving from left to right across the spreadsheet. The formulas to derive any calculated values are explained directly beneath the column header. The third through fifth worksheets show data and calculations described in section 3c) (States with state-approved allocation methodologies) for states where state-approved allocation methodologies from SIP submittals were used in place of EPA's default allocation methodology described above. The sixth worksheet shows all data and calculations for the 2018 Arkansas unit level allocation; this is identical to the second worksheet but with Arkansas's 2018 state budget.

Rounding

EPA uses conventional rounding for its allocation purposes and applies rounding at the unit level for existing unit allocations. For example, if State A has a 500 ton budget with a 5% new unit set-aside, than its existing unit allocation would be 475 tons. If there are only two covered existing units in the state with equal heat inputs and a historic maximum emissions above 500 tons, than the steps described above would result in an allocation of 237.5 tons for each unit. This unit level allocation for each of these units would round to 238 allowances, which would sum to 476 allowances. The difference between the sum of the rounded existing unit level allocations and the state budget (i.e., 500-476), would be the actual new

unit set-aside amount for the state. EPA notes that, because of rounding, the actual number of allowances in the new unit set-aside will sometimes be a percentage of the state budget marginally greater or less than the percentage identified in the tables above. In other words, the percentage approximated for the new unit set aside in the tables above may be 5%, but the actual total allowances in the new unit set-aside may equal 5.01% or 4.99% of the state budget. Because EPA does not issue allowances or allow surrender of allowances for compliance using fractional tons, this type of rounding is necessary.

Consent Decrees

EPA's consent decrees with coal-fired power plants were examined to evaluate if these impact unit level allocations. (https://www.epa.gov/enforcement/coal-fired-power-plant-enforcement)

Tonnage limits were first evaluated. There are no ozone season tonnage limits, only annual tonnage limits. The annual tonnage limits were each checked and are not close to binding on the unit-level allocations of ozone season allowances under this rule. In other words, no ozone season unit-level allocation exceeds the annual limitation established in the consent decrees. Therefore, tonnage limits in the consent decrees are not relevant to the ozone season unit level allocation process in the CSAPR Update.

EPA also looked at NO_x emission rate limits in these consent decrees (Table 3). When the emission rate limits are applied with an assumption of average heat input, EPA found that collectively, across all units with emission rate limits under the consent decrees, the amount of allowances allocated to the units could exceed the estimated emissions allowed under the units' rate limits by a total of 1,296 tons per year in 2017 through 2019 and a total of 1,855 tons per year starting in 2020. This analysis included 130 units with consent decree NO_x emission rate limits. Moreover, EPA determined that if maximum allowable heat inputs were assumed instead of average heat inputs, no unit would have an allowance allocation exceeding its emission rate limit and only one unit would have an allowance allocation exceeding its emission rate limit starting in 2020 (by 63 tons). Therefore, EPA concluded that the emission rate limits in the consent decrees would affect few allowances in the CSAPR Update trading programs, if any. Any effort to reallocate the allowances potentially made unusable by emission rate limits would require EPA to make assumptions about individual units' future utilization and heat input. Because this would require the use of unit-level projections whose application in setting unit-level allocations would be difficult to support and because few allowances are potentially at risk, EPA chose not to adjust allocations to reflect emission rate limits defined in the consent decrees.

Table 3: Potential Impact of Consent Decree NOx Maximum Emission Rates on CSAPR Update NOx Ozone Season Allowance Allocations

Utility consent decree	Plant Name	State	ORIS	Boiler ID	Allocation (tons)	Average of 3 Highest Non-Zero Ozone Season Heat Inputs from 2011 to 2015 (mmBtu)	NOx emission rate limit (lb/mmBtu)	Potential constraint from NOx emission rate limit and average heat input (tons)	Possible surplus allocation based on NOx emission rate limit (tons)	Start of NOx emission rate limit
Duke Energy Corporation (9/10/15)	Allen	TN	3393	1	226	6,540,274	0.25	818	None	Before 1-May-17
Duke Energy Corporation (9/10/15)	Allen	TN	3393	2	242	6,997,024	0.25	875	None	Before 1-May-17
Interstate Power and Light Company (7/15/15)	Lansing	IA	1047	4	419	6,182,103	0.08	247	172	Before 1-May-17
Interstate Power and Light Company (7/15/15)	Ottumwa	IA	6254	1	1,361	20,055,390	0.16	1,604	None	Before 1-May-17

Interstate Power and Light Company (7/15/15)	Ottumwa	IA	6254	1	1,361	20,055,390	0.08	802	559	31-Dec-19
Interstate Power and Light Company (7/15/15)	Milton L Kapp	IA	1048	2	316	4,655,237	0.15	349	None	Before 1-May-17
Interstate Power and Light Company (7/15/15)	Burlington	IA	1104	1	456	6,725,614	0.18	605	None	Before 1-May-17
Interstate Power and Light Company (7/15/15)	Prairie Creek	IA	1073	1			0.60	0	None	Before 1-May-17
Interstate Power and Light Company (7/15/15)	Prairie Creek	IA	1073	2			0.60	0	None	Before 1-May-17
Interstate Power and Light Company (7/15/15)	Prairie Creek	IA	1073	3	76	1,113,556	0.40	223	None	Before 1-May-17
Interstate Power and Light Company (7/15/15)	Prairie Creek	IA	1073	4	207	3,057,137	0.40	611	None	Before 1-May-17
Consumers Energy (09/16/14)	J H Campbell	MI	1710	1	386	7,891,273	0.22	868	None	Before 1-May-17
Consumers Energy (09/16/14)	J H Campbell	MI	1710	2	411	8,401,460	0.08	336	75	Before 1-May-17
Consumers Energy (09/16/14)	J H Campbell	MI	1710	3	1,306	26,694,588	0.08	1,068	238	Before 1-May-17
Consumers Energy (09/16/14)	Dan E Karn	MI	1702	1	258	5,272,626	0.08	211	47	Before 1-May-17
Consumers Energy (09/16/14)	Dan E Karn	MI	1702	2	327	6,816,420	0.08	273	54	Before 1-May-17
Consumers Energy (09/16/14)	B C Cobb	MI	1695	4	199	4,058,289	0.20	406	None	Before 1-May-17
Consumers Energy (09/16/14)	B C Cobb	MI	1695	5	204	4,175,533	0.20	418	None	Before 1-May-17
Consumers Energy (09/16/14)	J C Weadock	MI	1720	7	181	3,699,938	0.34	629	None	Before 1-May-17
Consumers Energy (09/16/14)	J C Weadock	MI	1720	8	211	4,317,949	0.34	734	None	Before 1-May-17
Consumers Energy (09/16/14)	J R Whiting	MI	1723	1	126	2,584,332	0.28	362	None	Before 1-May-17
Consumers Energy (09/16/14)	J R Whiting	MI	1723	2	136	2,772,142	0.28	388	None	Before 1-May-17
Consumers Energy (09/16/14)	J R Whiting	MI	1723	3	168	3,438,652	0.28	481	None	Before 1-May-17
Wisconsin Power and Light (04/22/13)	Columbia	WI	8023	1	677	19,461,143	0.15	1,460	None	Before 1-May-17
Wisconsin Power and Light (04/22/13)	Columbia	WI	8023	2	561	16,124,618	0.15	1,209	None	Before 1-May-17
Wisconsin Power and Light (04/22/13)	Columbia	WI	8023	2	561	16,124,618	0.07	564	None	1-Jan-19
Wisconsin Power and Light (04/22/13)	Edgewater (4050)	WI	4050	5	401	11,523,916	0.07	403	None	Before 1-May-17
Wisconsin Power and Light (04/22/13)	Edgewater (4050)	WI	4050	4	282	8,117,051	0.15	609	None	Before 1-May-17
Wisconsin Power and Light (04/22/13)	Nelson Dewey	WI	4054	1	112	3,218,145	0.30	483	None	Before 1-May-17
Wisconsin Power and Light (04/22/13)	Nelson Dewey	WI	4054	2	117	3,363,298	0.30	504	None	Before 1-May-17
Dominion Energy, Inc. (04/01/13)	Kincaid Generating Station	IL	876	1	373	12,418,890	0.08	497	None	Before 1-May-17
Dominion Energy, Inc. (04/01/13)	Kincaid Generating Station	IL	876	2	426	14,192,621	0.08	568	None	Before 1-May-17
Wisconsin Public Service Corporation Settlement (01/04/13)	Pulliam	WI	4072	7	47	1,338,159	0.25	167	None	Before 1-May-17
Wisconsin Public Service Corporation Settlement (01/04/13)	Pulliam	WI	4072	8	92	2,643,588	0.25	330	None	Before 1-May-17
Wisconsin Public Service Corporation Settlement (01/04/13)	Weston	WI	4078	1	23	656,088	0.25	82	None	Before 1-May-17

Wisconsin Public Service Corporation Settlement (01/04/13)	Weston	WI	4078	2	43	1,249,552	0.28	175	None	Before 1-May-17
Wisconsin Public Service Corporation Settlement (01/04/13)	Weston	WI	4078	3	303	8,726,361	0.10	436	None	Before 1-May-17
Wisconsin Public Service Corporation Settlement (01/04/13)	Weston	WI	4078	4	442	14,460,068	0.06	434	8	Before 1-May-17
Louisiana Generating Settlement (11/21/12)	Big Cajun 2	LA	6055	2B1	1,266	17,780,730	0.15	1,334	None	Before 1-May-17
Louisiana Generating Settlement (11/21/12)	Big Cajun 2	LA	6055	2B2	1,296	18,207,469	0.15	1,366	None	Before 1-May-17
Louisiana Generating Settlement (11/21/12)	Big Cajun 2	LA	6055	2B3	1,252	17,581,508	0.135	1,187	65	Before 1-May-17
Dairyland Power Cooperative Settlement (06/29/12)	J P Madgett	WI	4271	B1	339	9,748,792	0.08	390	None	Before 1-May-17
Dairyland Power Cooperative Settlement (06/29/12)	Genoa	WI	4143	1	239	6,881,108	0.14	482	None	Before 1-May-17
Dairyland Power Cooperative Settlement (06/29/12)	Alma	WI	4140	B4	7	199,690	0.35	35	None	Before 1-May-17
Dairyland Power Cooperative Settlement (06/29/12)	Alma	WI	4140	B5	14	414,168	0.35	72	None	Before 1-May-17
Northern Indiana Public Service Company Air Act Settlement (01/13/11)	Bailly Generating Station	IN	995	7	223	4,768,394	0.12	286	None	Before 1-May-17
Northern Indiana Public Service Company Air Act Settlement (01/13/11)	Bailly Generating Station	IN	995	8	424	9,088,284	0.12	545	None	Before 1-May-17
Northern Indiana Public Service Company Air Act Settlement (01/13/11)	Michigan City Generating Station	IN	997	12	547	11,701,375	0.10	585	None	Before 1-May-17
Northern Indiana Public Service Company Air Act Settlement (01/13/11)	R M Schahfer Generating Station	IN	6085	14	507	10,847,120	0.10	542	None	Before 1-May-17
Northern Indiana Public Service Company Air Act Settlement (01/13/11)	R M Schahfer Generating Station	IN	6085	15	633	13,553,531	0.15	1,017	None	Before 1-May-17
Northern Indiana Public Service Company Air Act Settlement (01/13/11)	R M Schahfer Generating Station	IN	6085	17	451	9,656,523	0.20	966	None	Before 1-May-17
Northern Indiana Public Service Company Air Act Settlement (01/13/11)	R M Schahfer Generating Station	IN	6085	18	472	10,108,331	0.20	1,011	None	Before 1-May-17
Hoosier Energy Rural Electric Cooperative, Inc. (07/23/10)	Frank E Ratts	IN	1043	1SG1	65	1,383,344	0.23	159	None	Before 1-May-17
Hoosier Energy Rural Electric Cooperative, Inc. (07/23/10)	Frank E Ratts	IN	1043	2SG1	76	1,635,114	0.23	188	None	Before 1-May-17
Hoosier Energy Rural Electric Cooperative, Inc. (07/23/10)	Merom	IN	6213	1SG1	708	15,155,770	0.08	606	102	Before 1-May-17
Hoosier Energy Rural Electric Cooperative, Inc. (07/23/10)	Merom	IN	6213	2SG1	676	14,473,958	0.08	579	97	Before 1-May-17
American Municipal Power (05/18/10)	Richard Gorsuch	OH	7253	1			0	0	None	Before 1-May-17
American Municipal Power (05/18/10)	Richard Gorsuch	OH	7253	2			0	0	None	Before 1-May-17

American Municipal Power (05/18/10)	Richard Gorsuch	OH	7253	3			0	0	None	Before 1-May-17
American Municipal Power (05/18/10)	Richard Gorsuch	OH	7253	4			0	0	None	Before 1-May-17
Westar Energy, Inc. Settlement (01/25/10)	Jeffrey Energy Center	KS	6068	1	1,037	23,523,349	0.18	2,117	None	Before 1-May-17
Westar Energy, Inc. Settlement (01/25/10)	Jeffrey Energy Center	KS	6068	3	1,031	23,375,064	0.18	2,104	None	Before 1-May-17
Westar Energy, Inc. Settlement (01/25/10)	Jeffrey Energy Center	KS	6068	2	997	22,605,595	0.18	2,035	None	Before 1-May-17
Ohio Edison Company, W.H. Sammis Power Station, Clean Air Act Settlement (08/11/09)	R E Burger	OH	2864	4			0.10	0	None	Before 1-May-17
Ohio Edison Company, W.H. Sammis Power Station, Clean Air Act Settlement (08/11/09)	R E Burger	OH	2864	5			0.10	0	None	Before 1-May-17
Ohio Edison Company, W.H. Sammis Power Station, Clean Air Act Settlement (08/11/09)	W H Sammis	OH	2866	6	623	16,200,033	0.10	810	None	Before 1-May-17
Ohio Edison Company, W.H. Sammis Power Station, Clean Air Act Settlement (08/11/09)	W H Sammis	OH	2866	7	576	14,956,774	0.10	748	None	Before 1-May-17
Ohio Edison Company, W.H. Sammis Power Station, Clean Air Act Settlement (08/11/09)	W H Sammis	OH	2866	2	132	3,426,566	0.25	428	None	Before 1-May-17
Ohio Edison Company, W.H. Sammis Power Station, Clean Air Act Settlement (08/11/09)	W H Sammis	OH	2866	1	144	3,731,434	0.25	466	None	Before 1-May-17
Ohio Edison Company, W.H. Sammis Power Station, Clean Air Act Settlement (08/11/09)	W H Sammis	OH	2866	3	157	4,072,021	0.25	509	None	Before 1-May-17
Ohio Edison Company, W.H. Sammis Power Station, Clean Air Act Settlement (08/11/09)	W H Sammis	OH	2866	4	152	3,961,549	0.25	495	None	Before 1-May-17
Ohio Edison Company, W.H. Sammis Power Station, Clean Air Act Settlement (08/11/09)	W H Sammis	OH	2866	5	224	5,831,200	0.29	846	None	Before 1-May-17
Kentucky Utilities Company (02/03/09)	E W Brown	KY	1355	3	460	9,177,220	0.08	367	93	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	John E Amos	WV	3935	1	655	19,551,141	0.10	978	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	John E Amos	WV	3935	2	606	18,982,002	0.10	949	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	John E Amos	WV	3935	3	1,374	25,930,979	0.10	1,297	77	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Big Sandy	KY	1353	BSU2	758	15,105,748	0.10	755	3	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Cardinal	OH	2828	1	504	15,372,937	0.10	769	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Cardinal	OH	2828	2	530	16,657,297	0.10	833	None	Before 1-May-17

American Electric Power Service Corporation Settlement (10/09/07)	Cardinal	OH	2828	3	627	16,291,878	0.10	815	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Conesville	OH	2840	1			0.10	0	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Conesville	OH	2840	2			0.10	0	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Conesville	OH	2840	3	40	1,048,004	0.10	52	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Conesville	OH	2840	4	574	14,914,002	0.10	746	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Gen J M Gavin	OH	8102	1	1,517	39,408,534	0.10	1,970	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Gen J M Gavin	OH	8102	2	1,323	34,385,737	0.10	1,719	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Mitchell Power Station	PA	3181	1	0	1,581	0.10	0	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Mitchell Power Station	PA	3181	2			0.10	0	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Mountaineer	WV	6264	1	1,979	38,163,967	0.10	1,908	71	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Muskingum River	OH	2872	1	63	1,647,429	0.10	82	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Muskingum River	OH	2872	2	71	1,846,282	0.10	92	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Muskingum River	OH	2872	3	97	2,530,370	0.10	127	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Muskingum River	OH	2872	4	94	2,437,073	0.10	122	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Muskingum River	OH	2872	5	433	11,260,455	0.10	563	None	Before 1-May-17
American Electric Power Service Corporation Settlement (10/09/07)	Rockport	IN	6166	MB1	1,823	39,026,726	0.10	1,951	None	31-Dec-17
American Electric Power Service Corporation Settlement (10/09/07)	Rockport	IN	6166	MB2	1,858	39,771,225	0.10	1,989	None	31-Dec-19
American Electric Power Service Corporation Settlement (10/09/07)	Phil Sporn	WV	3938	51			0.10	0	None	Before 1-May-17
East Kentucky Power Cooperative (07/2/07)	H L Spurlock	KY	6041	1	369	7,352,760	0.10	368	1	Before 1-May-17
East Kentucky Power Cooperative (07/2/07)	H L Spurlock	KY	6041	2	712	16,098,179	0.10	805	None	Before 1-May-17
East Kentucky Power Cooperative (07/2/07)	John S. Cooper	KY	1384	2	164	3,274,994	0.08	131	33	Before 1-May-17
Alabama Power Company Settlement (04/25/06)	Gorgas	AL	8	10	945	21,628,898	0.10	1,081	None	Before 1-May-17
Alabama Power Company Settlement (04/25/06)	Barry	AL	3	1	44	1,017,636	0.20	102	None	Before 1-May-17
Alabama Power Company Settlement (04/25/06)	Barry	AL	3	2	29	673,071	0.20	67	None	Before 1-May-17

Alabama Power Company Settlement (04/25/06)	Greene County	AL	10	1	287	6,574,151	0.28	920	None	Before 1-May-17
Alabama Power Company Settlement (04/25/06)	Greene County	AL	10	2	294	6,732,791	0.28	943	None	Before 1-May-17
Alabama Power Company Settlement (04/25/06)	James H Miller Jr	AL	6002	3	906	25,206,952	0.10	1,260	None	Before 1-May-17
Alabama Power Company Settlement (04/25/06)	James H Miller Jr	AL	6002	4	976	27,778,156	0.10	1,389	None	Before 1-May-17
Illinois Power Company and Dynegy Midwest Generation Settlement (03/07/05)	Baldwin Energy Complex	IL	889	1	497	16,547,073	0.10	827	None	Before 1-May-17
Illinois Power Company and Dynegy Midwest Generation Settlement (03/07/05)	Baldwin Energy Complex	IL	889	2	569	18,936,116	0.10	947	None	Before 1-May-17
Illinois Power Company and Dynegy Midwest Generation Settlement (03/07/05)	Havana	IL	891	6			0.10	0	None	Before 1-May-17
Illinois Power Company and Dynegy Midwest Generation Settlement (03/07/05)	Baldwin Energy Complex	IL	889	3	597	19,887,239	0.10	994	None	Before 1-May-17
Southern Indiana Gas and Electric Company (SIGECO) Settlement (06/06/03)	F B Culley Generating Station	IN	1012	3	395	8,466,982	0.10	423	None	Before 1-May-17
Wisconsin Electric Power Company (WEPCO) Settlement (04/29/03)	Pleasant Prairie	WI	6170	1	596	17,153,789	0.10	858	None	Before 1-May-17
Wisconsin Electric Power Company (WEPCO) Settlement (04/29/03)	Pleasant Prairie	WI	6170	2	621	17,872,433	0.10	894	None	Before 1-May-17
Wisconsin Electric Power Company (WEPCO) Settlement (04/29/03)	South Oak Creek	WI	4041	7	248	7,148,129	0.10	357	None	Before 1-May-17
Wisconsin Electric Power Company (WEPCO) Settlement (04/29/03)	South Oak Creek	WI	4041	8	305	8,776,720	0.10	439	None	Before 1-May-17
Virginia Electric and Power Company (VEPCO) Settlement (04/17/03)	Mount Storm Power Station	WV	3954	1	625	15,792,523	0.11	869	None	Before 1-May-17
Virginia Electric and Power Company (VEPCO) Settlement (04/17/03)	Mount Storm Power Station	WV	3954	2	697	15,265,286	0.11	840	None	Before 1-May-17
Virginia Electric and Power Company (VEPCO) Settlement (04/17/03)	Mount Storm Power Station	WV	3954	3	695	15,438,672	0.11	849	None	Before 1-May-17
Virginia Electric and Power Company (VEPCO) Settlement (04/17/03)	Chesterfield Power Station	VA	3797	4	205	3,518,956	0.10	176	29	Before 1-May-17
Virginia Electric and Power Company (VEPCO) Settlement (04/17/03)	Chesterfield Power Station	VA	3797	5	514	8,826,208	0.10	441	73	Before 1-May-17
Virginia Electric and Power Company (VEPCO) Settlement (04/17/03)	Chesterfield Power Station	VA	3797	6	762	17,250,776	0.10	863	None	Before 1-May-17

Virginia Electric and Power Company (VEPCO) Settlement (04/17/03)	Chesapeake Energy Center	VA	3803	3	198	3,407,323	0.10	170	28	Before 1-May-17
Virginia Electric and Power Company (VEPCO) Settlement (04/17/03)	Chesapeake Energy Center	VA	3803	4	223	3,831,473	0.10	192	31	Before 1-May-17
ALCOA, Inc. Settlement (03/27/03)	Alcoa Allowance Management Inc	IN	6705	1			0.10	0	None	Before 1-May-17
ALCOA, Inc. Settlement (03/27/03)	Alcoa Allowance Management Inc	IN	6705	2			0.10	0	None	Before 1-May-17
ALCOA, Inc. Settlement (03/27/03)	Alcoa Allowance Management Inc	IN	6705	3			0.10	0	None	Before 1-May-17
PSEG Fossil L.LC. Civil Judicial Settlement (01/24/02)	Hudson Generating Station	NJ	2403	2	198	9,704,047	0.10	485	None	Before 1-May-17
PSEG Fossil L.LC. Civil Judicial Settlement (01/24/02)	Mercer Generating Station	NJ	2408	1	51	2,513,306	0.13	163	None	Before 1-May-17
PSEG Fossil L.LC. Civil Judicial Settlement (01/24/02)	Mercer Generating Station	NJ	2408	2	41	2,021,125	0.13	131	None	Before 1-May-17

c) States with state-approved allocation methodologies

In the CSAPR Update proposal, EPA proposed that if, at the time the rule was finalized, EPA had already approved a SIP revision addressing the allocation of CSAPR ozone season NO_X allowances among the units in the state, and if the SIP's allocation provisions could be applied to an updated budget, the approved SIP revision would govern the allocation of allowances among that state's units under the final CSAPR Update. EPA received no adverse comments on that aspect of the proposal.

Three states – Alabama, Missouri, and New York – have provided EPA with SIP submittals reflecting state-approved methodologies for allocating ozone season NO_X allowances among their units. Because EPA has not approved these SIP submittals, there are no approved SIP provisions in place to allocate the allowances reflecting the budgets established under the final CSAPR Update. However, EPA is carrying out the intent of the proposal by allocating allowances to existing units under the FIPs for these three states using the allocation methodologies already adopted by the states, applied to the budgets established in the final CSAPR Update.

The allocation methodologies used for existing units in the three states are described below. In each case, the state's methodology determines the allocations to existing units as well as the portion of the state budget set aside for new units, subject to a minimum set-aside of 2% consistent with EPA's default FIP allocation methodology. Allocations from the NUSAs and Indian Country NUSAs for these states will be computed according to the CSAPR new-unit allocation provisions in 40 CFR 97.811(b) and 97.812.

Alabama

1) Units in Alabama that are retired (Table 5) are removed from the list of existing units eligible to receive unit level allocations.
2) Standard unit level allocation methodology and standard NUSA methodology are utilized.

Table 5: Retired Units in Alabama

Plant Name	ORIS	Boiler ID
Barry	3	3
Colbert	47	1
Colbert	47	2
Colbert	47	3
Colbert	47	4
Colbert	47	5
Gorgas	8	6
Gorgas	8	7
Widows Creek	50	1
Widows Creek	50	2
Widows Creek	50	3
Widows Creek	50	4
Widows Creek	50	5
Widows Creek	50	6
Widows Creek	50	7
Widows Creek	50	8

Missouri

1) Standard unit level allocation methodology and standard NUSA methodology are utilized.
2) Allocations to Chillicothe (2122/GT1A) and Higginsville Municipal Power Plant (2131/4A) are manually increased from 0 tons to 1 ton, if they are at 0 tons. Any resulting increase in existing unit allocation is offset by a reduction in the NUSA.

New York

1) Preliminary allocation for each unit is computed as the average of the unit's ozone season NOx emissions for the years 2013 to 2015, with zero data years included as zeroes.
2) All preliminary unit allocations at the end of step 1) are summed. If the sum is no more than 85% of the state budget, proceed to step 4). If the sum exceeds 85% of the state budget, first do step 3).
3) Apply an equivalent ratio to all preliminary unit allocations from step 1) to reduce the sum of all unit allocations to 85% of the state budget.
4) The preliminary unit allocation value is rounded to the nearest whole number using conventional rounding.
5) The total portion of the state budget set aside for new units is 5.0%; this includes 0.1% as an Indian country NUSA and 4.9% as a NUSA for units in the state other than Indian country within the state's borders.
6) The difference between the sum of all unit allocations and the total NUSA portion is allocated to NYSERDA. By definition this must be at least 10% of the state budget, though it could be higher.