UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

MAR 2 7 2018

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

MEMORANDUM

SUBJECT: Information on the Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I)

FROM: Peter Tsirigotis
Director

TO: Regional Air Division Directors, Regions 1–10

The purpose of this memorandum is to provide information to states and the Environmental Protection Agency Regional offices as they develop or review state implementation plans (SIPs) that address section 110(a)(2)(D)(i)(I) of Clean Air Act (CAA), also called the "good neighbor" provision, as it pertains to the 2015 ozone National Ambient Air Quality Standards (NAAQS). Specifically, this memorandum includes EPA's air quality modeling data for ozone for the year 2023, including newly available contribution modeling results, and a discussion of elements previously used to address interstate transport. In addition, the memorandum is accompanied by Attachment A, which provides a preliminary list of potential flexibilities in analytical approaches for developing a good neighbor SIP that may warrant further discussion between EPA and states.

The information in this memorandum provides an update to the contribution modeling analyses provided in EPA's January 2017 Notice of Data Availability (NODA) of ozone transport modeling data for the 2015 ozone NAAQS and builds upon information provided in the October 2017 interstate transport memorandum.[1] The October 2017 memorandum provided projected ozone design values for 2023 based on EPA's updated nationwide ozone modeling with the primary goal of assisting states in completing good neighbor transport actions for the 2008 ozone NAAQS.

[1] *See* Notice of Availability of the Environmental Protection Agency's Preliminary Interstate Ozone Transport Modeling Data for the 2015 Ozone National Ambient Air Quality Standard (NAAQS), 82 FR 1733 (January 6, 2017). This memorandum also supplements the information provided in the memorandum, *Supplemental Information on the Interstate Transport State Implementation Plan Submissions for the 2008 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I).* Memorandum from Stephen D. Page, Director, U.S. EPA Office of Air Quality Planning and Standards, to Regional Air Division Directors, Regions 1–10. October 27, 2017. Available at *https://www.epa.gov/sites/production/files/2017-10/documents/final_2008_o3_naaqs_transport_memo_10-27-17b.pdf.* (The October 27, 2017, memorandum includes links to all supporting documentation, including modeling and emissions technical support documents.)

EPA's goal in providing this information is to assist states' efforts to develop good neighbor SIPs for the 2015 ozone NAAQS to address their interstate transport obligations. While the information in this memorandum and the associated air quality analysis data could be used to inform the development of these SIPs, the information is not a final determination regarding states' obligations under the good neighbor provision. Any such determination would be made through notice-and-comment rulemaking.

The Good Neighbor Provision

Under CAA sections 110(a)(l) and 110(a)(2), each state is required to submit a SIP that provides for the implementation, maintenance and enforcement of each primary and secondary NAAQS. Section 110(a)(1) requires each state to make this new SIP submission within 3 years after promulgation of a new or revised NAAQS. This type of SIP submission is commonly referred to as an "infrastructure SIP." Section 110(a)(2) identifies specific elements that each plan submission must meet. Conceptually, an infrastructure SIP provides assurance that a state's SIP contains the necessary structural requirements to implement the new or revised NAAQS, whether by demonstrating that the state's SIP already contains or sufficiently addresses the necessary provisions, or by making a substantive SIP revision to update the plan provisions to meet the new standards.

In particular, CAA section 110(a)(2)(D)(i)(I) requires each state to submit to EPA new or revised SIPs that "contain adequate provisions ... prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will ... contribute significantly to nonattainment in, or interfere with maintenance by, any other state with respect to any such national primary or secondary ambient air quality standard." EPA often refers to section 110(a)(2)(D)(i)(I) as the good neighbor provision and to SIP revisions addressing this requirement as good neighbor SIPs.

On October 1, 2015, EPA promulgated a revision to the ozone NAAQS, lowering the level of both the primary and secondary standards to 70 parts per billion (ppb).[2] Pursuant to CAA section 110(a), good neighbor SIPs are, therefore, due by October 1, 2018. As noted earlier, EPA intends that the information conveyed through this memorandum should assist states in their efforts to develop good neighbor SIPs for the 2015 ozone NAAQS to address their interstate transport obligations.

Framework to Address the Good Neighbor Provision

Through the development and implementation of several previous rulemakings, including most recently the Cross-State Air Pollution Rule (CSAPR) Update,[3] EPA, working in partnership with states, established the following four-step framework to address the requirements of the good neighbor provision for ozone and fine particulate matter ($PM_{2.5}$) NAAQS: (1) identify downwind air quality problems; (2) identify upwind states that contribute enough to those downwind air

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[2] National Ambient Air Quality Standards for Ozone Final Rule, 80 FR 65292 (October 26, 2015).

[3] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone (also known as the NO_X SIP Call), 63 FR 57356 (October 27, 1998); Clean Air Interstate Rule (CAIR) Final Rule, 70 FR 25162 (May 12, 2005); CSAPR Final Rule, 76 FR 48208 (August 8, 2011); CSAPR Update for the 2008 Ozone NAAQS (CSAPR Update) Final Rule, 81 FR 74504 (October 26, 2016).

quality problems to warrant further review and analysis; (3) identify the emissions reductions necessary (if any), considering cost and air quality factors, to prevent an identified upwind state from contributing significantly to those downwind air quality problems; and (4) adopt permanent and enforceable measures needed to achieve those emissions reductions. EPA notes that, in applying this framework or other approaches consistent with the CAA, various analytical approaches may be used to assess each step. EPA has undertaken several previous regional rulemakings applying this framework, and its analytical approaches have varied over time due to continued evolution of relevant tools and information, as well as their specific application.

This memo presents information regarding EPA's latest analysis for purposes of assisting states in developing SIPs for the 2015 ozone NAAQS, and, in doing so, generally follows approaches that EPA has taken in its regional rulemaking actions addressing prior ozone NAAQS. EPA also notes that, in developing their own rules, states have flexibility to follow the familiar four-step transport framework (using EPA's analytical approach or somewhat different analytical approaches within these steps) or alternative frameworks, so long as their chosen approach has adequate technical justification and is consistent with the requirements of the CAA. In various discussions, states and other stakeholders have suggested specific approaches that may warrant further consideration, and have indicated that they may be exploring other approaches as well. Over the next few months, EPA will be working with states to evaluate potential additional flexibilities for states to consider as they develop their good neighbor SIPs for the 2015 ozone NAAQS. Such potential flexibilities could apply to modeling conducted by states or to states' use of EPA's updated modeling presented here. Attachment A provides a preliminary list of potential flexibilities that may warrant further discussion. EPA looks forward to discussing these and other potential flexibilities with states over the next few months, which will help inform states' development of their good neighbor SIP submittals, as well as EPA's development of further information on good neighbor SIPs.

Air Quality Modeling Projection of 2023 Ozone Design Values

As noted previously and as described in more detail in both the 2017 NODA and the October 2017 memorandum, EPA uses modeling to identify potential downwind air quality problems. A first step in the modeling process is selecting a future analytic year that considers both the relevant attainment dates of downwind nonattainment areas impacted by interstate transport[4] and the timeframes that may be required for implementing further emissions reductions as expeditiously as practicable.[5] For the 2015 ozone NAAQS, EPA selected 2023 as the analytic year in our modeling analyses primarily because it aligns with the anticipated attainment year for Moderate ozone nonattainment areas.[6]

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[4] *North Carolina v. EPA*, 531 F.3d 896, 911–12 (D.C. Cir. 2008) (holding that compliance timeframes for necessary emission reductions must consider downwind attainment deadlines).

[5] *See* October 2017 memorandum, pp. 4-6 (discussion of timing of controls).

[6] On November 16, 2017 (82 FR 54232), EPA established initial air quality designations for most areas in the United States. On December 22, 2017 (83 FR 651), EPA responded to state and tribal recommendations by indicating the anticipated area designations for the remaining portions of the U.S. In addition, EPA proposed the maximum attainment dates for nonattainment areas in each classification, which for Moderate ozone nonattainment is 6 years (81 FR 81276, November 17, 2016). Based on the expected timing for final designations, 6 years from the likely effective date for designations would be summer 2024. Therefore, the 2023 ozone season would be the last full ozone season before the 2024 attainment date.

As noted in the aforementioned October 2017 memorandum, EPA then used the Comprehensive Air Quality Model with Extensions (CAMx v6.40)[7] to model emissions in 2011 and 2023, based on updates provided to EPA from states and other stakeholders.[8] EPA used outputs from the 2011 and 2023 model simulations to project base period 2009-2013 average and maximum ozone design values to 2023 at monitoring sites nationwide. In projecting these future year design values, EPA applied its own modeling guidance,[9] which recommends using model predictions from the "3 x 3" array of grid cells surrounding the location of the monitoring site.[10] In light of comments on the January 2017 NODA and other analyses, EPA also projected 2023 design values based on a modified version of the "3 x 3" approach for those monitoring sites located in coastal areas. Briefly, in this alternative approach, EPA incorporated the flexibility of eliminating from the design value calculations those modeling data in grid cells that are dominated by water (*i.e.*, more than 50 percent of the area in the grid cell is water) and that do not contain a monitoring site (*i.e.*, if a grid cell is more than 50 percent water but contains an air quality monitor, that cell would remain in the calculation).[11] For each individual monitoring site, the base period 2009-2013 average and maximum design values, 2023 projected average and maximum design values based on both the "3 x 3" approach and the alternative approach affecting coastal sites, and 2014-2016 measured design values are provided in an attachment to the October 27 memorandum. The same information is available in Excel format at *https://www.epa.gov/airmarkets/october-2017-memo-and-information-interstate-transport-sips-2008-ozone-naaqs*.

In the CSAPR Update rulemaking process, EPA considered a combination of monitoring data and modeling projections to identify receptor sites that are projected to have problems attaining or maintaining the NAAQS.[12] Specifically, EPA identified nonattainment receptors as those monitoring sites with current measured values exceeding the NAAQS that also have projected (*i.e.*, in 2023) average design values exceeding the NAAQS. EPA identified maintenance receptors as those monitoring sites with maximum design values exceeding the NAAQS. This included sites with current measured values below the NAAQS with projected average and maximum design values exceeding the NAAQS, and monitoring sites with projected average design values below the NAAQS but with projected maximum design values exceeding the NAAQS. The projected 2023 ozone design values and 2014-2016 measured design values for monitors in the United States have not changed since they were first presented in the October 2017 memorandum.

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[7] CAMx v6.40 was the most recent public release version of CAMx at the time EPA updated its modeling in fall 2017. ("Comprehensive Air Quality Model with Extension version 6.40 User's Guide" Ramboll Environ, December 2016. *http://www.camx.com/*.)

[8] For the updated modeling, EPA used the construct of the modeling platform (*i.e.*, modeling domain and non-emissions inputs) that we used for the NODA modeling, except that the photolysis rates files were updated to be consistent with CAMx v6.40. The NODA Air Quality Modeling Technical Support Document describing the modeling platform is available at *https://www.epa.gov/airmarkets/notice-data-availability-preliminary-interstate-ozone-transport-modeling-data-2015-ozone*.

[9] *http://www.epa.gov/ttn/scram/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf*.

[10] EPA's modeling uses 12 $kilometer^2$ grid cells.

[11] A model grid cell is identified as a "water" cell if more than 50 percent of the grid cell is water based on the 2006 National Land Cover Database. Grid cells that meet this criterion are treated as entirely over water in the Weather Research Forecast (WRF) modeling used to develop the 2011 meteorology for EPA's air quality modeling.

[12] *See* 81 FR 74530-74532 (October 26, 2016).

In this memorandum, EPA is identifying 2023 potential nonattainment and maintenance receptors with respect to the 2015 NAAQS, following its approach taken for previous NAAQS. This information is based on applying the CSAPR method for identifying potential nonattainment and maintenance receptors, and presents the design values in two ways: first, following the "3 x 3" approach to evaluating all sites, and second, following the modified approach for coastal monitoring sites in which "overwater" modeling data were not included in the calculation of future year design values. After incorporating these approaches, the modeling results suggest, based on the approach used for previous NAAQS, 11 monitoring sites outside of California as potential nonattainment receptors and 14 monitoring sites outside of California as potential maintenance receptors. *See* Attachment B for this receptor information.

Air Quality Modeling of 2023 Contributions

After identifying potential downwind air quality problems by projecting base period 2009-2013 average and maximum ozone design values to 2023 at monitoring sites nationwide, EPA next performed nationwide, state-level ozone source apportionment modeling using the CAMx Anthropogenic Precursor Culpability Analysis (APCA) technique[13] to provide information regarding the expected contribution of 2023 base case nitrogen oxides (NO_X) and volatile organic compound (VOC) emissions from all sources in each state to projected 2023 ozone concentrations at each air quality monitoring site. In the source apportionment model run, EPA tracked the ozone formed from each of the following contribution categories (*i.e.*, "tags"):

- States – anthropogenic NO_X and VOC emissions from each of the contiguous 48 states and the District of Columbia tracked individually (EPA combined emissions from all anthropogenic sectors in a given state);
- Biogenics – biogenic NO_X and VOC emissions domain-wide (*i.e.*, not by state);
- Initial and Boundary Concentrations – concentrations transported into the modeling domain from the lateral boundaries;
- Tribal Lands – the emissions from those tribal lands for which EPA has point source inventory data in the 2011 NEI (EPA did not model the contributions from individual tribes);
- Canada and Mexico – anthropogenic emissions from sources in those portions of Canada and Mexico included in the modeling domain (EPA did not separately model contributions from Canada or Mexico);
- Fires – combined emissions from wild and prescribed fires domain-wide (*i.e.*, not by state); and
- Offshore – combined emissions from offshore marine vessels and offshore drilling platforms (*i.e.*, not by state).

EPA performed the CAMx source apportionment model simulation for the period May 1 through September 30 using the 2023 future base case emissions and 2011 meteorology for this

[13] As part of this technique, ozone formed from reactions between biogenic and anthropogenic VOC and NO_X are assigned to the anthropogenic emissions.

time period.[14] EPA processed hourly contributions[15] from each tag to obtain the 8-hour average contributions corresponding to the time period of the 8-hour daily maximum concentration on each day in the 2023 model simulation. This step was performed for those model grid cells containing monitoring sites to obtain 8-hour average contributions for each day at the location of each site. EPA then processed the model-predicted contributions on each day at each monitoring site location to identify the contributions on the subset of days in the 2023 modeling with the top 10 model-predicted maximum daily 8-hour average concentrations. The daily 8-hour average contributions on the top 10 concentration days in 2023 were applied in a relative sense to quantify the contributions to the 2023 average design value at each site.

In the CSAPR and CSAPR Update modeling efforts, EPA had used a slightly different approach by basing the average future year contribution on future year modeled values that exceeded the NAAQS or the top 5 days, whichever was greater. While technically sound, EPA's previous approach resulted in different contributions for an individual linkage depending on the level of the NAAQS. For the modeling effort described in this memorandum, EPA considered comments on the January 2017 NODA and developed and incorporated the flexibility of calculating the contribution metric using contributions on the top 10 future year days. As some commenters have indicated, this approach makes the contribution metric values more consistent across monitoring sites and more robust in terms of being independent of the level of the NAAQS. The contributions from each tag to each monitoring site identified as a potential nonattainment or maintenance receptor in 2023 are provided in Attachment C.[16]

Conclusion

States may consider using this national modeling to develop SIPs that address requirements of the good neighbor provision for the 2015 ozone NAAQS. When doing so, EPA recommends that states include in any such submission state-specific information to support their reliance on the 2023 modeling data. Further, states may supplement the information provided in this memorandum with any additional information that they believe is relevant to addressing the good neighbor provision requirements. States may also choose to use other information to identify nonattainment and maintenance receptors relevant to development of their good neighbor SIPs. If this is the case, states should submit that information along with a full explanation and technical analysis. EPA encourages collaboration among states linked to a common receptor and among linked upwind and downwind states in developing and implementing a regionally consistent approach. We recommend that states reach out to EPA Regional offices and work together to accomplish the goal of developing, submitting, and reviewing approvable SIPs that address the good neighbor provision for the 2015 ozone NAAQS.

Finally, as indicated previously in this memorandum, in addition to the flexibilities already incorporated into EPA's modeling effort (*i.e.*, considering the removal of modeled values in "over water" grid cells and EPA's modified approach for calculating the contribution metric), EPA is

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[14] *See* the October 2017 memorandum for a description of these model inputs.

[15] Ozone contributions from anthropogenic emissions under "NOx-limited" and "VOC-limited" chemical regimes were combined to obtain the net contribution from NOx and VOC anthropogenic emissions in each state.

[16] Given stakeholder input on the 2017 NODA and other analyses, EPA elected to represent the contribution information in this memorandum using the alternative approach for projecting design values for sites in coastal areas.

evaluating whether states may have additional flexibilities as they work to prepare and submit approvable good neighbor SIPs for the 2015 ozone NAAQS (*see* Attachment A). EPA looks forward to discussing these and other potential flexibilities with states over the next few months, which will help inform states' development of their good neighbor SIP submittals, as well as EPA's development of further information on good neighbor SIPs.

Please share this information with the air agencies in your Region.

For Further Information

If you have any questions concerning this memorandum, please contact Norm Possiel at (919) 541-5692, *possiel.norm@epa.gov* for modeling information or Beth Palma at (919) 541-5432, *palma.elizabeth@epa.gov* for any other information.

Attachments

A. Preliminary List of Potential Flexibilities Related to Analytical Approaches for Developing a Good Neighbor State Implementation Plan
B. Projected Ozone Design Values at Potential Nonattainment and Maintenance Receptors Based on EPA's Updated 2023 Transport Modeling
C. Contributions to 2023 8-hour Ozone Design Values at Projected 2023 Nonattainment and Maintenance Sites

Attachment A

Preliminary List of Potential Flexibilities Related to Analytical Approaches for Developing a Good Neighbor State Implementation Plan

The Environmental Protection Agency believes states may be able to consider certain approaches as they develop good neighbor state implementation plans (SIPs) addressing the 2015 ozone National Ambient Air Quality Standards (NAAQS). To that end, EPA has reviewed comments provided in various forums, including comments on EPA's January 2017 Notice of Data Availability (NODA) regarding ozone transport modeling data for the 2015 ozone NAAQS, and seeks feedback from interested stakeholders on the following concepts. This list is organized in the familiar four-step transport framework discussed on pages 2-3 of the memorandum above, but EPA is open to alternative frameworks to address good neighbor obligations or considerations outside the four-step process. The purpose of this attachment is to identify potential flexibilities to inform SIP development and seek feedback on these concepts. EPA is not at this time making any determination that the ideas discussed below are consistent with the requirements of the CAA, nor are we specifically recommending that states use these approaches. Determinations regarding states' obligations under the good neighbor provision would be made through notice-and-comment rulemaking.

EPA has identified several guiding principles to consider when evaluating the appropriateness of the concepts introduced in this attachment, including:

- Supporting states' position as "first actors" in developing SIPs that address section 110(a)(2)(D) of the CAA;
- Consistency with respect to EPA's SIP actions is legally required by the statute and regulations (*see* CAA § 301(a)(2) and 40 CFR part 56) and is a particularly acute issue with respect to regional transport issues in which multiple states may be implicated;
- Compliance with statutory requirements and legal precedent from court decisions interpreting the CAA requirements;
- Encouraging collaboration among states linked to a common receptor and among linked upwind and downwind states in developing and applying a regionally consistent approach to identify and implement good neighbor obligations; and
- The potential value of considering different modeling tools or analyses in addition to EPA's, provided that any alternative modeling is performed using a credible modeling system which includes "state-of-the-science" and "fit for purpose" models, inputs, and techniques that are relevant to the nature of the ozone problem. The use of results from each alternative technique should be weighed in accordance with the scientific foundation, construct and limitations of the individual techniques.

EPA intends to reflect on feedback received on these concepts and communicate closely with air agencies as they prepare and submit SIPs to address the good neighbor provisions for the 2015 ozone NAAQS.

Analytics

- Consideration of appropriate alternate base years to those used in EPA's most recent modeling (*e.g.*, appropriate alternative base years should be selected consistent with EPA's air quality modeling guidance suggesting that years with meteorology conducive to ozone formation are appropriate).
- Consideration of an alternate future analytic year. EPA has identified 2023 as an appropriate analytic year to consider when evaluating transport obligations for the 2015 ozone NAAQS; however, another year may also be appropriate.
- Use of alternative power sector modeling consistent with EPA's emission inventory guidance.
- Consideration of state-specific information in identifying emissions sources [*e.g.*, electric generating units (EGUs) and non-EGUs] and controls (*e.g.*, combustion/process controls, post-combustion controls) that are appropriate to evaluate.

Step 1 – Identify downwind air quality problems

- Identification of maintenance receptors.
  - Evaluate alternative methodologies to give independent meaning to the term "interfere with maintenance" under CAA section 110(a)(2)(D)(i)(I).
  - Identify maintenance receptors that are at risk of exceeding the NAAQS (even if they do not currently violate the standard) using an alternative approach that does not rely on the projection of maximum design values.
  - Identify maintenance receptors where current, presumably "clean," measured data are shown through analysis to occur during meteorological conditions conducive to ozone formation such that exceedances are unlikely to reoccur in the future.
- Consideration of downwind air quality context.
  - Consider the role of designations issued in FY 2018 based on approved air quality monitors.
  - Assess current and projected local emissions reductions and whether downwind areas have considered and/or used available mechanisms for regulatory relief.
- Consideration of model performance.
  - Consider removal of certain data from modeling analysis for the purposes of projecting design values and calculating the contribution metric where data removal is based on model performance and technical analyses support the exclusion.

Step 2 – Identify upwind states that contribute to those downwind air quality problems to warrant further review and analysis

- Considerations related to determining contributions.
  - EPA has used the Anthropogenic Precursor Culpability Analysis (APCA) approach for the purpose of quantifying contribution to downwind receptors. We have received questions regarding the use of other modeling approaches (*e.g.*, Ozone Source Apportionment Technology, Decoupled Direct Method, and zero-out brute force sensitivity runs) to help quantify ozone impacts from upwind states.
- Considerations related to evaluating contributions (contributions contained in Attachment C are not based upon a particular significance threshold).
  - Establishing a contribution threshold based on variability in ozone design values that leverage some of the analytics and statistical data created to support the development of the Significant Impact Level for ozone.

  - Consideration of different contribution thresholds for different regions based on regional differences in the nature and extent of the transport problem.
  - An evaluation of "collective contribution" in the receptor region to determine the extent to which a receptor is "transport influenced." The results of this analysis could be applied before assessing whether an individual state is linked to a downwind receptor (*i.e.*, above the contribution threshold).

Step 3 – Identifying air quality, cost, and emission reduction factors to be evaluated in a multifactor test to identify emissions that significantly contribute to nonattainment or interfere with maintenance of the NAAQS downwind, if any

- Consideration of international emissions, in a manner consistent with EPA's Ozone Cooperative Compliance Task Force efforts to fully understand the role of background ozone levels and appropriately account for international transport.[17]
  - Develop consensus on evaluation of the magnitude of international ozone contributions relative to domestic, anthropogenic ozone contributions for receptors identified in step 1. As contained in Attachment C, EPA recognizes that a number of non-U.S. and non-anthropogenic sources contribute to downwind nonattainment and maintenance receptors.
  - Consider whether the air quality, cost, or emission reduction factors should be weighted differently in areas where international contributions are relatively high.
- For states that are found to significantly contribute to nonattainment or interfere with maintenance of the NAAQS downwind, apportioning responsibility among states.
  - Consider control stringency levels derived through "uniform-cost" analysis of NO_X reductions.
  - Consider whether the relative impact (*e.g.*, parts per billion/ton) between states is sufficiently different such that this factor warrants consideration in apportioning responsibility.
- Considerations for states linked to maintenance receptors.
  - Consider whether the remedy for upwind states linked to maintenance receptors could be less stringent than for those linked to nonattainment receptors.
  - For example, consider whether upwind states could satisfy linkage(s) to maintenance receptors based on recent historic or base case emissions levels.

Step 4 – Adopt permanent and enforceable measures needed to achieve emissions reductions (translating the control levels identified in Step 3 into enforceable emissions limits)

- EPA welcomes concepts from stakeholders regarding Step 4, including potential EPA actions that could serve as a model as well as the relationship to previous transport rules.

[17] See *Final Report on Review of Agency Actions that Potentially Burden the Safe, Efficient Development of Domestic Energy Resources Under Executive Order 13783* (October 25, 2017) and *Report to Congress on Administrative Options to Enable States to Enter into Cooperative Agreements to Provide Regulatory Relief for Implementing Ozone Standards* (August 14, 2017).

Attachment B

Projected Ozone Design Values at Potential Nonattainment and Maintenance Receptors Based on EPA's Updated 2023 Transport Modeling

This attachment contains projected ozone design values at those individual monitoring sites that are projected to be potential nonattainment or maintenance receptors based on the Environmental Protection Agency's updated transport modeling for 2023. The scenario name for the updated modeling is "2023en." The data are in units of parts per billion (ppb).

The following data are provided in the table below:

1. Base period 2009 – 2013 average and maximum design values based on 2009 – 2013 measured data.

2. Projected 2023 average and maximum design values based on the "3 x 3" approach and a modified "3 x 3" approach in which model predictions in grid cells that are predominately water and that do not contain monitors are excluded from the projection calculations ("No Water"). Note that the modified approach only affects the projection of design values for monitoring sites in or near coastal areas.

3. 2016 ozone design values based on 2014 – 2016 measured data (N/A indicates that a 2016 design value is not available). The following Web site has additional information on the 2016 design values: *https://www.epa.gov/air-trends/air-quality-design-values#report*.

Note: A value of 70.9 ppb (or less) is considered to be in attainment of the 2015 ozone NAAQS, and a value of 71.0 ppb (or higher) is considered to be in violation of the 2015 ozone NAAQS.

Note also: Site 550790085 in Milwaukee Co., WI would be a nonattainment receptor using projected design values based on the "No Water" cell approach, but would not be a receptor with the "3 x 3" approach. Conversely, site 360850067 in Richmond Co., NY would be a nonattainment receptor using the "3 x 3" approach, but would not be a receptor with the "No Water" cell approach.

Site ID	St	County	2009-2013 Avg	2009-2013 Max	2023en "3x3" Avg	2023en "3x3" Max	2023en "No Water" Avg	2023en "No Water" Max	2014-2016
40130019	AZ	Maricopa	76.7	79	69.3	71.4	69.3	71.4	73
40131004	AZ	Maricopa	79.7	81	69.8	71.0	69.8	71.0	75
60190007	CA	Fresno	94.7	95	79.2	79.4	79.2	79.4	86
60190011	CA	Fresno	93.0	96	78.6	81.2	78.6	81.2	89
60190242	CA	Fresno	91.7	95	79.4	82.2	79.4	82.2	86
60194001	CA	Fresno	90.7	92	73.3	74.4	73.3	74.4	91
60195001	CA	Fresno	97.0	99	79.6	81.2	79.6	81.2	94
60250005	CA	Imperial	74.7	76	73.3	74.6	73.3	74.6	76
60251003	CA	Imperial	81.0	82	79.0	80.0	79.0	80.0	76
60290007	CA	Kern	91.7	96	77.7	81.3	77.7	81.3	87

Site ID	St	County	2009-2013 Avg	2009-2013 Max	2023en "3x3" Avg	2023en "3x3" Max	2023en "No Water" Avg	2023en "No Water" Max	2014-2016
60290008	CA	Kern	86.3	88	71.3	72.8	71.3	72.8	81
60290014	CA	Kern	87.7	89	74.1	75.2	74.1	75.2	84
60290232	CA	Kern	87.3	89	73.7	75.2	73.7	75.2	77
60295002	CA	Kern	90.0	91	75.9	76.8	75.9	76.8	87
60296001	CA	Kern	84.3	86	70.9	72.4	70.9	72.4	81
60311004	CA	Kings	87.0	90	71.7	74.2	71.7	74.2	84
60370002	CA	Los Angeles	80.0	82	73.3	75.1	73.3	75.1	88
60370016	CA	Los Angeles	94.0	97	86.1	88.9	86.1	88.9	96
60371201	CA	Los Angeles	90.0	90	79.8	79.8	79.8	79.8	85
60371701	CA	Los Angeles	84.0	85	78.1	79.1	78.1	79.1	90
60372005	CA	Los Angeles	79.5	82	72.3	74.6	72.3	74.6	83
60376012	CA	Los Angeles	97.3	99	85.9	87.4	85.9	87.4	96
60379033	CA	Los Angeles	90.0	91	76.3	77.2	76.3	77.2	88
60392010	CA	Madera	85.0	86	72.1	72.9	72.1	72.9	83
60470003	CA	Merced	82.7	84	69.9	71.0	69.9	71.0	82
60650004	CA	Riverside	85.0	85	76.7	76.7	76.7	76.7	N/A
60650012	CA	Riverside	97.3	99	83.6	85.1	83.6	85.1	93
60651016	CA	Riverside	100.7	101	85.2	85.5	85.2	85.5	97
60652002	CA	Riverside	84.3	85	72.4	73.0	72.4	73.0	81
60655001	CA	Riverside	92.3	93	79.5	80.1	79.5	80.1	87
60656001	CA	Riverside	94.0	98	78.3	81.6	78.3	81.6	91
60658001	CA	Riverside	97.0	98	87.0	87.9	87.0	87.9	94
60658005	CA	Riverside	92.7	94	83.2	84.4	83.2	84.4	91
60659001	CA	Riverside	88.3	91	73.7	75.9	73.7	75.9	86
60670012	CA	Sacramento	93.3	95	74.5	75.9	74.5	75.9	83
60675003	CA	Sacramento	86.3	88	69.9	71.3	69.9	71.3	79
60710005	CA	San Bernardino	105.0	107	96.2	98.1	96.2	98.1	108
60710012	CA	San Bernardino	95.0	97	84.1	85.8	84.1	85.8	91
60710306	CA	San Bernardino	83.7	85	76.2	77.4	76.2	77.4	86
60711004	CA	San Bernardino	96.7	98	89.8	91.0	89.8	91.0	101
60712002	CA	San Bernardino	101.0	103	93.1	95.0	93.1	95.0	97
60714001	CA	San Bernardino	94.3	97	86.0	88.5	86.0	88.5	90
60714003	CA	San Bernardino	105.0	107	94.1	95.8	94.1	95.8	101
60719002	CA	San Bernardino	92.3	94	80.0	81.4	80.0	81.4	86
60719004	CA	San Bernardino	98.7	99	88.4	88.7	88.4	88.7	104
60990006	CA	Stanislaus	87.0	88	74.8	75.7	74.8	75.7	83
61070006	CA	Tulare	81.7	85	69.1	71.9	69.1	71.9	84
61070009	CA	Tulare	94.7	96	76.1	77.2	76.1	77.2	89

Site ID	St	County	2009-2013 Avg	2009-2013 Max	2023en "3x3" Avg	2023en "3x3" Max	2023en "No Water" Avg	2023en "No Water" Max	2014-2016
61072002	CA	Tulare	85.0	88	68.9	71.4	68.9	71.4	80
61072010	CA	Tulare	89.0	90	73.1	73.9	73.1	73.9	83
61112002	CA	Ventura	81.0	83	70.5	72.2	70.5	72.2	77
80050002	CO	Arapahoe	76.7	79	69.3	71.3	69.3	71.3	N/A
80350004	CO	Douglas	80.7	83	71.1	73.2	71.1	73.2	77
80590006	CO	Jefferson	80.3	83	71.3	73.7	71.3	73.7	77
80590011	CO	Jefferson	78.7	82	70.9	73.9	70.9	73.9	80
80690011	CO	Larimer	78.0	80	71.2	73.0	71.2	73.0	75
81230009	CO	Weld	74.7	76	70.2	71.4	70.2	71.4	70
90010017	CT	Fairfield	80.3	83	69.8	72.1	68.9	71.2	80
90013007	CT	Fairfield	84.3	89	71.2	75.2	71.0	75.0	81
90019003	CT	Fairfield	83.7	87	72.7	75.6	73.0	75.9	85
90099002	CT	New Haven	85.7	89	71.2	73.9	69.9	72.6	76
240251001	MD	Harford	90.0	93	71.4	73.8	70.9	73.3	73
260050003	MI	Allegan	82.7	86	69.0	71.8	69.0	71.7	75
261630019	MI	Wayne	78.7	81	69.0	71.0	69.0	71.0	72
360810124	NY	Queens	78.0	80	70.1	71.9	70.2	72.0	69
360850067	NY	Richmond	81.3	83	71.9	73.4	67.1	68.5	76
361030002	NY	Suffolk	83.3	85	72.5	74.0	74.0	75.5	72
480391004	TX	Brazoria	88.0	89	74.0	74.9	74.0	74.9	75
481210034	TX	Denton	84.3	87	69.7	72.0	69.7	72.0	80
482010024	TX	Harris	80.3	83	70.4	72.8	70.4	72.8	79
482011034	TX	Harris	81.0	82	70.8	71.6	70.8	71.6	73
482011039	TX	Harris	82.0	84	71.8	73.6	71.8	73.5	67
484392003	TX	Tarrant	87.3	90	72.5	74.8	72.5	74.8	73
550790085	WI	Milwaukee	80.0	82	65.4	67.0	71.2	73.0	71
551170006	WI	Sheboygan	84.3	87	70.8	73.1	72.8	75.1	79

Attachment C

Contributions to 2023 8-hour Ozone Design Values at Projected 2023 Nonattainment and Maintenance Sites

This attachment contains tables with the projected ozone contributions from 2023 anthropogenic nitrogen oxide and volatile organic compound emissions in each state to each potential nonattainment receptor and maintenance receptor (based on the 2015 ozone National Ambient Air Quality Standards) in the United States, following the approach for identification of such receptors EPA has used in the past, with slight modification.[18] In addition to the state contributions, we have included the contributions from each of the other categories tracked in the contribution modeling, including point source emissions on Tribal lands, anthropogenic emissions in Canada and Mexico, emissions from offshore sources, fires, biogenics, and contributions from initial and boundary concentrations.

The contribution information is provided in a three-part table for all of the projected receptors throughout the country, except California, and a separate three-part table for the projected receptors in California. For each monitoring site, we provide the site ID, county name, and state name in the first three columns of the table. This information is followed by columns containing the projected 2023 average and maximum design values based on the "No Water" cell approach. Next, in Parts 1 and 2 of each table, we provide the contributions from each state and the District of Columbia, individually. Finally, in Part 3 of each table, we provide the contributions from the Tribal lands, Canada and Mexico, offshore, fires, initial and boundary concentrations (Boundary), and biogenics categories. The units of the 2023 design values and contributions are parts per billion (ppb). Note that the contributions presented in these tables may not sum exactly to the 2023 average design value due to truncation of the contributions to two places to the right of the decimal.

[18] For the purposes of creating the contribution tables, data are provided for sites identified as potential nonattainment and maintenance receptors using projected design values based on the "No Water" cell approach. In addition, we provide the contributions to the Richmond Co., NY site that would be a nonattainment receptor in the "3 x 3" approach.

Contributions to 2023 Nonattainment and Maintenance Sites Outside of California (Part 1)

Site ID	County	State	2023en Average	2023en Maximum	AL	AZ	AR	CA	CO	CT	DE	DC	FL	GA	ID	IL	IN	IA	KS	KY	LA	ME	MD	MA	MI	MN	MS	MO	MT
40130019	Maricopa	AZ	69.3	71.4	0.00	25.19	0.00	1.87	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40131004	Maricopa	AZ	69.8	71.0	0.00	27.40	0.00	2.03	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80050002	Arapahoe	CO	69.3	71.3	0.00	0.29	0.00	1.20	22.94	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.28	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02
80350004	Douglas	CO	71.1	73.2	0.00	0.38	0.01	1.27	24.71	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.26	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
80590006	Jefferson	CO	71.3	73.7	0.01	0.49	0.03	1.32	25.52	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.27	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.03
80590011	Jefferson	CO	70.9	73.9	0.01	0.30	0.02	1.50	24.72	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.32	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02
80690011	Larimer	CO	71.2	73.0	0.00	0.46	0.00	1.55	21.74	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.10	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
81230009	Weld	CO	70.2	71.4	0.01	0.49	0.02	0.95	24.44	0.00	0.00	0.00	0.00	0.01	0.06	0.00	0.00	0.00	0.09	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.04
90010017	Fairfield	CT	68.9	71.2	0.08	0.03	0.07	0.03	0.07	8.70	0.18	0.04	0.02	0.09	0.01	0.39	0.44	0.11	0.09	0.34	0.05	0.01	1.18	0.06	0.50	0.17	0.03	0.21	0.03
90013007	Fairfield	CT	71.0	75.0	0.14	0.05	0.13	0.05	0.09	4.64	0.35	0.06	0.05	0.17	0.01	0.72	0.97	0.16	0.13	0.89	0.11	0.01	1.80	0.12	0.70	0.15	0.07	0.38	0.02
90019003	Fairfield	CT	73.0	75.9	0.14	0.05	0.13	0.05	0.09	3.71	0.40	0.08	0.05	0.17	0.01	0.67	0.83	0.17	0.13	0.79	0.11	0.00	2.17	0.10	0.63	0.14	0.07	0.37	0.02
90099002	New Haven	CT	69.9	72.6	0.06	0.04	0.08	0.05	0.08	9.10	0.30	0.04	0.02	0.07	0.02	0.46	0.50	0.16	0.14	0.32	0.08	0.01	1.37	0.18	0.73	0.19	0.04	0.29	0.04
240251001	Harford	MD	70.9	73.3	0.31	0.07	0.17	0.07	0.12	0.00	0.03	0.65	0.11	0.32	0.02	0.84	1.35	0.23	0.23	1.52	0.19	0.00	22.60	0.00	0.79	0.13	0.08	0.59	0.04
260050003	Allegan	MI	69.0	71.7	0.35	0.08	1.64	0.09	0.18	0.00	0.00	0.00	0.09	0.18	0.03	19.62	7.11	0.77	0.77	0.58	0.70	0.00	0.01	0.00	3.32	0.11	0.40	2.61	0.06
261630019	Wayne	MI	69.0	71.0	0.11	0.07	0.27	0.13	0.17	0.00	0.00	0.00	0.05	0.09	0.05	2.37	2.51	0.44	0.44	0.65	0.22	0.00	0.02	0.00	20.39	0.31	0.09	0.92	0.08
360810124	Queens	NY	70.2	72.0	0.11	0.06	0.09	0.08	0.11	0.57	0.38	0.05	0.07	0.16	0.03	0.73	0.69	0.26	0.19	0.42	0.13	0.00	1.56	0.24	1.26	0.17	0.04	0.38	0.05
360850067	Richmond	NY	67.1	68.5	0.24	0.08	0.13	0.09	0.12	0.27	0.43	0.05	0.09	0.28	0.02	0.80	0.92	0.23	0.21	0.84	0.16	0.00	1.74	0.03	0.98	0.12	0.08	0.46	0.03
361030002	Suffolk	NY	74.0	75.5	0.12	0.06	0.12	0.08	0.11	0.83	0.22	0.04	0.04	0.12	0.03	0.64	0.69	0.20	0.20	0.49	0.13	0.01	1.24	0.04	0.94	0.18	0.06	0.39	0.06
480391004	Brazoria	TX	74.0	74.9	0.35	0.08	0.90	0.21	0.30	0.00	0.00	0.00	0.21	0.14	0.08	1.00	0.32	0.40	0.47	0.14	3.80	0.00	0.00	0.00	0.22	0.34	0.63	0.88	0.10
481210034	Denton	TX	69.7	72.0	0.49	0.07	0.58	0.13	0.27	0.00	0.00	0.00	0.27	0.34	0.06	0.23	0.16	0.10	0.40	0.11	1.92	0.00	0.01	0.00	0.08	0.11	0.33	0.24	0.07
482010024	Harris	TX	70.4	72.8	0.39	0.04	0.29	0.12	0.13	0.00	0.00	0.00	0.39	0.26	0.05	0.34	0.13	0.17	0.17	0.10	3.06	0.00	0.00	0.00	0.06	0.06	0.50	0.38	0.05
482011034	Harris	TX	70.8	71.6	0.32	0.03	0.54	0.10	0.15	0.00	0.00	0.00	0.53	0.16	0.04	0.51	0.12	0.27	0.32	0.05	3.38	0.00	0.00	0.00	0.17	0.23	0.39	0.63	0.05
482011039	Harris	TX	71.8	73.5	0.37	0.04	0.99	0.12	0.20	0.00	0.00	0.00	0.23	0.13	0.05	0.88	0.24	0.33	0.33	0.11	4.72	0.00	0.00	0.00	0.27	0.20	0.79	0.88	0.07
484392003	Tarrant	TX	72.5	74.8	0.37	0.08	0.78	0.15	0.33	0.00	0.00	0.00	0.18	0.26	0.07	0.29	0.18	0.19	0.69	0.13	1.71	0.00	0.01	0.00	0.13	0.15	0.27	0.38	0.10
550790085	Milwaukee	WI	71.2	73.0	0.14	0.04	0.40	0.07	0.08	0.00	0.00	0.00	0.06	0.06	0.03	15.10	5.28	0.79	0.35	0.77	0.72	0.00	0.03	0.00	2.01	0.40	0.28	0.93	0.10
551170006	Sheboygan	WI	72.8	75.1	0.14	0.08	0.51	0.12	0.11	0.00	0.00	0.00	0.07	0.07	0.04	15.73	7.11	0.45	0.46	0.81	0.84	0.00	0.03	0.00	2.06	0.28	0.30	1.37	0.06

Contributions to 2023 Nonattainment and Maintenance Sites Outside of California (Part 2)

Site ID	County	State	2023en Average	2023en Maximum	NE	NV	NH	NJ	NM	NY	NC	ND	OH	OK	OR	PA	RI	SC	SD	TN	TX	UT	VT	VA	WA	WV	WI	WY
40130019	Maricopa	AZ	69.3	71.4	0.00	0.09	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.02	0.05	0.00	0.00	0.00	0.00	0.00	0.22	0.06	0.00	0.00	0.02	0.00	0.00	0.01
40131004	Maricopa	AZ	69.8	71.0	0.00	0.14	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.11	0.06	0.00	0.00	0.03	0.00	0.00	0.00
80050002	Arapahoe	CO	69.3	71.3	0.34	0.33	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.12	0.11	0.00	0.00	0.00	0.02	0.00	0.30	1.23	0.00	0.00	0.04	0.00	0.00	1.04
80350004	Douglas	CO	71.1	73.2	0.32	0.32	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.12	0.10	0.00	0.00	0.00	0.02	0.00	0.36	1.08	0.00	0.00	0.04	0.00	0.00	1.00
80590006	Jefferson	CO	71.3	73.7	0.41	0.31	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.24	0.10	0.00	0.00	0.00	0.02	0.00	1.02	0.83	0.00	0.00	0.04	0.00	0.00	0.81
80590011	Jefferson	CO	70.9	73.9	0.36	0.38	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.18	0.10	0.00	0.00	0.00	0.02	0.00	0.94	1.04	0.00	0.00	0.03	0.00	0.00	1.03
80690011	Larimer	CO	71.2	73.0	0.25	0.37	0.00	0.00	0.52	0.00	0.00	0.00	0.00	0.05	0.10	0.00	0.00	0.00	0.03	0.00	0.40	1.05	0.00	0.00	0.10	0.00	0.00	0.88
81230009	Weld	CO	70.2	71.4	0.27	0.24	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.08	0.04	0.00	0.00	0.00	0.03	0.00	1.05	0.54	0.00	0.00	0.05	0.00	0.00	0.58
90010017	Fairfield	CT	68.9	71.2	0.06	0.00	0.01	6.24	0.04	17.31	0.29	0.07	1.04	0.15	0.00	5.11	0.01	0.06	0.03	0.15	0.30	0.03	0.01	1.27	0.02	0.68	0.26	0.07
90013007	Fairfield	CT	71.0	75.0	0.07	0.01	0.02	6.94	0.06	14.12	0.40	0.07	1.84	0.21	0.00	6.32	0.02	0.11	0.02	0.31	0.44	0.04	0.01	1.51	0.01	1.10	0.24	0.08
90019003	Fairfield	CT	73.0	75.9	0.07	0.01	0.02	7.75	0.06	15.80	0.43	0.06	1.60	0.21	0.01	6.56	0.02	0.12	0.02	0.28	0.45	0.04	0.01	1.91	0.01	1.14	0.20	0.08
90099002	New Haven	CT	69.9	72.6	0.09	0.01	0.03	5.06	0.04	15.03	0.32	0.15	1.17	0.24	0.01	4.87	0.02	0.04	0.04	0.12	0.41	0.04	0.02	1.26	0.04	0.61	0.25	0.10
240251001	Harford	MD	70.9	73.3	0.13	0.01	0.00	0.07	0.09	0.16	0.42	0.07	2.77	0.35	0.02	4.32	0.00	0.11	0.04	0.43	0.74	0.05	0.00	5.05	0.04	2.78	0.24	0.12
260050003	Allegan	MI	69.0	71.7	0.16	0.02	0.00	0.00	0.16	0.00	0.05	0.09	0.19	1.31	0.01	0.05	0.00	0.04	0.05	0.65	2.39	0.06	0.00	0.04	0.05	0.11	1.95	0.12
261630019	Wayne	MI	69.0	71.0	0.17	0.03	0.00	0.01	0.08	0.06	0.20	0.12	3.81	0.62	0.05	0.18	0.00	0.05	0.04	0.27	1.12	0.09	0.00	0.16	0.07	0.23	1.08	0.18
360810124	Queens	NY	70.2	72.0	0.12	0.02	0.06	8.57	0.07	13.55	0.35	0.12	1.88	0.32	0.02	7.16	0.04	0.09	0.05	0.13	0.58	0.07	0.07	1.56	0.03	1.01	0.38	0.14
360850067	Richmond	NY	67.1	68.5	0.12	0.02	0.00	10.53	0.09	6.57	0.37	0.09	2.05	0.36	0.01	10.41	0.00	0.10	0.04	0.36	0.70	0.07	0.00	1.67	0.02	1.54	0.30	0.12
361030002	Suffolk	NY	74.0	75.5	0.12	0.02	0.01	8.88	0.06	18.11	0.23	0.20	1.76	0.34	0.03	6.86	0.00	0.05	0.05	0.22	0.60	0.07	0.02	0.99	0.06	0.81	0.25	0.14
480391004	Brazoria	TX	74.0	74.9	0.23	0.06	0.00	0.00	0.08	0.00	0.04	0.06	0.06	0.90	0.05	0.01	0.00	0.04	0.05	0.28	26.00	0.14	0.00	0.02	0.06	0.02	0.40	0.27
481210034	Denton	TX	69.7	72.0	0.15	0.04	0.00	0.00	0.13	0.01	0.09	0.03	0.08	1.23	0.03	0.04	0.00	0.09	0.03	0.14	26.69	0.10	0.00	0.05	0.05	0.04	0.08	0.25
482010024	Harris	TX	70.4	72.8	0.08	0.03	0.00	0.00	0.05	0.00	0.14	0.04	0.05	0.20	0.03	0.02	0.00	0.14	0.02	0.26	25.62	0.08	0.00	0.06	0.03	0.05	0.07	0.14
482011034	Harris	TX	70.8	71.6	0.16	0.03	0.00	0.00	0.04	0.00	0.09	0.04	0.05	0.68	0.02	0.01	0.00	0.10	0.03	0.09	25.66	0.07	0.00	0.03	0.02	0.03	0.22	0.15
482011039	Harris	TX	71.8	73.5	0.19	0.03	0.00	0.00	0.06	0.00	0.04	0.06	0.05	0.58	0.03	0.01	0.00	0.03	0.04	0.30	22.82	0.08	0.00	0.02	0.04	0.01	0.28	0.20
484392003	Tarrant	TX	72.5	74.8	0.30	0.04	0.00	0.00	0.14	0.01	0.09	0.05	0.10	1.71	0.05	0.05	0.00	0.08	0.07	0.15	27.64	0.15	0.00	0.05	0.09	0.05	0.13	0.28
550790085	Milwaukee	WI	71.2	73.0	0.06	0.01	0.00	0.00	0.08	0.02	0.04	0.23	0.87	0.76	0.02	0.33	0.00	0.02	0.03	0.31	1.22	0.04	0.00	0.12	0.09	0.59	13.39	0.09
551170006	Sheboygan	WI	72.8	75.1	0.06	0.03	0.00	0.00	0.14	0.02	0.04	0.10	1.10	0.95	0.04	0.41	0.00	0.02	0.02	0.31	1.65	0.06	0.00	0.10	0.07	0.64	9.09	0.12

Contributions to 2023 Nonattainment and Maintenance Sites Outside of California (Part 3)

Site ID	County	State	2023en Average	2023en Maximum	Tribal	Canada/ Mexco	Offshore	Fire	Boundary	Biogenic
40130019	Maricopa	AZ	69.3	71.4	0.06	3.29	0.37	0.49	34.74	2.52
40131004	Maricopa	AZ	69.8	71.0	0.06	2.70	0.34	0.56	33.85	2.24
80050002	Arapahoe	CO	69.3	71.3	0.22	0.55	0.14	0.46	34.84	4.24
80350004	Douglas	CO	71.1	73.2	0.21	0.71	0.16	0.47	34.74	4.19
80590006	Jefferson	CO	71.3	73.7	0.21	0.90	0.17	0.66	31.41	5.40
80590011	Jefferson	CO	70.9	73.9	0.16	0.70	0.16	0.45	32.96	4.74
80690011	Larimer	CO	71.2	73.0	0.25	0.78	0.19	1.74	34.54	5.71
81230009	Weld	CO	70.2	71.4	0.23	1.04	0.15	1.57	31.11	6.08
90010017	Fairfield	CT	68.9	71.2	0.00	1.64	0.65	0.20	16.73	3.28
90013007	Fairfield	CT	71.0	75.0	0.01	1.35	1.93	0.34	17.17	4.01
90019003	Fairfield	CT	73.0	75.9	0.01	1.37	1.96	0.33	17.00	4.09
90099002	New Haven	CT	69.9	72.6	0.01	1.58	2.15	0.22	17.17	4.13
240251001	Harford	MD	70.9	73.3	0.01	0.79	0.32	0.42	15.28	5.32
260050003	Allegan	MI	69.0	71.7	0.02	0.54	0.36	0.93	11.85	8.91
261630019	Wayne	MI	69.0	71.0	0.02	3.13	0.17	0.44	20.06	6.93
360810124	Queens	NY	70.2	72.0	0.01	1.73	1.39	0.25	17.87	4.45
360850067	Richmond	NY	67.1	68.5	0.01	1.44	0.83	0.35	15.46	4.75
361030002	Suffolk	NY	74.0	75.5	0.01	1.85	1.24	0.30	18.94	4.49
480391004	Brazoria	TX	74.0	74.9	0.02	0.44	2.31	2.05	24.02	5.60
481210034	Denton	TX	69.7	72.0	0.01	0.92	1.23	0.87	24.69	6.42
482010024	Harris	TX	70.4	72.8	0.01	0.28	4.83	0.77	27.83	2.66
482011034	Harris	TX	70.8	71.6	0.01	0.24	3.91	1.75	25.71	3.44
482011039	Harris	TX	71.8	73.5	0.01	0.47	4.04	2.09	24.67	4.50
484392003	Tarrant	TX	72.5	74.8	0.02	1.24	1.18	1.34	24.38	6.44
550790085	Milwaukee	WI	71.2	73.0	0.01	0.82	0.43	0.37	16.67	6.70
551170006	Sheboygan	WI	72.8	75.1	0.01	0.69	0.55	0.64	17.53	7.51

Contributions to 2023 Nonattainment and Maintenance Sites in California (Part 1)

Site ID	County	State	2023 Average	2023 Maximum	AL	AZ	AR	CA	CO	CT	DE	DC	FL	GA	ID	IL	IN	IA	KS	KY	LA	ME	MD	MA	MI	MN	MS	MO	MT
60190007	Fresno	CA	79.2	79.4	0.00	0.16	0.00	35.68	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60190011	Fresno	CA	78.6	81.2	0.00	0.15	0.00	35.20	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60190242	Fresno	CA	79.4	82.2	0.00	0.21	0.00	31.98	0.01	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60194001	Fresno	CA	73.3	74.4	0.00	0.03	0.00	34.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60195001	Fresno	CA	79.6	81.2	0.00	0.12	0.00	35.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60250005	Imperial	CA	73.3	74.6	0.00	0.62	0.00	9.28	0.08	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60251003	Imperial	CA	79.0	80.0	0.00	0.67	0.00	11.34	0.07	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60290007	Kern	CA	77.7	81.3	0.00	0.07	0.00	29.99	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60290008	Kern	CA	71.3	72.8	0.00	0.17	0.00	26.44	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60290014	Kern	CA	74.1	75.2	0.00	0.11	0.00	31.54	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60290232	Kern	CA	73.7	75.2	0.00	0.03	0.00	32.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60295002	Kern	CA	75.9	76.8	0.00	0.13	0.00	28.33	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60296001	Kern	CA	70.9	72.4	0.00	0.16	0.00	28.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60370002	Los Angeles	CA	73.3	75.1	0.00	0.23	0.00	39.68	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60370016	Los Angeles	CA	86.1	88.9	0.00	0.27	0.00	46.61	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60371201	Los Angeles	CA	79.8	79.8	0.00	0.37	0.00	35.55	0.06	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60371701	Los Angeles	CA	78.1	79.1	0.00	0.27	0.00	42.09	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60372005	Los Angeles	CA	72.3	74.6	0.00	0.32	0.00	37.39	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60376012	Los Angeles	CA	85.9	87.4	0.00	0.42	0.00	39.86	0.08	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60379033	Los Angeles	CA	76.3	77.2	0.00	0.34	0.00	25.79	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60392010	Madera	CA	72.1	72.9	0.00	0.20	0.00	28.39	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60470003	Merced	CA	69.9	71.0	0.00	0.10	0.00	28.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60650004	Riverside	CA	76.7	76.7	0.00	0.22	0.00	41.92	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60650012	Riverside	CA	83.6	85.1	0.00	0.21	0.00	38.65	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60651016	Riverside	CA	85.2	85.5	0.00	0.22	0.00	35.47	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60652002	Riverside	CA	72.4	73.0	0.00	0.27	0.00	16.57	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60655001	Riverside	CA	79.5	80.1	0.00	0.20	0.00	24.70	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60656001	Riverside	CA	78.3	81.6	0.00	0.17	0.00	39.14	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60658001	Riverside	CA	87.0	87.9	0.00	0.27	0.00	47.69	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60658005	Riverside	CA	83.2	84.4	0.00	0.25	0.00	45.60	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60659001	Riverside	CA	73.7	75.9	0.00	0.16	0.00	37.28	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60670012	Sacramento	CA	74.5	75.9	0.00	0.01	0.00	35.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60675003	Sacramento	CA	69.9	71.3	0.00	0.00	0.00	34.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60710005	San Bernardino	CA	96.2	98.1	0.00	0.23	0.00	48.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60710012	San Bernardino	CA	84.1	85.8	0.00	0.46	0.00	24.28	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60710306	San Bernardino	CA	76.2	77.4	0.00	0.14	0.00	29.72	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60711004	San Bernardino	CA	89.8	91.0	0.00	0.35	0.00	47.69	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60712002	San Bernardino	CA	93.1	95.0	0.00	0.14	0.00	51.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60714001	San Bernardino	CA	86.0	88.5	0.00	0.21	0.00	41.23	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60714003	San Bernardino	CA	94.1	95.8	0.00	0.10	0.00	52.53	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60719002	San Bernardino	CA	80.0	81.4	0.00	0.45	0.00	22.21	0.08	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60719004	San Bernardino	CA	88.4	88.7	0.00	0.10	0.00	49.35	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60990006	Stanislaus	CA	74.8	75.7	0.00	0.03	0.00	34.16	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61070006	Tulare	CA	69.1	71.9	0.00	0.06	0.00	7.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61070009	Tulare	CA	76.1	77.2	0.00	0.07	0.00	23.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61072002	Tulare	CA	68.9	71.4	0.00	0.12	0.00	30.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61072010	Tulare	CA	73.1	73.9	0.00	0.03	0.00	30.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61112002	Ventura	CA	70.5	72.2	0.00	0.32	0.00	29.51	0.06	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Contributions to 2023 Nonattainment and Maintenance Sites in California (Part 2)

Site ID	County	State	2023 Average	2023 Maximum	NE	NV	NH	NJ	NM	NY	NC	ND	OH	OK	OR	PA	RI	SC	SD	TN	TX	UT	VT	VA	WA	WV	WI	WY
60190007	Fresno	CA	79.2	79.4	0.00	0.51	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.03	0.08	0.00	0.00	0.05	0.00	0.00	0.01
60190011	Fresno	CA	78.6	81.2	0.00	0.44	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.03	0.09	0.00	0.00	0.05	0.00	0.00	0.01
60190242	Fresno	CA	79.4	82.2	0.00	0.64	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.03	0.10	0.00	0.00	0.07	0.00	0.00	0.01
60194001	Fresno	CA	73.3	74.4	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
60195001	Fresno	CA	79.6	81.2	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00
60250005	Imperial	CA	73.3	74.6	0.00	0.09	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.20	0.05	0.00	0.00	0.02	0.00	0.00	0.04
60251003	Imperial	CA	79.0	80.0	0.00	0.25	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.02	0.06	0.00	0.00	0.00	0.00	0.00	0.09	0.06	0.00	0.00	0.02	0.00	0.00	0.03
60290007	Kern	CA	77.7	81.3	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.02	0.10	0.00	0.00	0.15	0.00	0.00	0.03
60290008	Kern	CA	71.3	72.8	0.00	0.31	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.10	0.00	0.00	0.01
60290014	Kern	CA	74.1	75.2	0.00	0.38	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.08	0.00	0.00	0.00
60290232	Kern	CA	73.7	75.2	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.17	0.00	0.00	0.00
60295002	Kern	CA	75.9	76.8	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.02	0.06	0.00	0.00	0.05	0.00	0.00	0.02
60296001	Kern	CA	70.9	72.4	0.00	0.58	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.02	0.00	0.00	0.00
60370002	Los Angeles	CA	73.3	75.1	0.00	0.12	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.16	0.03	0.00	0.00	0.04	0.00	0.00	0.01
60370016	Los Angeles	CA	86.1	88.9	0.00	0.14	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.18	0.03	0.00	0.00	0.05	0.00	0.00	0.02
60371201	Los Angeles	CA	79.8	79.8	0.00	0.17	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.13	0.09	0.00	0.00	0.05	0.00	0.00	0.03
60371701	Los Angeles	CA	78.1	79.1	0.00	0.11	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.19	0.03	0.00	0.00	0.05	0.00	0.00	0.02
60372005	Los Angeles	CA	72.3	74.6	0.00	0.08	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.02	0.10	0.00	0.00	0.00	0.00	0.00	0.21	0.06	0.00	0.00	0.04	0.00	0.00	0.02
60376012	Los Angeles	CA	85.9	87.4	0.00	0.18	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.03	0.16	0.00	0.00	0.00	0.00	0.00	0.21	0.08	0.00	0.00	0.07	0.00	0.00	0.04
60379033	Los Angeles	CA	76.3	77.2	0.00	0.15	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.02	0.19	0.00	0.00	0.00	0.00	0.00	0.15	0.04	0.00	0.00	0.07	0.00	0.00	0.02
60392010	Madera	CA	72.1	72.9	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.01	0.12	0.00	0.00	0.06	0.00	0.00	0.02
60470003	Merced	CA	69.9	71.0	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
60650004	Riverside	CA	76.7	76.7	0.00	0.14	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.13	0.03	0.00	0.00	0.03	0.00	0.00	0.01
60650012	Riverside	CA	83.6	85.1	0.00	0.24	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.08	0.00	0.00	0.00
60651016	Riverside	CA	85.2	85.5	0.00	0.28	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.01	0.00	0.00	0.00
60652002	Riverside	CA	72.4	73.0	0.00	0.18	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.04	0.07	0.00	0.00	0.00	0.00	0.00	0.22	0.04	0.00	0.00	0.02	0.00	0.00	0.02
60655001	Riverside	CA	79.5	80.1	0.00	0.11	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.04	0.12	0.00	0.00	0.00	0.00	0.00	0.26	0.03	0.00	0.00	0.07	0.00	0.00	0.02
60656001	Riverside	CA	78.3	81.6	0.00	0.19	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.04	0.07	0.00	0.00	0.02	0.00	0.00	0.02
60658001	Riverside	CA	87.0	87.9	0.00	0.15	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.01	0.17	0.00	0.00	0.00	0.00	0.00	0.12	0.03	0.00	0.00	0.06	0.00	0.00	0.01
60658005	Riverside	CA	83.2	84.4	0.00	0.14	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.01	0.17	0.00	0.00	0.00	0.00	0.00	0.11	0.03	0.00	0.00	0.06	0.00	0.00	0.01
60659001	Riverside	CA	73.7	75.9	0.00	0.15	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.02	0.05	0.00	0.00	0.04	0.00	0.00	0.01
60670012	Sacramento	CA	74.5	75.9	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.20	0.00	0.00	0.00
60675003	Sacramento	CA	69.9	71.3	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00
60710005	San Bernardino	CA	96.2	98.1	0.00	0.25	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.02	0.20	0.00	0.00	0.00	0.00	0.00	0.13	0.03	0.00	0.00	0.07	0.00	0.00	0.01
60710012	San Bernardino	CA	84.1	85.8	0.00	0.15	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.02	0.11	0.00	0.00	0.00	0.00	0.00	0.12	0.06	0.00	0.00	0.04	0.00	0.00	0.03
60710306	San Bernardino	CA	76.2	77.4	0.00	0.06	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.04	0.00	0.00	0.00
60711004	San Bernardino	CA	89.8	91.0	0.00	0.14	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.22	0.04	0.00	0.00	0.05	0.00	0.00	0.02
60712002	San Bernardino	CA	93.1	95.0	0.00	0.16	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.13	0.01	0.00	0.00	0.08	0.00	0.00	0.00
60714001	San Bernardino	CA	86.0	88.5	0.00	0.19	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.05	0.00	0.00	0.00
60714003	San Bernardino	CA	94.1	95.8	0.00	0.21	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.25	0.00	0.00	0.00	0.00	0.00	0.12	0.08	0.00	0.00	0.15	0.00	0.00	0.01
60719002	San Bernardino	CA	80.0	81.4	0.00	0.14	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.05	0.10	0.00	0.00	0.00	0.00	0.00	0.28	0.05	0.00	0.00	0.04	0.00	0.00	0.04
60719004	San Bernardino	CA	88.4	88.7	0.00	0.20	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.11	0.07	0.00	0.00	0.14	0.00	0.00	0.01
60990006	Stanislaus	CA	74.8	75.7	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.00	0.00	0.11	0.00	0.00	0.01
61070006	Tulare	CA	69.1	71.9	0.00	0.05	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00
61070009	Tulare	CA	76.1	77.2	0.00	0.11	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.07	0.00	0.00	0.00
61072002	Tulare	CA	68.9	71.4	0.00	0.21	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.16	0.00	0.00	0.00
61072010	Tulare	CA	73.1	73.9	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.17	0.00	0.00	0.00
61112002	Ventura	CA	70.5	72.2	0.00	0.18	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.02	0.16	0.00	0.00	0.00	0.00	0.00	0.13	0.08	0.00	0.00	0.08	0.00	0.00	0.03

Contributions to 2023 Nonattainment and Maintenance Sites in California (Part 3)

Site ID	County	State	2023 Average	2023 Maximum	Tribal	Canada/ Mexco	Offshore	Fire	Boundary	Biogenic
60190007	Fresno	CA	79.2	79.4	0.00	0.29	1.19	1.39	32.52	6.85
60190011	Fresno	CA	78.6	81.2	0.01	0.33	1.13	1.62	32.34	6.78
60190242	Fresno	CA	79.4	82.2	0.00	0.31	1.24	1.48	34.92	7.88
60194001	Fresno	CA	73.3	74.4	0.00	0.12	1.68	0.87	27.76	7.90
60195001	Fresno	CA	79.6	81.2	0.00	0.20	1.75	1.12	32.10	7.66
60250005	Imperial	CA	73.3	74.6	0.01	19.87	1.17	0.71	38.68	2.11
60251003	Imperial	CA	79.0	80.0	0.01	18.74	1.14	0.61	43.58	2.08
60290007	Kern	CA	77.7	81.3	0.00	0.30	1.59	3.27	33.68	7.70
60290008	Kern	CA	71.3	72.8	0.01	0.67	1.96	1.05	32.77	7.30
60290014	Kern	CA	74.1	75.2	0.00	0.31	1.68	0.85	31.31	7.37
60290232	Kern	CA	73.7	75.2	0.00	0.13	1.67	1.11	29.43	7.73
60295002	Kern	CA	75.9	76.8	0.00	0.35	1.34	3.80	33.45	7.68
60296001	Kern	CA	70.9	72.4	0.00	0.50	1.59	0.63	30.55	7.98
60370002	Los Angeles	CA	73.3	75.1	0.01	1.47	3.53	0.82	24.67	2.15
60370016	Los Angeles	CA	86.1	88.9	0.01	1.73	4.14	0.97	28.98	2.53
60371201	Los Angeles	CA	79.8	79.8	0.02	1.74	4.20	1.29	32.92	2.83
60371701	Los Angeles	CA	78.1	79.1	0.01	1.82	4.16	0.97	25.57	2.35
60372005	Los Angeles	CA	72.3	74.6	0.01	1.76	4.10	1.17	24.34	2.37
60376012	Los Angeles	CA	85.9	87.4	0.02	2.27	4.69	1.22	32.85	3.43
60379033	Los Angeles	CA	76.3	77.2	0.01	1.82	3.52	0.45	40.73	2.75
60392010	Madera	CA	72.1	72.9	0.00	0.23	1.22	1.30	32.12	7.30
60470003	Merced	CA	69.9	71.0	0.00	0.37	1.94	1.12	30.92	5.97
60650004	Riverside	CA	76.7	76.7	0.01	1.37	3.64	0.72	25.79	2.34
60650012	Riverside	CA	83.6	85.1	0.00	1.30	3.33	0.31	36.48	2.66
60651016	Riverside	CA	85.2	85.5	0.00	1.60	3.00	3.09	38.71	2.54
60652002	Riverside	CA	72.4	73.0	0.01	2.29	1.39	2.24	46.66	2.08
60655001	Riverside	CA	79.5	80.1	0.01	2.71	2.67	3.03	42.81	2.40
60656001	Riverside	CA	78.3	81.6	0.00	1.13	4.03	0.53	30.14	2.55
60658001	Riverside	CA	87.0	87.9	0.01	1.76	4.77	0.77	28.27	2.68
60658005	Riverside	CA	83.2	84.4	0.01	1.68	4.56	0.73	27.04	2.57
60659001	Riverside	CA	73.7	75.9	0.00	1.71	4.96	1.03	25.56	2.43
60670012	Sacramento	CA	74.5	75.9	0.00	0.12	0.88	1.16	29.33	5.92
60675003	Sacramento	CA	69.9	71.3	0.00	0.06	0.79	1.26	26.47	6.04
60710005	San Bernardino	CA	96.2	98.1	0.00	1.36	3.68	0.44	38.71	2.77
60710012	San Bernardino	CA	84.1	85.8	0.02	1.33	1.83	0.33	53.12	1.93
60710306	San Bernardino	CA	76.2	77.4	0.00	0.67	2.10	0.50	40.62	2.02
60711004	San Bernardino	CA	89.8	91.0	0.01	2.03	4.00	0.95	31.07	2.74
60712002	San Bernardino	CA	93.1	95.0	0.00	1.58	4.58	0.75	31.34	2.82
60714001	San Bernardino	CA	86.0	88.5	0.00	0.91	2.69	0.37	37.56	2.45
60714003	San Bernardino	CA	94.1	95.8	0.00	0.98	4.15	0.69	31.70	2.90
60719002	San Bernardino	CA	80.0	81.4	0.01	2.80	2.23	3.20	45.72	2.29
60719004	San Bernardino	CA	88.4	88.7	0.00	0.92	3.90	0.65	29.78	2.72
60990006	Stanislaus	CA	74.8	75.7	0.00	0.34	2.19	1.77	30.24	5.06
61070006	Tulare	CA	69.1	71.9	0.00	0.33	0.55	4.43	53.61	2.46
61070009	Tulare	CA	76.1	77.2	0.00	0.43	1.44	3.40	39.41	7.08
61072002	Tulare	CA	68.9	71.4	0.00	0.25	1.58	0.95	26.88	7.42
61072010	Tulare	CA	73.1	73.9	0.00	0.15	1.78	1.17	30.26	8.67
61112002	Ventura	CA	70.5	72.2	0.02	1.65	4.60	1.01	29.69	2.75