



**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 52**

**[EPA-R05-OAR-2020-0555; FRL-11148-02-R5]**

**Air Plan Approval; Illinois; Base Year Emissions Inventory for  
the 2015 Ozone Standard**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Direct final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is approving, under the Clean Air Act (CAA), revisions to the State Implementation Plan (SIP) submitted by the Illinois Environmental Protection Agency (Illinois EPA) on October 22, 2020, and February 14, 2023. The revisions address the emissions inventory requirements for the Chicago and Metro-East nonattainment areas under the 2015 ozone National Ambient Air Quality Standard (NAAQS or standard). The Chicago nonattainment area includes Cook, DuPage, Grundy (Aux Sable and Goose Lake Townships), Kane, Kendall (Oswego Township), Lake, McHenry, and Will counties. The Metro-East nonattainment area includes Madison, Monroe, and St. Clair counties. The CAA requires emissions inventories for all ozone nonattainment areas.

**DATES:** This direct final rule will be effective **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, unless EPA receives adverse comments by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. If adverse comments are received, EPA will publish a timely withdrawal of the direct

final rule in the *Federal Register* informing the public that the rule will not take effect.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-R05-OAR-2020-0555 at <https://www.regulations.gov> or via email to [blakley.pamela@epa.gov](mailto:blakley.pamela@epa.gov). For comments submitted at [Regulations.gov](https://www.regulations.gov), follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from [Regulations.gov](https://www.regulations.gov). For either manner of submission, EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www2.epa.gov/dockets/commenting-epa-dockets>.

**FOR FURTHER INFORMATION CONTACT:** Emily Crispell, Environmental Scientist, Control Strategies Section, Air Programs Branch

(AR-18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 353-8512, *crispell.emily@epa.gov*. The EPA Region 5 office is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays and facility closures due to COVID-19.

**SUPPLEMENTARY INFORMATION:** Throughout this document whenever “we,” “us,” or “our” is used, we mean EPA.

#### **I. The 2015 Ozone NAAQS Emissions Inventory Rule Requirements.**

On December 28, 2015, EPA promulgated a revised 8-hour ozone NAAQS of 0.070 parts per million (ppm). See 80 FR 65292. Portions of the Chicago area and the Metro-East area were designated as marginal nonattainment areas for the 2015 ozone NAAQS. See 83 FR 25776 (August 3, 2018). The Chicago and Metro-East areas have since been reclassified as moderate nonattainment areas. See 87 FR 60897 (November 7, 2022).

CAA sections 172(c)(3) and 182(a)(1), 42 U.S.C. 7502(c)(3) and 7511a(a)(1), require states to develop and submit, as SIP revisions, emission inventories for all areas designated as nonattainment for any NAAQS, including the ozone NAAQS. An emission inventory for ozone is an estimation of actual emissions of air pollutants that contribute to the formation of ozone in an area. Ozone is a gas that is formed by the reaction of Volatile Organic Compounds (VOC) and Oxides of Nitrogen (NO<sub>x</sub>) in the atmosphere in the presence of sunlight (VOC and NO<sub>x</sub> are referred to as ozone precursors). Therefore, an emission inventory for ozone focuses on the emissions of VOC and NO<sub>x</sub>. VOC

is emitted by many types of pollution sources, including power plants, industrial sources, on-road and non-road mobile sources, smaller stationary sources, collectively referred to as area sources, and biogenic sources. NO<sub>x</sub> is primarily emitted by combustion sources, both stationary and mobile.

Emission inventories provide emissions data for a variety of air quality planning tasks, including establishing baseline emission level (anthropogenic [manmade] emissions associated with ozone standard violations), calculating emission reduction targets needed to attain the NAAQS and to achieve reasonable further progress (RFP) toward attainment of the ozone standard, determining emission inputs for ozone air quality modeling analyses, and tracking emissions over time to determine progress toward achieving air quality and emission reduction goals. As stated above, the CAA requires the states to submit emissions inventories for areas designated as nonattainment for ozone. The "Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements" specifies that states submit ozone season day emissions estimates for an inventory calendar year to be consistent with the baseline year for the RFP plan as required by 40 CFR 51.1310(b). See 83 FR 62998 (February 4, 2019). For the RFP baseline year for the 2015 ozone NAAQS under 40 CFR 51.1310(b), states may use a calendar year for the most recently available complete triennial (3-year cycle) emissions inventory (40 CFR 51, subpart A) preceding the year of the area's

effective date of designation as a nonattainment area. (83 FR 63034 - 63035, December 6, 2018)<sup>1</sup>. States are required to submit estimates of VOC and NO<sub>x</sub> emissions for four general classes of anthropogenic sources: stationary point sources; area sources; on-road mobile sources; and non-road mobile sources.

## **II. Illinois EPA's Emissions Inventory.**

On October 22, 2020, Illinois EPA submitted a SIP revision addressing the emissions inventory requirement of CAA section 182(a)(1). The October 22, 2020, submittal did not provide information for McHenry and Monroe Counties as those counties were not originally included in the nonattainment areas. On June 14, 2021, McHenry County was added to the Chicago nonattainment area and Monroe County was added to the Metro-East nonattainment area (86 FR 31438). On February 14, 2023, Illinois EPA submitted an updated SIP revision including emissions inventory information for McHenry and Monroe Counties and an updated mobile source inventory using the most recent Motor Vehicle Emissions Simulator (MOVES3). Illinois EPA provided documentation of a 2017 NO<sub>x</sub> and VOC base year emissions inventory requirement for the Chicago metropolitan and the Metro-East nonattainment areas. Illinois EPA selected 2017 because: (1) the 2017 baseline year was the most recent comprehensive, accurate, and quality assured triennial emissions inventory in the National Emissions Inventory (NEI) database

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<sup>1</sup> The RFP requirements specified in CAA section 182(b)(1) shall apply to all area's designated nonattainment for ozone classified Moderate or higher.

available at the time the state began preparing the emissions inventory submittal for the Chicago and the Metro-East nonattainment areas; and (2) it is consistent with baseline year for the RFP plan as required by 40 CFR 51.1310(b). The baseline year for RFP would be the calendar year for the most recently available triennial emissions inventory at the time rate of progress/RFP plans are developed (e.g., 2017 for initial designations effective in 2018) (83 FR 62998). Tables 1 and 2 summarize the 2017 NO<sub>x</sub> and VOC emissions for the Chicago area and the Metro-East area in tons of emissions per ozone season day.<sup>2</sup>

**TABLE 1 - 2017 Ozone Season Day NO<sub>x</sub> Emissions**

<b>County/ Nonattainment Area</b>	<b>Point</b>	<b>Area</b>	<b>Non-Road</b>	<b>On-road</b>	<b>Total NO<sub>x</sub></b>
Chicago Nonattainment Area	76.82	33.59	131.52	160.36	402.29
Metro-East Nonattainment Area	12.12	1.93	20.68	17.04	51.77

**TABLE 2 - 2017 Ozone Season Day VOC Emissions**

<b>County/ Nonattainment Area</b>	<b>Point</b>	<b>Area</b>	<b>Non-Road</b>	<b>On-road</b>	<b>Total VOC</b>
Chicago Nonattainment Area	45.31	226.68	70.09	63.28	405.36
Metro-East Nonattainment Area	9.79	19.41	5.01	6.13	40.34

*A. Base Year Inventory*

Illinois EPA estimated NO<sub>x</sub> and VOC emissions for all source categories in the Chicago and Metro-East ozone nonattainment areas. Emissions for these counties were totaled by source category for each ozone nonattainment area.

1. Point Sources

To develop the NO<sub>x</sub> and VOC point source emissions inventories, Illinois EPA used the annual source reported

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<sup>2</sup> The ozone season is the portion of the year in which high ozone concentrations may be expected in a given area.

emissions data including emissions, process rates, operating schedules, emission control data, and other relevant information obtained from the permit files and plant inspections. Ozone season day emissions for point sources were calculated for each process using the original source specific data.

## 2. Area Sources

To develop the NO<sub>x</sub> and VOC area source emissions inventories, Illinois EPA used 2017 category activity levels, where available, or projections of changes in activity from 2014 to 2017 levels with a preference to Illinois-specific data.

## 3. On-road and Non-road Sources

To develop the NO<sub>x</sub> and VOC on-road and non-road source emissions inventories, Illinois EPA used EPA's MOVES3 model. Inputs to run the model were provided by the Division of Mobile Source Programs within the Illinois EPA's Bureau of Air. Aircraft emissions were calculated using actual activity data (operations) for each airport. Emissions from locomotives were calculated from data provided by EPA. Commercial marine vessel emissions were grown from 2014 emissions estimates using a growth factor for 2014 to 2017 calculated by using the ratio of the total tonnage shipped for those years for the Illinois, Mississippi, and Ohio Rivers based on data from the Waterborne Commerce Statistics Center's (U.S. Army Corps of Engineers) Waterborne Commerce Statistics Report for Calendar Year 2017.

### *B. How did the state develop the emission inventories?*

For point sources (electrical generating units (EGUs) and

non-EGUs), Illinois EPA calculates and stores emissions data annually in the state's air emissions inventory database. Under the authority of 35 Ill. Adm. Code 254 and 203, Illinois EPA requires any facility in the state that emits a pollutant above the specified thresholds to submit emission inventory statements annually. These reports are required to contain detailed source type-specific or annual source unit-specific and seasonal actual emissions for all source units in a facility. Illinois EPA has provided a detailed list of point sources included in the 2017 base year inventory by nonattainment area and source category with their respective NO<sub>x</sub> and VOC emissions within appendices A and B of their February 14, 2023, submittal.

For area source (sometimes referred to as non-point source) emissions, Illinois EPA relied on a variety of state-specific data to estimate emissions based on EPA's procedures and guidance for the 2017 base emissions inventory. Area sources are spread over wide areas with no distinct discharge points or are comprised of a large number of small point sources that are difficult to describe separately and whose emissions are not well characterized (e.g., heating furnaces in individual homes, architectural surface coating, automobile refueling, dry cleaning, etc.).

To develop an accurate and complete area source inventory, Illinois EPA used data from EPA's AP-42: Compilation of Air Emissions Factors, EPA's WebFIRE emission factor database, and data from Federal and state agencies including EPA's Office of

Air Quality Planning and Standards, the U.S. Department of Energy, U.S. Bureau of Labor Statistics, Illinois Department of Transportation, Illinois Department of Agriculture, along with 2017 category activity levels, where available, or projections of changes in activity from 2014 to 2017 levels with a preference to Illinois-specific data. In most cases, Illinois EPA calculated 2017 area source emissions estimates by using emissions factors detailed in appendix D of Illinois EPA's submittal. In other cases, Illinois EPA estimated area source emissions by using growth factors to convert 2014 emissions to 2017 emission levels. The area source emissions for the partial county 2015 ozone NAAQS nonattainment areas, were apportioned by taking the whole county emission estimates and allocating to the partial county areas on a township level using surrogates related to the activity being estimated.

Illinois EPA has provided a detailed list of the area sources included in the 2017 base year inventory by Source Classification Code (SCC) and county, with their respective NO<sub>x</sub> and VOC emissions in appendices A and B, including a detailed discussion how the emissions were derived for each source category within their February 14, 2023, submittal.

The non-road mobile source emissions were developed by Illinois EPA using MOVES3. Commercial marine vessel emissions were grown from 2014 values. Aircraft emissions were calculated using the number of landings and take-offs in conjunction with an emission factor using the Emissions and Dispersion Modeling

System. In appendices A and B of its submittal, Illinois EPA provided a list of the non-road sources included in the 2017 base year inventory by SCC and county, with their respective NO<sub>x</sub> and VOC emissions.

On-road mobile source emissions were developed by Illinois EPA using MOVES3. The state-specific data inputs were retrieved from Division of Mobile Source Programs within the Illinois EPA's Bureau of Air.

Most of the quality assurance (QA) for on-road mobile emissions was processed through tools built into MOVES3. Additionally, just like the point and nonpoint inventories, QA was performed when the data was submitted to the Emissions Inventory System Gateway. In appendices A and B of the February 14, 2023, submittal, Illinois EPA documented on-road emissions by SCC and county.

### **III. EPA's Evaluation.**

EPA has reviewed Illinois EPA's October 22, 2020, and February 14, 2023, SIP submittals for consistency with sections 172(c)(3) and 182(a)(1) of the CAA, and EPA's emission inventory requirements. In particular, EPA has reviewed the techniques used by Illinois EPA to derive and quality assure the emissions estimates. Illinois EPA documented the procedures used to estimate the emissions for each of the major source types. The documentation of the emission estimation procedures is sufficient for EPA to determine that Illinois followed acceptable procedures to estimate the emissions.

Illinois EPA developed a QA plan and followed this plan during various phases of the emissions estimation and documentation process to QA the emissions for completeness and accuracy. These quality assurance procedures were summarized in the documentation describing how the emissions totals were developed. The quality assurance procedures have been determined to be adequate and acceptable. We conclude that Illinois EPA has developed inventories of NO<sub>x</sub> and VOC emissions that are comprehensive and complete.

#### **IV. Illinois's Public Notice and Comment.**

40 CFR part 51, appendix V, requires that the state provide sufficient notice and opportunity for public comment and hearing on all SIP submittals. On October 11, 2022, Illinois EPA notified the public of the 30-day period for the opportunity to comment on the requested SIP revisions pertaining to the emission inventories for the 2015 ozone NAAQS nonattainment areas. The notification was published on Illinois EPA's website at: <https://www2.illinois.gov/epa/public-notices/Pages/default.aspx>. Illinois EPA did not receive any public comments or requests for a public hearing by the stated date in the public notice. Illinois EPA canceled the public hearing.

#### **V. What action is EPA taking?**

EPA is approving Illinois EPA's SIP revision submitted to address the ozone-related emission inventory requirements for the Chicago metropolitan area and the Metro-East area

nonattainment areas for the 2015 ozone NAAQS. The emission inventories we are approving into the SIP are specified in Tables 1 and 2, above. We are approving the emission inventories because they contain comprehensive, accurate, and current inventories of actual emissions for all relevant sources in accordance with CAA sections 172(c)(3) and 182(a), and because Illinois adopted the emission inventories after providing for reasonable public notice and a public hearing.

We are publishing this action without prior proposal because we view this as a noncontroversial amendment and anticipate no adverse comments. However, in the proposed rules section of this *Federal Register* publication, we are publishing a separate document that will serve as the proposal to approve the state plan if relevant adverse written comments are filed. This rule will be effective **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]** without further notice unless we receive relevant adverse written comments by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. If we receive such comments, we will withdraw this action before the effective date by publishing a subsequent document that will withdraw the final action. All public comments received will then be addressed in a subsequent final rule based on the proposed action. EPA will not institute a second comment period. Any parties interested in commenting on this action should do so at this time. Please note that if EPA receives adverse comment on an amendment, paragraph, or section of this

rule and if that provision may be severed from the remainder of the rule, EPA may adopt as final those provisions of the rule that are not the subject of an adverse comment. If we do not receive any comments, this action will be effective **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

#### **VI. Statutory and Executive Order Reviews.**

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 14094 (88 FR 21879, April 11, 2023);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or

uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);

- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it approves a state program;
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001); and
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA.

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, February 16, 1994) directs Federal agencies to identify and address "disproportionately high and adverse human health or environmental effects" of their actions on minority populations and low-income populations to the greatest extent practicable and permitted by law. EPA defines

environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." EPA further defines the term fair treatment to mean that "no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies."

The Illinois EPA did not evaluate environmental justice considerations as part of its SIP submittal; the CAA and applicable implementing regulations neither prohibit nor require such an evaluation. EPA did not perform an environmental justice analysis and did not consider environmental justice in this action. Due to the nature of the action being taken, this action is expected to have a neutral to positive impact on the air quality of the affected area. Consideration of environmental justice is not required as part of this action, and there is no information in the record inconsistent with the stated goal of E.O. 12898 of achieving environmental justice for people of color, low-income populations, and Indigenous peoples.

This action is subject to the Congressional Review Act, and EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. Parties with objections to this direct final rule are encouraged to file a comment in response to the parallel notice of proposed rulemaking for this action published in the proposed rules section of this *Federal Register*, rather than file an immediate petition for judicial review of this direct final rule, so that EPA can withdraw this direct final rule and address the comment in the proposed rulemaking. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

**List of Subjects in 40 CFR Part 52**

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: August 8, 2023.

**Debra Shore,**  
*Regional Administrator, Region 5.*

For the reasons stated in the preamble, 40 CFR part 52 is amended as follows:

**PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS**

1. The authority citation for part 52 continues to read as follows:

**Authority:** 42 U.S.C. 7401 *et seq.*

2. In § 52.720, amend the table in paragraph (e) under the heading “Emissions Inventories” by adding an entry for “Emissions inventory—2017 (2015 8-hour ozone)” after the entry for “Emission inventory—2012 (2008 Lead)” to read as follows:

**§ 52.720 Identification of plan.**

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(e) \* \* \*

EPA APPROVED ILLINOIS Nonregulatory and Quasi-Regulatory PROVISIONS

Name of SIP provision	Applicable geographic or nonattainment area	State submittal date	EPA approval date	Comments
* * *	* * *	* * *	* * *	
Emissions inventory—2017 (2015 8-hour ozone)	Chicago and St. Louis areas	10/22/2020	[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER], [INSERT FEDERAL REGISTER CITATION]	
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