6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-OAR-2015-0500; FRL-]

Notice of Availability of the Environmental Protection Agency's Updated Ozone Transport Modeling Data for the 2008 Ozone National Ambient Air Quality Standard (NAAQS)

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of data availability (NODA); request for public comment.

SUMMARY: The Environmental Protection Agency (EPA) is providing notice that interstate ozone transport modeling and associated data and methods are available for public review and comment. These data and methods will be used to inform a rulemaking proposal that the EPA is developing and expects to release later this year to address interstate ozone transport for the 2008 ozone national ambient air quality standards (NAAQS). This notice also meets the EPA's expressed intent to update the air quality modeling data that were released on January 22, 2015, and to share the updated data with states and other stakeholders. The information available includes: (1) emission inventories for 2011 and 2017, supporting data used to develop those emission inventories, methods and data used to process emission inventories into a form that can be used for air

quality modeling; and (2) base year 2011 and projected 2017 ozone concentrations and projected 2017 ozone state contribution data at individual ozone monitoring sites based on air quality modeling, supporting data including 2009–2013 base period and 2017 projected ozone design values, and methods used to process air quality model outputs to calculate 2017 ozone concentrations and contributions at individual monitoring sites. A docket has been established to facilitate public review of the data and to track comments.

DATES: Comments must be received on or before September 23, 2015.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2015-0500, by one of the following methods:

- Federal eRulemaking Portal: *http://www.regulations.gov.* Follow the online instructions for submitting comments.
- Fax: (202)566-9744. Attention Docket ID No. EPA-HQ-OAR-2015-0500.
- Mail: EPA Docket Center, WJC West Building, Attention Docket ID No. EPA-HQ-OAR-2015-0500, U.S. Environmental Protection Agency, Mailcode: 28221T, 1200 Pennsylvania Ave., NW, Washington, DC 20460. Please include a total of 2 copies.
- Hand Delivery: U.S. Environmental Protection Agency, WJC

West Building, 1301 Constitution Avenue, NW, Room 3334, Washington, DC 20004, Attention Docket ID No. EPA-HQ-OAR-2015-0500. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OAR-2015-0500. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *www.regulations.gov* or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on a disk or CD–ROM that you mail to the EPA docket office, mark the outside of the disk or CD–ROM as CBI and then identify electronically within the disk or CD–ROM the specific information that is claimed as CBI. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. In addition to one complete version of the comment that includes information

claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket.

The *www.regulations.gov* website is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through *www.regulations.gov*, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

When submitting comments, remember to:

1. Identify the notification by docket number and other identifying information (subject heading, *Federal Register* date and page number).

2. Explain your comments, why you agree or disagree;

suggest alternatives and substitute data that reflect your requested changes.

3. Describe any assumptions and provide any technical information and/or data that you used.

4. Provide specific examples to illustrate your concerns, and suggest alternatives.

5. Explain your views as clearly as possible, avoiding the use of profanity or personal threats.

6. Make sure to submit your comments by the comment period deadline identified.

For additional information about the EPA's public docket, visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm*.

Docket: All documents in the docket are listed in the *www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *www.regulations.gov* or in hard copy at the Air and Radiation Docket and Information Center, EPA/DC, WJC West Building, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room is open from

8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: For questions on the emissions data and on how to submit comments on the emissions data and related methodologies, contact Alison Eyth, Air Quality Assessment Division, Environmental Protection Agency, C339-02, 109 T.W. Alexander Drive, Research Triangle Park, NC 27709; telephone number: (919)541-2478; fax number: (919)541-1903; email: *eyth.alison@epa.gov*. For questions on the air quality modeling and ozone contributions and how to submit comments on the air quality modeling data and related methodologies, contact Norm Possiel, Air Quality Assessment Division, Environmental Protection Agency, C439-01, 109 T.W. Alexander Drive, Research Triangle Park, NC 27709; telephone number: (919)541-5692; fax number: (919)541-0044; email: *possiel.norm@epa.gov*.

SUPPLEMENTARY INFORMATION:

I. Background

On January 22, 2015, the EPA issued a memo and preliminary air quality modeling data that would help states as they develop State Implementation Plans to address cross-state transport of air pollution under the “Good Neighbor” Provision of the Clean

Air Act (CAA), section 110(a)(2)(D)(i)(I), as it pertains to the 2008 ozone NAAQS.[1] That information included the EPA's preliminary air quality modeling data that applies the Cross-State Air Pollution Rule (CSAPR - 76 FR 48208) approach to contribution projections for the year 2018 for the 2008 8-hour ozone NAAQS. Specifically, the EPA provided data identifying ozone monitoring sites that are projected to be nonattainment or have maintenance problems for the 2008 ozone NAAQS in 2018. The EPA also provided the projected contribution estimates from 2018 anthropogenic oxides of nitrogen (NO_X) and volatile organic compound (VOC) emissions in each state to ozone concentrations at each of these sites. The year 2018 was used as the analytic year for the preliminary modeling because at the onset of the modeling assessment, that year aligned with the December 2018 attainment date for Moderate ozone nonattainment areas. However, subsequent to the completion of the 2018 modeling, the EPA issued the final 2008 Ozone NAAQS SIP Requirements Rule,[2] which revised the attainment deadline for ozone nonattainment areas currently designated as Moderate for the 2008 ozone NAAQS to July 2018. The EPA established this deadline in the 2015 Ozone SIP Requirements Rule after previously establishing a deadline

[1] Memorandum from Stephen D. Page, Information on the Interstate Transport "Good Neighbor" Provision for the 2008 Ozone National Ambient Air Quality Standards (NAAQS) under CAA section 110(a)(2)(D)(i)(I), January 22, 2015, *available at* http://www.epa.gov/airtransport/GoodNeighborProvision2008NAAQS.pdf.
[2] 80 FR 12264, 12268 (Mar. 6, 2015); 40 CFR 51.1103.

of December 31, 2018, that was vacated by the D.C. Circuit in *Natural Resources Defense Council v. EPA.* In order to demonstrate attainment by the revised attainment deadline, the demonstration would have to be based on design values calculated using 2015 through 2017 ozone season data, since the July 2018 deadline does not afford a full ozone season of measured data. Therefore, the EPA has adopted 2017 as the analytic year for the updated ozone transport modeling information being released as part of this NODA.

The 2011 and 2018 emissions inventory data used for the preliminary air quality modeling were released for public review on November 27, 2013 (78 FR 70935), and January 14, 2014 (79 FR 2437), respectively. Based in part on comments received from the public review process, the EPA updated the 2011 emissions inventory data, developed emissions inventory data for 2017, and used these data in air quality modeling to develop updated projections of future year ozone concentrations and contributions.

In the January 22, 2015 memo, the EPA expressed its intent to update the preliminary air quality modeling data and to share the updated data with states and other stakeholders. This notice meets this intent. Additionally, the EPA, together with its state partners, is assessing the next steps to address

interstate air pollution transport for the 2008 ozone NAAQS under the CAA. The EPA recognizes its backstop role to develop and promulgate federal implementation plans, as appropriate. We are planning to take this action, if necessary, by issuing a proposal for a federal rule later this year. This notice provides an opportunity to review and comment on the agency's ozone transport modeling data that EPA intends to use in this forthcoming proposal.

II. Air Quality Modeling Data and Methodologies

Using the updated emissions inventories, the EPA performed photochemical air quality modeling to project ozone concentrations at air quality monitoring sites to 2017, and to estimate state-by-state contributions to those 2017 concentrations. We then used the air quality modeling results to identify nonattainment or maintenance sites for the 2008 ozone NAAQS in 2017, consistent with the CSAPR approach to identify such sites. We used the contribution information to quantify projected interstate contributions from emissions in each upwind state to ozone concentrations at each of the projected 2017 nonattainment and maintenance sites in downwind states.

The EPA's air quality modeling used the updated version of the 2011-based air quality modeling platform. This platform includes emissions for the 2011 base year and a 2017 future base

case as well as meteorology for 2011. The 2011 meteorology was used in air quality model simulations for both 2011 and 2017. The 2011 and 2017 emissions data are described in more detail in Section III.

The EPA used the Comprehensive Air Quality Model with Extensions (CAMx version 6.11) for modeling the 2011 base year and 2017 future base case emissions scenarios to identify sites with projected nonattainment and maintenance problems in 2017. The air quality model runs were performed for a modeling domain that covers the 48 states in the contiguous U.S. along with adjacent portions of Canada and Mexico. The spatial resolution (i.e., grid size) for this modeling domain is 12 km x 12 km. The 2011 and 2017 scenarios were both modeled for the full year with 2011 meteorology. The meteorological data used as input to the air quality modeling was obtained from an annual simulation of version 3.4 of the Weather Research Forecast Model (WRF) for 2011. The initial and boundary concentration inputs to the air quality modeling were derived from an annual simulation of the Goddard Earth Observing System global chemical transport model (GEOS-Chem). The CAMx predictions for 2011 were compared to corresponding measurements as part of a model performance evaluation. Information on the development of the 2011 meteorological and initial and boundary concentration inputs to

the CAMx simulations and the model performance evaluation methodologies and results are described in the "Updated Air Quality Modeling Technical Support Document" (AQM TSD) for the 2008 Ozone NAAQS Interstate Transport Assessment, which is available in the docket for this notice. Also in this docket is a report on the performance evaluation for the annual 2011 WRF meteorological model simulation.

A. Identification of Projected 2017 Nonattainment and Maintenance Sites

The ozone predictions from the 2011 and 2017 CAMx model runs were used to project measured ozone design values to 2017 following the approach described in the EPA's draft guidance for attainment demonstration modeling.[3] We selected 2011 as the base year to reflect the most recent National Emissions Inventory (NEI). In addition, the meteorological conditions during the summer of 2011 were generally conducive for ozone formation across much of the U.S., particularly the eastern U.S. We selected 2017 as the projected analysis year to coincide with the attainment date for Moderate nonattainment areas under the 2008 ozone NAAQS. The draft attainment modeling guidance

[3] The December 3, 2014, draft ozone, fine particulate matter and regional haze SIP modeling guidance is available at *http://www.epa.gov/ttn/scram/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf.*

recommends using 5-year weighted average ambient design values[4] centered on the base year as the starting point for projecting design values to the future. Because 2011 is the base year of emissions, we started with the average ambient 8-hour ozone design values for the period 2009 through 2013 (i.e., the average of design values for 2009-2011, 2010-2012, and 2011-2013). The 5-year weighted average ambient design value at each site was projected to 2017 using model-predicted Relative Response Factors (RRFs)[5] that were calculated based on procedures described in the draft attainment demonstration modeling guidance. The 2017 projected average ozone design values were evaluated to identify those sites with design values that exceed the 2008 ozone NAAQS.[6] Consistent with the approach used in CSAPR, those sites with 2017 average design values that exceed the NAAQS are projected to be in nonattainment in 2017.

As noted above, we followed the CSAPR approach to identify sites with projected maintenance problems in 2017. As part of the approach for identifying sites with projected future maintenance problems, the highest (i.e., maximum) ambient design value from the 2011-centered 5-year period (i.e., the maximum of

[4] The air quality design value for a site is the 3-year average annual fourth-highest daily maximum 8-hour average ozone concentration.
[5] In brief, the RRF for a particular location is the ratio of the 2017 ozone model prediction to the 2011 ozone model prediction. The RRFs were calculated using model outputs for the May through September period.
[6] In determining compliance with the NAAQS, ozone design values are truncated to integer values. For example, a design value of 75.9 ppb is truncated to 75 ppb which is attainment. In this manner, design values at or above 76.0 ppb are considered nonattainment.

design values from 2009-2011, 2010-2012, and 2011-2013) was projected to 2017 for each site using the site-specific RRFs. Following the CSAPR approach, monitoring sites with a maximum design value that exceeds the NAAQS, even if the average design value is below the NAAQS, are projected to have a maintenance problem in 2017. In this regard, nonattainment sites are also maintenance sites because the maximum design value at nonattainment sites is always greater than or equal to the 5-year weighted average. Monitoring sites with a 2017 average design value below the NAAQS, but with a maximum design value that exceeds the NAAQS, are considered maintenance-only sites. These sites are projected to have a maintenance problem, but not a nonattainment problem in 2017.

The base period ambient and projected 2017 average and maximum design values at individual nonattainment sites and maintenance-only sites are provided in Tables 1 and 2, respectively.

Table 1. 2009-2013 and 2017 average and maximum design values at projected nonattainment sites in the East (top) and West (bottom) (units are ppb).

Monitor ID	State	County	2009-2013 Average Design Value	2009-2013 Maximum Design Value	2017 Average Design Value	2017 Maximum Design Value
90013007	Connecticut	Fairfield	84.3	89.0	77.1	81.4
90019003	Connecticut	Fairfield	83.7	87.0	78.0	81.1
90099002	Connecticut	New Haven	85.7	89.0	77.2	80.2

Monitor ID	State	County	2009-2013 Average Design Value	2009-2013 Maximum Design Value	2017 Average Design Value	2017 Maximum Design Value
240251001	Maryland	Harford	90.0	93.0	81.3	84.0
360850067	New York	Richmond	81.3	83.0	76.3	77.8
361030002	New York	Suffolk	83.3	85.0	79.2	80.8
390610006	Ohio	Hamilton	82.0	85.0	76.3	79.1
480391004	Texas	Brazoria	88.0	89.0	81.4	82.3
481210034	Texas	Denton	84.3	87.0	76.9	79.4
482011034	Texas	Harris	81.0	82.0	76.8	77.8
482011039	Texas	Harris	82.0	84.0	78.2	80.2
484392003	Texas	Tarrant	87.3	90.0	79.6	82.1
484393009	Texas	Tarrant	86.0	86.0	78.6	78.6
551170006	Wisconsin	Sheboygan	84.3	87.0	77.0	79.4
60190007	California	Fresno	94.7	95.0	89.0	89.3
60190011	California	Fresno	93.0	96.0	87.6	90.4
60190242	California	Fresno	91.7	95.0	87.1	90.3
60194001	California	Fresno	90.7	92.0	84.2	85.4
60195001	California	Fresno	97.0	99.0	90.6	92.5
60251003	California	Imperial	81.0	82.0	79.3	80.3
60290007	California	Kern	91.7	96.0	86.2	90.2
60290008	California	Kern	86.3	88.0	80.6	82.2
60290011	California	Kern	80.0	81.0	76.2	77.1
60290014	California	Kern	87.7	89.0	82.8	84.0
60290232	California	Kern	87.3	89.0	82.2	83.8
60295002	California	Kern	90.0	91.0	84.5	85.5
60296001	California	Kern	84.3	86.0	79.7	81.3
60311004	California	Kings	87.0	90.0	81.1	83.9
60370002	California	Los Angeles	80.0	82.0	79.0	81.0
60370016	California	Los Angeles	94.0	97.0	92.8	95.8
60371002	California	Los Angeles	80.0	81.0	77.1	78.1
60371201	California	Los Angeles	90.0	90.0	87.9	87.9
60371701	California	Los Angeles	84.0	85.0	82.2	83.2
60372005	California	Los Angeles	79.5	82.0	78.1	80.6
60376012	California	Los Angeles	97.3	99.0	94.5	96.2

Monitor ID	State	County	2009-2013 Average Design Value	2009-2013 Maximum Design Value	2017 Average Design Value	2017 Maximum Design Value
60379033	California	Los Angeles	90.0	91.0	86.0	86.9
60392010	California	Madera	85.0	86.0	79.8	80.8
60470003	California	Merced	82.7	84.0	78.1	79.3
60610006	California	Placer	84.0	86.0	78.2	80.0
60650004	California	Riverside	85.0	85.0	82.3	82.3
60650012	California	Riverside	97.3	99.0	93.5	95.1
60651016	California	Riverside	100.7	101.0	95.7	96.0
60652002	California	Riverside	84.3	85.0	79.8	80.5
60655001	California	Riverside	92.3	93.0	87.6	88.2
60656001	California	Riverside	94.0	98.0	88.1	91.9
60658001	California	Riverside	97.0	98.0	93.3	94.3
60658005	California	Riverside	92.7	94.0	89.2	90.4
60659001	California	Riverside	88.3	91.0	82.7	85.2
60670012	California	Sacramento	93.3	95.0	85.7	87.3
60675003	California	Sacramento	86.3	88.0	80.5	82.0
60710005	California	San Bernardino	105.0	107.0	103.6	105.6
60710012	California	San Bernardino	95.0	97.0	91.8	93.8
60710306	California	San Bernardino	83.7	85.0	81.2	82.4
60711004	California	San Bernardino	96.7	98.0	94.3	95.6
60712002	California	San Bernardino	101.0	103.0	99.5	101.5
60714001	California	San Bernardino	94.3	97.0	92.3	95.0
60714003	California	San Bernardino	105.0	107.0	101.8	103.8
60719002	California	San Bernardino	92.3	94.0	88.0	89.6
60719004	California	San Bernardino	98.7	99.0	95.7	96.0
60731006	California	San Diego	81.0	82.0	76.6	77.6
60990006	California	Stanislaus	87.0	88.0	83.0	83.9
61070006	California	Tulare	81.7	85.0	77.0	80.1
61070009	California	Tulare	94.7	96.0	87.3	88.5

Monitor ID	State	County	2009-2013 Average Design Value	2009-2013 Maximum Design Value	2017 Average Design Value	2017 Maximum Design Value
61072002	California	Tulare	85.0	88.0	78.6	81.4
61072010	California	Tulare	89.0	90.0	82.7	83.6
61112002	California	Ventura	81.0	83.0	78.3	80.2
80350004	Colorado	Douglas	80.7	83.0	76.0	78.1
80590006	Colorado	Jefferson	80.3	83.0	76.3	78.8

Table 2. 2009-2013 and 2017 average and maximum design values at projected maintenance-only sites in the East (top) and West (bottom) (units are ppb).

Monitor ID	State	County	2009-2013 Average Design Value	2009-2013 Maximum Design Value	2017 Average Design Value	2017 Maximum Design Value
90010017	Connecticut	Fairfield	80.3	83.0	75.8	78.4
211110067	Kentucky	Jefferson	82.0	85.0	75.8	78.6
211850004	Kentucky	Oldham	82.0	86.0	73.7	77.3
240053001	Maryland	Baltimore	80.7	84.0	73.2	76.2
260050003	Michigan	Allegan	82.7	86.0	75.5	78.5
261630019	Michigan	Wayne	78.7	81.0	74.0	76.2
340071001	New Jersey	Camden	82.7	87.0	74.2	78.1
340150002	New Jersey	Gloucester	84.3	87.0	75.1	77.5
340230011	New Jersey	Middlesex	81.3	85.0	73.0	76.3
340290006	New Jersey	Ocean	82.0	85.0	73.9	76.6
360810124	New York	Queens	78.0	80.0	75.7	77.6
420031005	Pennsylvania	Allegheny	80.7	82.0	75.3	76.5
421010024	Pennsylvania	Philadelphia	83.3	87.0	75.1	78.4
480850005	Texas	Collin	82.7	84.0	74.9	76.0
481130069	Texas	Dallas	79.7	84.0	74.0	78.0
481130075	Texas	Dallas	82.0	83.0	75.8	76.7
481211032	Texas	Denton	82.7	84.0	75.1	76.3
482010024	Texas	Harris	80.3	83.0	75.9	78.5
482010026	Texas	Harris	77.3	80.0	73.5	76.1
482010055	Texas	Harris	81.3	83.0	75.4	77.0
482011050	Texas	Harris	78.3	80.0	74.6	76.2
484390075	Texas	Tarrant	82.0	83.0	75.5	76.4

Monitor ID	State	County	2009-2013 Average Design Value	2009-2013 Maximum Design Value	2017 Average Design Value	2017 Maximum Design Value
484393011	Texas	Tarrant	80.7	83.0	74.5	76.6
40131004	Arizona	Maricopa	79.7	81.0	75.0	76.2
60170020	California	El Dorado	82.7	84.0	75.1	76.3
60390004	California	Madera	79.3	81.0	75.3	76.9
60610003	California	Placer	83.0	85.0	75.4	77.2
60670006	California	Sacramento	78.7	81.0	74.0	76.1
60773005	California	San Joaquin	79.0	80.0	75.9	76.8
80050002	Colorado	Arapahoe	76.7	79.0	74.4	76.6
80590011	Colorado	Jefferson	78.7	82.0	75.8	78.9

B. Quantification of Interstate Ozone Contributions

The EPA performed nationwide, state-level ozone source apportionment modeling using the CAMx Ozone Source Apportionment Technology/Anthropogenic Precursor Culpability Analysis (OSAT/APCA) technique[7] to quantify the contribution of 2017 base case NO_X and VOC emissions from all sources in each state to projected 2017 ozone concentrations at each air quality monitoring site. In the source apportionment model run, we tracked the ozone formed from each of the following contribution categories (i.e., “tags”):

- States – anthropogenic NO_X and VOC emissions from each state tracked individually (emissions from all anthropogenic sectors in a given state were combined);

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

- Biogenics – biogenic NO_X and VOC emissions domain-wide (i.e., not by state);
- Boundary Concentrations – concentrations transported into the modeling domain;
- Tribes – the emissions from those tribal lands for which we have point source inventory data in the 2011 NEI (we did not model the contributions from individual tribes);
- Canada and Mexico – anthropogenic emissions from sources in the portions of Canada and Mexico included in the modeling domain (we did not model the contributions from Canada and Mexico separately);
- Fires – combined emissions from wild and prescribed fires; and
- Offshore – combined emissions from offshore marine vessels and offshore drilling platforms.

The CAMx OSAT/APCA model run was performed for the period May 1 through September 30 using the 2017 future base case emissions and 2011 meteorology for this time period. The hourly contributions[8] from each tag were processed to obtain the 8-hour average contributions corresponding to the time period of the 8-hour daily maximum concentration on each day in the 2017 model

[8] Contributions from anthropogenic emissions under "NO_X-limited" and "VOC-limited" chemical regimes were combined to obtain the net contribution from NO_X and VOC anthropogenic emissions in each state.

simulation. This step was performed for those model grid cells containing monitoring sites in order to obtain 8-hour average contributions for each day at the location of each site. The model-predicted contributions were then applied in a relative sense to quantify the contributions to the 2017 average design value at each site. Additional details on the source apportionment modeling and the procedures for calculating contributions can be found in the AQM TSD.

The average contribution metric is intended to provide a reasonable representation of the contribution from individual states to the projected 2017 design value, based on modeled transport patterns and other meteorological conditions generally associated with modeled high ozone concentrations in the vicinity of the monitoring site. An average contribution metric constructed in this manner is beneficial since the magnitude of the contributions is directly related to the magnitude of the design value at each site.

The resulting 2017 contributions from each tag to each monitoring site are provided in the AQM TSD. The largest contributions from each state to projected 2017 downwind nonattainment sites and to projected downwind maintenance-only sites are provided in Table 3.

Table 3. Largest ozone contributions from each state to downwind 2017 projected nonattainment and to 2017 projected maintenance-only sites (units are ppb).

Upwind State	Largest Contribution to a 2017 Nonattainment Site in Downwind States	Largest Contribution to a 2017 Maintenance-Only Site in Downwind States
Alabama	0.79	1.28
Arizona	1.78	0.41
Arkansas	1.24	2.15
California	1.75	3.44
Colorado	0.36	0.34
Connecticut	0.46	0.41
Delaware	0.68	2.23
District of Columbia	0.73	0.64
Florida	0.57	0.72
Georgia	0.58	0.56
Idaho	0.23	0.35
Illinois	17.48	23.17
Indiana	7.15	14.95
Iowa	0.61	0.85
Kansas	0.80	1.03
Kentucky	11.17	2.14
Louisiana	3.81	4.23
Maine	0.00	0.08
Maryland	2.39	7.11
Massachusetts	0.10	0.37
Michigan	2.69	1.79
Minnesota	0.40	0.47
Mississippi	0.78	1.48
Missouri	1.63	3.69
Montana	0.15	0.17
Nebraska	0.51	0.36
Nevada	0.84	0.73
New Hampshire	0.02	0.07
New Jersey	12.38	11.48
New Mexico	1.05	0.54

Upwind State	Largest Contribution to a 2017 Nonattainment Site in Downwind States	Largest Contribution to a 2017 Maintenance-Only Site in Downwind States
New York	16.96	17.21
North Carolina	0.55	0.93
North Dakota	0.14	0.28
Ohio	3.99	7.92
Oklahoma	1.70	2.46
Oregon	0.65	0.65
Pennsylvania	13.51	15.93
Rhode Island	0.02	0.08
South Carolina	0.19	0.21
South Dakota	0.08	0.12
Tennessee	1.67	0.90
Texas	2.44	2.95
Utah	1.59	1.66
Vermont	0.01	0.05
Virginia	5.29	4.70
Washington	0.22	0.09
West Virginia	2.99	3.11
Wisconsin	0.56	2.59
Wyoming	1.22	1.22

In CSAPR, the EPA used a contribution screening threshold of 1 percent of the NAAQS to identify upwind states in the eastern U.S. that may significantly contribute to downwind nonattainment and/or maintenance problems and which warrant further analysis. The EPA will take comment on the appropriate threshold to be applied for purposes of the 2008 ozone NAAQS in the upcoming rulemaking proposal to address interstate ozone

transport for that standard. The EPA is not proposing or taking comment on this threshold as part of this NODA.

C. Air Quality Modeling Information Available for Public Comment

The EPA is requesting comment on the components of the 2011 air quality modeling platform, the air quality model applications and model performance evaluation, and the projected 2017 ozone design value concentrations and contribution data. The EPA is also seeking comment on the methodology for calculating contributions at individual monitoring sites. The EPA encourages all states and sources to review and comment on the information provided in this NODA.

The EPA has placed key information related to the air quality modeling into the electronic docket for this notice (EPA-HQ-OAR-2015-0500) which is available at *www.regulations.gov*. This includes the AQM TSD, an Excel file which contains the 2009-2013 base period and 2017 projected average and maximum ozone design values at individual monitoring sites, and an Excel file with the ozone contributions from each state and all other source tags to each monitoring site. However, the air quality modeling input and output data files are too large to be directly uploaded into the electronic docket and/or are not in formats accepted by that docket. These air quality modeling files have been placed on a data drive in the

docket office. Electronic copies of the non-emissions air quality modeling input files and the air quality modeling output files can also be obtained prior to the end of the comment period by contacting Norm Possiel at *possiel.norm@epa.gov*. A detailed description of the 2011 and 2017 emissions data and procedures for accessing and commenting on these data are provided below.

III. Emissions Data and Methodologies

The EPA is requesting comment on the updated 2011 and 2017 emission inventories; supporting ancillary files used to allocate emissions temporally, spatially, and by emissions species; and on the emissions modeling methods used to develop the emission inventories, including but not restricted to, the activity data, model input databases, and the projection, control, and closure data used to develop projected 2017 emissions. Summaries of the emission inventories are provided to aid in the review of the data, but comments are sought on the actual inventories, model inputs, data, and methods used to develop the projected emissions.

A. Instructions for Submitting Emissions Comments and Alternative Emissions Data

The EPA can most effectively use comments on emissions data that provide specific alternative values to those in the EPA data sets, and for which accompanying documentation supports the

alternative values. Commenters should provide the alternative data at a level of detail appropriate to the data set into which it will be incorporated, thereby including all key fields needed to substitute the old data with the new. For example, any data provided as an alternative to the EPA's point source emissions data should include all key fields used to identify point source data such as facility, unit, release point, process, and pollutant, along with alternative emissions values. If a commenter were to provide a new set of county total emissions as an alternative to detailed point source emissions data, the EPA would not be able to use that new data. Commenters should also include documentation that describes methods for development of any alternative values and relevant references supporting the alternative approach.

Any alternative emission inventory or ancillary data provided should be compatible with the formats used by the Sparse Matrix Operator Kernel Emissions (SMOKE) modeling system version 3.6.5, which is used by the EPA to process emission inventories into a format that can be used for air quality modeling. Formats are defined in the SMOKE Version 3.6.5 User's Manual available from *http://www.cmascenter.org/smoke/*. Only the rows of data that have changed from those provided by the EPA should be included in the alternative data sets. Alternative

data that are not an input to SMOKE, such as model input databases for mobile source models, should be provided in a format in which it could be directly input to the model.

Commenters wishing to comment on inventory projection methods should submit to the docket comments that describe an alternative approach to the existing methods, along with documentation describing why that method is an improvement over the existing method.

B. Emissions Information Available for Public Comment

The released data include emission inventories that represent projected emissions into the atmosphere of criteria and some hazardous air pollutants in the years 2011 and 2017, additional ancillary data files that are used to convert the NEI emissions into a form that can be used for air quality modeling, and methods used to prepare the air quality model inputs and to develop projections of emissions for the year 2017. The platform includes emission inventories for sources at specific locations called point sources; emissions from fire events; and county-level emissions of onroad mobile sources, nonroad mobile sources, and nonpoint stationary sources.

The provided emission inventories are split into categories called modeling sectors. For example, facility-specific point emission sources are split into electric generating units

(EGUs), oil and gas point sources, and other point sources. Nonpoint emission sources are split into agricultural ammonia sources, area fugitive dust sources, non-Category 3 commercial marine and locomotive sources, residential wood sources, oil and gas nonpoint sources, agricultural burning sources, and other nonpoint sources. Additional modeling sectors are onroad and nonroad mobile sources, Category 3 commercial marine sources, and emissions from wild and prescribed fires.

The emission inventories for the future year of 2017 have been developed using projection methods that are specific to the type of emission source. Future emissions are projected from the 2011 base case either by running models to estimate future year emissions from specific types of emission sources (i.e., EGUs, and onroad and nonroad mobile sources), or for other types of sources by adjusting the base year emissions according to the best estimate of changes expected to occur in the intervening years (i.e., non-EGU point and nonpoint sources).

For some sectors, the same emissions are used in the base and future years, such as biogenic emissions, wild and prescribed fire emissions, and Canadian emissions. For all other sectors, rules and specific legal obligations that go into effect in the intervening years, along with changes in activity for the sector, are considered when possible. Documentation of

the methods used for each sector is provided in the TSD *Preparation of Emissions Inventories for the Version 6.2, 2011 Emissions Modeling Platform*, which can be found in the docket for this notice.

Emission projections for EGUs for 2017 were developed using the Integrated Planning Model (IPM). The National Electric Energy Data System (NEEDS) database contains the generation unit records used for the model plants that represent existing and planned/committed units in EPA modeling applications of IPM. The NEEDS database includes basic geographic, operating, air emissions, and other data on these generating units and is updated for the EPA's version 5.14 power sector modeling platform. The EGU emission projections included in this data release are reported in an air quality modeling-ready flat file taken from the EPA Base Case v.5.14, developed using IPM. The 2017 EGU emission projections in the flat file format, the corresponding NEEDS database, and user guides and documentation are available in the docket for this notice, and at *http://www.epa.gov/powersectormodeling*.

To project future emissions from onroad and nonroad mobile sources, the EPA uses the Motor Vehicle Emissions Simulator (MOVES) and the National Mobile Inventory Model (NMIM), respectively. Development of the future year onroad and nonroad

emissions requires a substantial amount of lead time and resources. The EPA had already prepared the emissions projections for 2018 when the attainment deadline for Moderate nonattainment areas was revised to July 2018 in the 2008 Ozone SIP Requirements Rule, as discussed above, effectively requiring the agency to adjust its projection year to 2017. Thus, for purposes of this NODA, the EPA calculated the 2017 emissions from mobile sources using post-modeling adjustments to 2018 emissions, but the agency anticipates that it will directly generate the mobile source emissions for 2017 that will be used in the air quality modeling for the final rule to address interstate transport for the 2008 ozone standard. The EPA obtained 2018 projections by running the MOVES and NMIM models using year-specific information about fuel mixtures, activity data, and the impacts of national and state-level rules and control programs. The input databases and future year activity data for onroad mobile sources are provided with the 2011v6.2 platform available at *http://www.epa.gov/ttn/chief/emch/index.html#2011*. The 2018 onroad and nonroad mobile source emissions were adjusted for 2017 using factors derived from national scale runs of MOVES and NMIM, respectively.

For non-EGU point and nonpoint sources, projections of

2017 emissions were developed by starting with the 2011 emissions inventories and applying adjustments that represent the impact of national, state, and local rules coming into effect in the years 2012 through 2017, along with the impacts of planned shutdowns, the construction of new plants, specific information provided by states, and specific legal obligations resolving alleged environmental violations, such as consent decrees. Changes in activity are considered for sectors such as oil and gas, residential wood combustion, cement kilns, livestock, aircraft, commercial marine vessels and locomotives. Data files that include factors that represent the changes are provided, along with summaries that quantify the emission changes resulting from the projections at a state and national level.

The provided data include relevant emissions inventories for neighboring countries used in our modeling, specifically the 2010 emissions inventories for Canada and the 2008 and 2018 emissions inventories for Mexico. Canadian emissions for a future year were not available.

Ancillary data files used to allocate annual emissions to the hourly, gridded emissions of chemical species used by the air quality model are also provided. The types of ancillary data files include temporal profiles that allocate annual and monthly

emissions down to days and hours, spatial surrogates that allocate county-level emissions onto the grid cells used by the AQM, and speciation profiles that allocate the pollutants in the NEI to the chemical species used by the air quality model. In addition, there are temporal, spatial, and speciation cross-reference files that map the emission sources in the emission inventories to the appropriate profiles based on their location, emissions source classification code (SCC), and, in some cases, the specific facility or unit. With the exception of some speciation profiles and temporal profiles for EGUs and mobile sources, the same ancillary data files are used to prepare the 2011 and 2017 emissions inventories for air quality modeling.

Information related to this section is located in the docket. However, as mentioned above, some of the emissions data files are too large to be directly uploaded into the electronic docket and/or are not in formats accepted by that docket. Therefore, the information placed in the electronic docket, associated detailed data, and summaries to help with interpretation of the data are available for public review with the 2011v6.2 platform available on the Emissions Modeling Clearinghouse on the EPA's website at *http://www.epa.gov/ttn/chief/emch/index.html#2011*. Requests for electronic copies of pre-merged, intermediate and air quality

model-ready emissions files for input to air quality modeling can be obtained by contacting Alison Eyth at *eyth.alison@epa.gov*.

The emissions inventories, along with many of the ancillary files, are provided in the form of flat files that can be input to SMOKE. Flat files are comma-separated values-style text files with columns and rows that can be loaded into spreadsheet or database software. The columns of interest in the emission inventory files are specified in each subsection below. The EPA specifically requests comment on the following components of the provided emissions modeling inventories and ancillary files:

- Emissions values and supporting data for EGUs. The EPA requests comment on the IPM version 5.14 input assumptions, NEEDS database, 2018 unit-level parsed files because 2017 parsed files are not available, 2017 flat file inputs and outputs (including modifications to the IPM 2018 Base Case to inform 2017 NO_X emissions), temporal profiles use to allocate seasonal emissions to hours, and cross references and matching between IPM and NEI.
- Emission values for non-EGU sources. The EPA requests comment on the criteria air pollutant projected 2017 emissions in the modeling inventories, such as NO_X, VOC, sulfur dioxide, particulate matter less than 2.5 micrometers, particulate matter

less than 10 micrometers, and ammonia, with a focus on the ozone precursors NO_X and VOC. The EPA will also accept comments on 2017 projections of hazardous air pollutants (HAPs), as they are included in the outputs of models used to develop 2017 emission projections. However, HAPs are not the focus of this effort. The annual emissions values are located in the ANN_VALUE column of emission inventory files in the Flat File 2010 (FF10) format. Some emission inventories (e.g., nonroad) may also have values filled in to the monthly value columns (e.g., JAN_VALUE, FEB_VALUE, …, DEC_VALUE). The EPA requests comment on both the annual and monthly emissions values, where applicable. Summaries of emissions by state and county are provided to aid in the review of emissions values.

- Model inputs and activity data used to develop mobile source emission inventories. The EPA requests comment on the mobile source model input data used to develop the projected future mobile source emission inventories. These include both the databases used to create emission factors and the vehicle miles traveled and vehicle population activity data used to compute the emissions. Of particular interest are county total vehicle miles traveled, the mixture of vehicle types in 2017, hoteling hours of combination long-haul trucks, and changes to the inspection and maintenance programs. Alternative activity data

should be provided in the SMOKE FF10 activity data format.

- Projection data and methods. The EPA seeks comment on the data used to project point and nonpoint source emissions from 2011 to 2017, and on the methods and assumptions used to implement the projections. In this context, nonpoint source emissions are inclusive of commercial marine vessel, railroad, oil and gas, and other nonpoint emissions. In particular, the EPA seeks comment on its assumptions regarding the manner in which specific consent decrees and state- or locality-specific control programs will be implemented.

- Existing control techniques. The emission inventories include information on emissions control techniques listed in terms of control codes submitted to the EIS. These are listed in the CONTROL_IDS and CONTROL_MEASURES columns in the emission inventory flat files, with levels of reduction in the ANN_PCT_RED column. Projection of non-EGU point source emissions to future years is dependent on this information. The EPA seeks comment on whether data on existing controls given in the inventory flat files are incomplete or erroneous. The flat files must be consulted for details of control techniques by pollutant.

- Emissions modeling methods. The EPA is using SMOKE version 3.6.5 to prepare data for air quality modeling. The EPA requests

comment on the methods by which SMOKE is used to develop air quality model-ready emissions, as illustrated in the scripts provided with the modeling platform and as described in the TSD *Preparation of Emissions Inventories for the Version 6.2, 2011 Emissions Modeling Platform*, available with the 2011v6.2 platform at *http://www.epa.gov/ttn/chief/emch/index.html#2011*.

- Temporal allocation. Annual emission inventories must be allocated to hourly values prior to air quality modeling. This may be done with temporal profiles in several steps, such as annual-to-month, month-to-day, and day-to-hour. The exact method used depends on the type of emissions being processed. The EPA seeks comment on the allocation of the emission inventories to month, day, and hour for all types of emission processes. In particular, the EPA seeks information that could help improve the temporal allocation in 2017 of emissions from EGUs, nonroad mobile sources, residential wood combustion sources, and the temporal allocation of vehicle miles traveled needed to model onroad mobile sources. The EPA seeks local- and region-specific data that can be used to improve the temporal allocation of emissions data.

- Spatial surrogates. Spatial surrogates are used to allocate county-level emissions to the grid cells used for air quality modeling. The EPA requests comment on the spatial surrogates

used to spatially allocate the 2011 and 2017 emissions. The same spatial surrogates are used in the base and future years.

- Chemical speciation. Prior to air quality modeling, the pollutants in the emission inventories must be converted into the chemical species used by the air quality model using speciation profiles. The speciation profiles provided are consistent with version 4.4 of the SPECIATE database. The EPA requests comment on the provided speciation profiles, as well as any information that could help improve the speciation of oil and gas emissions in both the eastern and western U.S. in 2017. Oil and gas speciation information, along with VOC to TOG adjustment factors that are used to compute methane emissions, would be of the most use at the county or oil/gas basin level of detail and also for each distinct process at oil and gas drilling/production facilities (e.g., glycol dehydrators).

To aid in the interpretation of the provided data files and how they relate to the aspects of the data on which the EPA is requesting comment, the EPA has provided a summary document in the docket that describes in more detail the provided data and summary files.

Notice of Availability of the Environmental Protection Agency's Updated Ozone Transport Modeling Data for the 2008 Ozone National Ambient Air Quality Standard (NAAQS)

_____

Dated:

_____

Stephen D. Page, Director,
Office of Air Quality Planning and Standards.