Technical Support Document (TSD)
for the Revised CSAPR Update for the 2008 Ozone NAAQS
Docket ID No. EPA-HQ-OAR-2020-0272

Allowance Allocation

Proposed Rule TSD

U.S Environmental Protection Agency

Office of Air and Radiation

2020

Allowance Allocation to Existing and New Units under the Proposed Revised CSAPR Update 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 proposed Revised CSAPR Update Rule. Section VIII.C.2 of the preamble discusses state budgets, and section VIII.C.3 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 proposed 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 VIII.D of the proposed Revised CSAPR Update preamble explains when and how states may replace the FIP allocations for vintage year 2022 or later through specific SIP procedures.

1. Overview

As discussed in preamble section VIII.B, each state's budget is comprised of the emissions that EPA estimates remain after the state has made the reductions required to eliminate 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 proposed the Revised 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 emission 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 section VII of the proposed Revised 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 VIII.C.3 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 (95% to 98%, depending on the state) would be distributed to "existing" units (i.e., units online before January 1, 2019) 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. A "new" unit qualifying for allocations from a NUSA or Indian country NUSA would typically be a unit that commenced commercial operation on or after January 1, 2019, but some older units that do not receive allocations as existing units may also qualify for allocations. If any of the NUSA or Indian country NUSA allowances are not allocated to qualifying "new" units, then the allowances 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 proposed Revised CSAPR Update identifies potentially covered existing units under the rule and the proposed allocations for each of those units under the FIP. This TSD details how the list of existing units was determined, how the proposed 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 proposed Revised CSAPR Update FIP along with the underlying data and calculations used to derive the allocations comprises most of the document.

2) New Unit Set Asides and Allocations

As explained in section VIII.C.3, the proposed Revised CSAPR Update uses January 1, 2019 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 historical heat input over a five-year baseline as well as historical emissions data over an eight-year baseline. To allocate using this methodology, EPA needs at least one full ozone season of heat input and emissions data from an "existing unit" If a unit did not come online prior to January 1, 2019, it may not have provided a full ozone season of data at the time of the Revised CSAPR Update's finalization.[1] For this reason, EPA could not use a date later than January 1, 2019 for the cut-off date. Units that came online after January 1, 2019 are considered "new units" for purposes of allocation under the proposed Revised 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,

[1] Under the CSAPR trading program regulations, new units are generally required to complete certification of their emissions monitoring systems and begin reporting emissions data to EPA by 180 days after they commence commercial operation.

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 proposed Revised 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, 2019. 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.

EPA has proposed to use the same base percentage of the new unit set-aside of 2 percent established in the original Cross State Air Pollution Rule finalized in 2011 and the CSAPR Update Rule finalized in 2016. EPA 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 Revised CSAPR Update as well. 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.[2] 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 2024. As discussed previously, determining the state-specific percentage is necessary given the new unit definition used in the proposed 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.

Under the existing CSAPR Update trading program, EPA has already approved a SIP revision for one state – New York – that reflects a state preference to set aside 5 percent of the budget for the NUSA rather than the amount that EPA would have allocated under the CSAPR Update FIP. For purposes of this proposal, EPA intends to replicate individual state's allocation preferences to the extent practicable where those preferences are known from prior SIP revisions. Accordingly, for New York EPA proposes to set aside 5 percent of each budget for new units, split between a NUSA and an Indian country NUSA in the same manner as for other states.

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 Tables 1A through 1D below. The same information calculated with the same methodology for all 23 CSAPR states, including the eleven Original CSAPR Group and CSAPR Update states not in the proposed Revised CSAPR Update, is in Tables A-1A through A-1D in Appendix A.

Table 1A: 2021 New Unit Set-Asides (NUSA) and Indian Country NUSAs

State	$1,600 per-ton Emission Budgets (tons)	Portion set aside for new units (%)	Total NUSA for new units (tons)	NUSA for new units not in Indian country (tons)	Indian country NUSA (tons)
Illinois	9,444	2	181	181	
Indiana	12,500	2	253	253	

[2] As explained in the preamble for the proposed Revised 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.

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Kentucky	14,384	2	289	289	
Louisiana	15,402	3	459	444	15
Maryland	1,522	2	31	31	
Michigan	12,727	3	384	371	13
New Jersey	1,253	2	27	27	
New York	3,137	5	157	154	3
Ohio	9,605	3	285	285	
Pennsylvania	8,076	4	326	326	
Virginia	4,544	2	91	91	
West Virginia	13,686	2	273	273	

Table 1B: 2022 New Unit Set-Asides (NUSA) and Indian Country NUSAs

State	$1,600 per-ton Emission Budgets (tons)	Portion set aside for new units (%)	Total NUSA for new units (tons)	NUSA for new units not in Indian country (tons)	Indian country NUSA (tons)
Illinois	9,415	2	181	181	
Indiana	11,998	2	238	238	
Kentucky	11,936	2	240	240	
Louisiana	14,871	3	445	430	15
Maryland	1,498	2	33	33	
Michigan	11,767	3	352	340	12
New Jersey	1,253	2	27	27	
New York	3,137	5	157	154	3
Ohio	9,676	3	291	291	
Pennsylvania	8,076	4	326	326	
Virginia	3,656	2	76	76	
West Virginia	12,813	2	261	261	

Table 1C: 2023 New Unit Set-Asides (NUSA) and Indian Country NUSAs

State	$1,600 per-ton Emission Budgets (tons)	Portion set aside for new units (%)	Total NUSA for new units (tons)	NUSA for new units not in Indian country (tons)	Indian country NUSA (tons)
Illinois	8,397	2	173	173	
Indiana	11,998	2	238	238	
Kentucky	11,936	2	240	240	
Louisiana	14,871	3	445	430	15
Maryland	1,498	2	33	33	
Michigan	9,803	3	296	286	10

New Jersey	1,253	2	27	27	
New York	3,137	5	157	154	3
Ohio	9,676	3	291	291	
Pennsylvania	8,076	4	326	326	
Virginia	3,656	2	76	76	
West Virginia	11,810	2	236	236	

Table 1D: 2024 and Onwards; New Unit Set-Asides (NUSA) and Indian Country NUSAs

State	$1,600 per-ton Emission Budgets (tons)	Portion set aside for new units (%)	Total NUSA for new units (tons)	NUSA for new units not in Indian country (tons)	Indian country NUSA (tons)
Illinois	8,397	2	173	173	
Indiana	9,447	2	188	188	
Kentucky	11,936	2	240	240	
Louisiana	14,871	3	445	430	15
Maryland	1,498	2	33	33	
Michigan	9,614	3	287	277	10
New Jersey	1,253	2	27	27	
New York	3,119	5	156	153	3
Ohio	9,676	3	291	291	
Pennsylvania	8,076	4	326	326	
Virginia	3,395	2	68	68	
West Virginia	11,810	2	236	236	

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 Revised CSAPR Update 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 proposed Revised CSAPR Update (the base percentage, as described above, is 2 percent of the state budget). As under CSAPR and the CSAPR Update, EPA has proposed to reserve 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 has calculated that the maximum percentage of Indian country in any state within the Revised CSAPR Update region is no higher than 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 Revised CSAPR Update states with Indian country are shown in Tables 1A through 1D.

New units are allocated allowances from the set-aside accounts described above. The proposed 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 relative to other new units' initial allocation amounts. 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.

Beginning in the 2023 control period, EPA is proposing to modify the above two-round NUSA process to a one-round process in order to simplify the allocation process and eliminate potential inequities. In this one-round process, which is proposed to apply to all CSAPR trading programs, EPA proposes to allocate allowances to all eligible units in proportion to their emissions in a given control period. This proposed procedure would apply to both NUSAs and Indian Country NUSAs.

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 proposed rule is based on proposed applicability criteria discussed in section VIII.C of the preamble and 40 CFR 97.1004 of the proposed Revised CSAPR Update regulations. Note that because the applicability criteria are the same criteria used in CSAPR Update, the inventory of units under the proposed rule would be the same inventory of units currently reporting under the CSAPR Update trading program for the states covered under the proposed rule; however, many units that were considered new units under the CSAPR Update would be considered existing units under the Revised CSAPR Update. For purposes of the proposed rule, existing units are units that are covered under these criteria and that commenced commercial operation prior to January 1, 2019. This cutoff date is used in the definition of existing unit because it assures that at least one full ozone season of historical data will be available to determine each existing unit's allocation in the final rule. EPA is proposing to include 2020 historical data in the final rule, as it should be available by the

time of final rule promulgation. These proposed 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 95% and 98% for each state depending on the number of planned units in each state.

As EPA used the same applicability criteria in this proposal as those used in the CSAPR Update, to identify the potential existing Revised CSAPR Update units, EPA relied on data reported to EPA indicating which units were covered under CSAPR Update. All units were already identified and reporting as subject to CSAPR trading programs.

b) Data and Calculations

For the units identified through the process in section 3a) above. EPA used reported heat-input data from 2015-2019 and reported emissions data from the EPA database for the years 2012-2019.The heat input-based allocation method proposed 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 Revised 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 Revised 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 Revised CSAPR Update units, ozone season heat input values for the baseline period of 2015 through 2019 are identified using data reported to EPA. 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 unit 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 five-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 2018 and 2019 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 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 (2012-2019) historical emissions baseline is established for ozone season NO_X based on data reported to EPA. This eight-year historical emissions baseline is used in order to capture the unit-level emissions before and after the implementation 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

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

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

Where can I find these data?

The unit level allocations can be found in the separate file titled "Revised CSAPR Update for the 2008 Ozone NAAQS - Unit Level Allocations and Underlying Data" published as an Excel file and available in the docket. The file contains six worksheets. The first, titled "Proposed Allocations", identifies each unit and its proposed 2021, 2022, 2023 and 2024 and beyond allocations under the trading program. The second worksheet, titled "Underlying Data for 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 and fourth 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 fifth worksheet lists those units proposed as non-operating units as of January 1, 2021; EPA is not determining allocations for these units as existing units. If the units resume operation, they would have to comply with the program (and would qualify for NUSA allocations). The sixth worksheet lists units which came on-line after January 1, 2019 and are considered new units.

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, then its existing unit allocation would be 475 tons. If there are only two covered existing units in the state with equal heat inputs and historical maximum emissions above 500 tons, then 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 5.1% or 4.9% 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 fossil fuel-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 in all cases are above the proposed 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 Revised CSAPR Update.

EPA also looked at NO_x emission rate limits in these consent decrees; this information can be found in a separate file entitled "Revised CSAPR Update for the 2008 Ozone NAAQS - Impact Of Consent Decrees". 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 486 tons in 2021, 119 tons in 2022, 83 tons in 2023 and 2024 and beyond. This analysis included 45 units with consent decree NO_x emission rate limits that are proposed as existing units in the Revised CSAPR Update Rule. 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 in any program year. Therefore, EPA concluded that the emission rate limits in the consent decrees would affect very few allowances in the Revised 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 has chosen not to adjust allocations to reflect emission rate limits defined in the consent decrees.

c) States with state-approved allocation methodologies

In the CSAPR Update, 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, EPA used allocation methodology in the approved SIP revision to 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 CSAPR Update proposal and is proposing to do the same in the proposed Revised CSAPR Update.

Two of the states that would be covered by the proposed Revised CSAPR Update – Indiana and New York – have approved SIPs with state methodologies for allocating allowances. *See* 83 FR 64472 (Dec. 17, 2018) (Indiana); 84 FR 38878 (Aug. 8, 2019) (New York). The allocation methodologies used for existing units in these states are described below.

Indiana

1) In step 1, instead of the standard baseline period of 2015 through 2019, ozone season heat input values for the baseline period of 2012 through 2019 are identified using data reported to EPA.
2) In step 2, standard methodology is used to average the three highest, non-zero ozone season heat input values within this larger eight-year baseline.
3) Standard unit level allocation methodology and standard NUSA methodology are utilized from this point forward.

New York

1) Preliminary allocation for each unit is computed as the average of the unit's ozone season NOx emissions for the years 2017 to 2019, 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.

Appendix A

Table A-1A: 2021 NUSA and Indian Country NUSAs for All Group 1, 2, and 3 States

State	$1,600 per-ton Emission Budgets (tons)	Portion set aside for new units (%)	Total NUSA for new units (tons)	NUSA for new units not in Indian country (tons)	Indian country NUSA (tons)
Alabama	7,786	2	156	148	8
Arkansas	8,708	2	174	174	
Georgia	7,808	2	156	156	
Illinois	9,444	2	181	181	
Indiana	12,500	2	253	253	
Iowa	7,714	2	154	146	8
Kansas	5,384	2	108	103	5
Kentucky	14,384	2	289	289	
Louisiana	15,402	3	459	444	15
Maryland	1,522	2	31	31	
Michigan	12,727	3	384	371	13
Mississippi	6,315	2	126	120	6
Missouri	11,358	2	227	227	
New Jersey	1,253	2	27	27	
New York	3,137	5	157	154	3
Ohio	9,605	3	285	285	
Oklahoma	8,717	2	174	165	9
Pennsylvania	8,076	4	326	326	
Tennessee	4,367	2	87	87	
Texas	42,312	2	846	804	42
Virginia	4,544	2	91	91	
West Virginia	13,686	2	273	273	
Wisconsin	4,875	3	146	141	5

Table A-1B: 2022 NUSA and Indian Country NUSAs for All Group 1, 2, and 3 States

State	$1,600 per-ton Emission Budgets (tons)	Portion set aside for new units (%)	Total NUSA for new units (tons)	NUSA for new units not in Indian country (tons)	Indian country NUSA (tons)
Alabama	7,610	2	152	144	8
Arkansas	8,330	2	167	167	
Georgia	7,808	2	156	156	
Illinois	9,415	2	181	181	

Indiana	11,998	2	238	238	
Iowa	7,626	2	153	145	8
Kansas	5,384	2	108	103	5
Kentucky	11,936	2	240	240	
Louisiana	14,871	3	445	430	15
Maryland	1,498	2	33	33	
Michigan	11,767	3	352	340	12
Mississippi	6,315	2	126	120	6
Missouri	11,358	2	227	227	
New Jersey	1,253	2	27	27	
New York	3,137	5	157	154	3
Ohio	9,676	3	291	291	
Oklahoma	8,717	2	174	165	9
Pennsylvania	8,076	4	326	326	
Tennessee	4,367	2	87	87	
Texas	41,995	2	840	798	42
Virginia	3,656	2	76	76	
West Virginia	12,813	2	261	261	
Wisconsin	4,875	3	146	141	5

Table A-1C: 2023 NUSA and Indian Country NUSAs for All Group 1, 2, and 3 States

State	$1,600 per-ton Emission Budgets (tons)	Portion set aside for new units (%)	Total NUSA for new units (tons)	NUSA for new units not in Indian country (tons)	Indian country NUSA (tons)
Alabama	7,610	2	152	144	8
Arkansas	8,330	2	167	167	
Georgia	7,808	2	156	156	
Illinois	8,397	2	173	173	
Indiana	11,998	2	238	238	
Iowa	7,266	2	145	138	7
Kansas	5,384	2	108	103	5
Kentucky	11,936	2	240	240	
Louisiana	14,871	3	445	430	15
Maryland	1,498	2	33	33	
Michigan	9,803	3	296	286	10
Mississippi	6,315	2	126	120	6
Missouri	11,079	2	222	222	
New Jersey	1,253	2	27	27	
New York	3,137	5	157	154	3

Ohio	9,676	3	291	291	
Oklahoma	8,717	2	174	165	9
Pennsylvania	8,076	4	326	326	
Tennessee	4,367	2	87	87	
Texas	41,807	2	836	794	42
Virginia	3,656	2	76	76	
West Virginia	11,810	2	236	236	
Wisconsin	4,622	3	139	134	5

Table A-1D: 2024 NUSA and Indian Country NUSAs for All Group 1, 2, and 3 States

State	$1,600 per-ton Emission Budgets (tons)	Portion set aside for new units (%)	Total NUSA for new units (tons)	NUSA for new units not in Indian country (tons)	Indian country NUSA (tons)
Alabama	7,610	2	152	144	8
Arkansas	8,330	2	167	167	
Georgia	7,808	2	156	156	
Illinois	8,397	2	173	173	
Indiana	9,447	2	188	188	
Iowa	7,266	2	145	138	7
Kansas	5,384	2	108	103	5
Kentucky	11,936	2	240	240	
Louisiana	14,871	3	445	430	15
Maryland	1,498	2	33	33	
Michigan	9,614	3	287	277	10
Mississippi	6,315	2	126	120	6
Missouri	11,079	2	222	222	
New Jersey	1,253	2	27	27	
New York	3,119	5	156	153	3
Ohio	9,676	3	291	291	
Oklahoma	8,717	2	174	165	9
Pennsylvania	8,076	4	326	326	
Tennessee	4,367	2	87	87	
Texas	41,807	2	836	794	42
Virginia	3,395	2	68	68	
West Virginia	11,810	2	236	236	
Wisconsin	4,104	3	123	119	4