

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

STATE OF NEW YORK,

*Plaintiff,*

v.

ANDREW WHEELER,  
in his official capacity as Administrator of the  
Environmental Protection Agency, and the  
ENVIRONMENTAL PROTECTION AGENCY,

*Defendants.*

Civil Case No.: 1:19-cv-3287

**COMPLAINT FOR DECLARATORY  
AND INJUNCTIVE RELIEF**

**(Clean Air Act, 42 U.S.C. §§ 7401 *et*  
*seq.*)**

Plaintiff State of New York alleges as follows:

**INTRODUCTION**

1. New York seeks declaratory and injunctive relief in this Clean Air Act (Act) citizen suit brought against Andrew Wheeler, in his official capacity as Administrator of the Environmental Protection Agency, and the Environmental Protection Agency (together EPA), to compel EPA to comply with certain nondiscretionary duties under the Act.

2. EPA failed to perform its nondiscretionary duty to act on a petition submitted on March 12, 2018 by New York to EPA under section 126(b) of the Act, 42 U.S.C. § 7426(b) (Petition), to address the interstate transport of ozone pollution from sources in states upwind of New York. In the Petition, New York identified sources or groups of sources in Illinois, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia, and West Virginia that are significantly contributing to nonattainment or interfering with maintenance of the 2008 and/or 2015 national ambient air quality standards (NAAQS) for ozone in New York.

3. Section 126(b) of the Act mandates EPA action on such a petition within 60 days after receipt. Despite granting itself a six-month extension until November 9, 2018, EPA has failed to hold a public hearing or take final action in response to the Petition.

4. New York seeks an order declaring that EPA is in violation of section 126(b) of the Act for the agency's failure to perform its mandatory duties to hold a public hearing and either make the requested findings or deny the Petition, and enjoining EPA to perform its mandatory duties by a date certain.

### **JURISDICTION AND VENUE**

5. This Court has subject matter jurisdiction over this action pursuant to section 304(a)(2) of the Act, 42 U.S.C. § 7604(a)(2), which authorizes any person, after duly giving notice, to commence a citizen suit seeking to compel the performance of a nondiscretionary duty under the Act. The Court also has jurisdiction to hear this civil action pursuant to 28 U.S.C. § 1331 (federal question jurisdiction) and 28 U.S.C. § 1361 (action to compel officer or agency to perform a duty owed to plaintiffs).

6. Venue in this Court is proper pursuant to 28 U.S.C. § 1391(e) because this civil action is brought against an agency of the United States and an officer of the United States, acting in his official capacity, and a substantial part of the events or omissions giving rise to the plaintiff's claim occurred in this judicial district. EPA's failure to perform the mandatory duties set forth in this complaint is adversely impacting areas within this judicial district, specifically the New York City metropolitan area, which is in nonattainment of the ozone NAAQS based in part on the significant contribution of air pollution from the sources in upwind states identified in the Petition. Additionally, a substantial number of the citizens and residents on whose behalf New York brings this action reside in this district, and EPA maintains a regional office in this district.

**NOTICE**

7. On February 7, 2019, pursuant to section 304(b) of the Act, 42 U.S.C. § 7604(b), New York sent a letter via certified mail, return receipt requested, to EPA providing notice of New York's intention to file suit against EPA, if it did not act within 60 days to take final action on the Petition. A copy of the February 7, 2019 notice letter is attached as **Exhibit 1**.

8. More than sixty days have passed since New York served notice, and EPA has not taken the statutorily-required actions described in the notice letter.

**PARTIES**

9. Plaintiff New York is a sovereign entity that brings this action on behalf of its citizens and residents and on its own behalf to protect its interests as administrator of healthcare programs and schools, as an employer, and in protecting and preserving the natural resources held in trust by the State. New York is a "person" as defined in the applicable provision of the Act, 42 U.S.C. § 7602(e).

10. Defendant Wheeler is the Administrator of EPA and is sued in his official capacity. The Administrator is charged with implementation and enforcement of the Act, including the nondiscretionary requirements to hold a public hearing on a section 126(b) petition and to timely make a finding or deny such petition. 42 U.S.C. § 7426(b).

11. Defendant EPA is an executive agency of the federal government charged with implementing and enforcing the Act, in coordination with the states.

12. As a result of the omissions alleged herein, New York has suffered and will continue to suffer harm from the delay in addressing the interstate transport of air pollution from the sources in upwind states identified in the Petition. This group of sources significantly contributes to nonattainment and/or significantly interferes with maintenance of the 2008 and 2015

ozone NAAQS in New York, to the detriment of the health and welfare of its citizens and residents, and to the State.

### **STATUTORY BACKGROUND**

13. The Act requires EPA to establish and periodically revise NAAQS, which establish maximum allowable ambient air concentrations for certain pollutants known as “criteria” pollutants.

14. The Act requires each state to submit a state implementation plan for every promulgation or revision of a NAAQS within three years of that standard’s promulgation or revision. 42 U.S.C. § 7410(a)(1). The implementation plan must provide for the “implementation, maintenance, and enforcement” of the standard. *Id.*

15. A state’s implementation plan must meet the requirements listed under 42 U.S.C. § 7410(a)(2), including the requirements of section 110(a)(2)(D)(i)(I), the “Good Neighbor Provision,” which requires the plan to contain adequate provisions to prohibit sources within the state from emitting air pollution in amounts that will “contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any” NAAQS.

16. Pursuant to section 126(b) of the Act, “[a]ny State or political subdivision may petition the Administrator for a finding that any major source or group of stationary sources emits or would emit any air pollutant in violation of the prohibition of [the Good Neighbor Provision].” 42 U.S.C. § 7426(b).

17. Section 126(b) further requires that “[w]ithin 60 days after receipt of any petition under this subsection and after public hearing, the Administrator shall make such a finding or deny the petition.” *Id.*

18. Section 126(c) provides that “it shall be a violation of this section and the applicable implementation plan in such State . . . (2) for any major existing source to operate more than three months after such finding has been made with respect to it. The Administrator may permit the continued operation of a source referred to in paragraph (2) beyond the expiration of such three-month period if such source complies with such emission limitations and compliance schedules (containing increments of progress) as may be provided by the Administrator to bring about compliance with the requirements in [the Good Neighbor Provision] of this title or this section as expeditiously as practicable, but in no case later than three years after the date of such finding.” 42 U.S.C. § 7426(c).

### **FACTUAL BACKGROUND**

#### **A. Ozone Pollution and New York’s Nonattainment with Ozone NAAQS Due to Transported Pollution from Sources in Upwind States**

19. Ozone—commonly referred to at ground level as “smog”—is a colorless, odorless gas that forms when other atmospheric pollutants, known as ozone “precursors,” such as nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs), react in the presence of sunlight.

20. EPA has found significant negative health effects in individuals exposed to elevated levels of ozone, including aggravation of existing medical conditions, such as asthma, bronchitis, heart disease, and emphysema, as well as coughing, throat irritation, and lung tissue damage. Exposure to ozone has also been linked to early deaths. Children, the elderly, and people who already have lung diseases are particularly at risk from exposure to ozone pollution.

21. EPA promulgated revised NAAQS for ozone of 75 parts per billion (ppb) on March 12, 2008. 73 Fed. Reg. 16,436 (Mar. 27, 2008) (2008 ozone NAAQS).

22. In 2015, based on updated scientific information about the health risks of ozone at lower concentrations, EPA revised the ozone NAAQS, setting the standards at 70 ppb. 80 Fed. Reg. 65,292 (Oct. 26, 2015) (2015 ozone NAAQS).

23. Following EPA's promulgation of the 2008 ozone NAAQS, on July 20, 2012, EPA designated the New York-N. New Jersey-Long Island, NY-NJ-CT metropolitan area (NYMA) as a nonattainment area with a marginal classification. This area consists of nine counties within New York—Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk and Westchester—along with 12 counties in New Jersey and three in Connecticut.

24. The Jamestown, New York area, consisting solely of Chautauqua County, was also designated as marginal nonattainment. 77 Fed. Reg. 30,088 (May 21, 2012).

25. The NYMA failed to attain the 2008 ozone NAAQS by the marginal attainment deadline of July 20, 2015 and was reclassified by EPA to moderate nonattainment effective June 3, 2016. 81 Fed. Reg. 26,697 (May 4, 2016). This reclassification established a new attainment deadline of July 20, 2018.

26. The Jamestown nonattainment area attained the 2008 ozone NAAQS by the marginal attainment deadline of July 20, 2015, but New York has not requested a redesignation because of the ongoing possibility of that area again exceeding the ozone NAAQS.

27. The three states with areas in the NYMA (New York, New Jersey, and Connecticut) have surpassed their three-percent-per-year emission reduction requirements for the 2008 ozone NAAQS, but have not reached attainment of the NAAQS. Certified monitoring data for 2015 through 2017—the basis for determining the area's compliance with the NAAQS—indicated that the NYMA did not attain the NAAQS by the 2018 moderate area deadline.

28. New York submitted a reclassification request to EPA on November 13, 2017, requesting that EPA classify the NYMA as a “serious” nonattainment area. On November 14, 2018, EPA proposed to reclassify the NYMA to “serious” nonattainment. 83 Fed. Reg. 56,781 (Nov. 14, 2018). EPA has now missed the statutory deadline of January 20, 2019 to reclassify the NYMA to “serious” nonattainment. The reclassification to a “serious” nonattainment area will require that the NYMA attain the 2008 ozone NAAQS by July 20, 2021 and set a deadline for submitting a plan to attain the NAAQS that will require another minimum of 3 percent per annum in emissions reductions.

29. With respect to the 2015 ozone NAAQS, the NYMA was designated as a nonattainment area and the Jamestown area was designated as attainment, but remains in danger of exceeding that standard primarily due to transported pollution.

30. Air quality modeling in both the NYMA and Jamestown areas demonstrate that high concentrations of ozone in these locations are, in significant measure, the result of emissions from major stationary sources of NO<sub>x</sub> located outside and upwind of New York. These sources are often characterized by the operation of large boilers and other units that require very tall stacks to emit the exhaust from their combustion processes. As a result of the use of these tall stacks and the high temperatures of the exiting gases, enormous volumes of NO<sub>x</sub> emissions are sent high into the atmosphere. These high concentrations of NO<sub>x</sub> and subsequently formed ozone are transported to downwind areas in western New York and the NYMA where they combine with ozone formed locally and other ozone precursors to result in ozone levels that exceed the NAAQS.

31. New York has long been involved in efforts to reduce emissions from in-state sources of NO<sub>x</sub> and to mitigate the regional transport of NO<sub>x</sub>. New York requires in-state sources to meet a variety of stringent emissions standards and comply with NO<sub>x</sub> Reasonably Available

Control Technology (RACT). In addition, New York has implemented stringent emissions control measures related to mobile sources. New York's regional efforts have included participation in the Ozone Transport Commission, which developed the NO<sub>x</sub> Budget Program. New York has also been involved with the Ozone Transport Assessment Group, whose efforts resulted in the 1998 NO<sub>x</sub> SIP Call by EPA. New York has also participated in multiple iterations of NO<sub>x</sub> Budget trading programs, the most recent of which is the 2011 Cross-State Air Pollution Rule (Cross-State Rule), 76 Fed. Reg. 48,208 (Aug. 8, 2011), and 2016 Cross-State Rule Update, 81 Fed. Reg. 74,504 (Oct. 26, 2016).

32. EPA's regional interstate transport rulemakings have proven an important tool for addressing ongoing significant contribution by upwind states and sources to downwind ozone pollution, but EPA has failed to implement a full, federal-level remedy to completely address the issue of transported ozone. EPA's most recent rulemaking, the Cross-State Rule Close-Out, finalized in December 2018, 83 Fed. Reg. 65,878 (Dec. 21, 2018), failed to require any further emissions reductions in states upwind of New York beyond those required by the 2016 Cross-State Update.

**B. New York's Section 126(b) Petition**

33. On March 12, 2018, New York, through its Department of Environmental Conservation (DEC), submitted the Petition to EPA. *See Exhibit 2.* The Petition requested that EPA make a finding that groups of sources identified in each of nine states (Illinois, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia and West Virginia), significantly contribute to New York's nonattainment and/or interfere with New York's maintenance of the 2008 and 2015 ozone NAAQS in violation of the Good Neighbor Provision. New York further

requested that EPA establish enforceable emissions limitations for the major NO<sub>x</sub> sources identified and establish a compliance schedule to ensure these sources expeditiously complied.

34. New York's Petition demonstrated that interstate transport of ozone precursor emissions from the upwind major stationary sources or group of sources identified in the Petition have led or will lead to difficulty attaining or maintaining the NAAQS in New York. New York's Petition was supported by modeling from DEC that included NO<sub>x</sub> emissions from stationary upwind sources emitting 400 tons per year or more in the electric generating unit (EGU or power plant), non-EGU, and oil and gas sectors in states that EPA had identified in its modeling for the Cross-State Rule Update as contributing ozone concentrations of at least one percent of the 2008 ozone NAAQS—0.75 ppb or more—to a monitor in a downwind state. DEC's modeling identified stationary sources in Illinois, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia and West Virginia that are significantly contributing to nonattainment or interfering with maintenance of the 2008 and/or 2015 ozone NAAQS in New York. DEC's modeling showed impacts from individual states' collections of 400 tons-per-year sources of up to 6.34 ppb in Chautauqua County and 4.97 ppb in the NYMA.

35. The upwind sources' significant contributions to New York's ozone levels regularly compromise the health and welfare of the more than 12 million New Yorkers living in the NYMA and the approximately 130,000 people in Chautauqua County, and on the worst ozone days, significantly contribute to unhealthy air for more than 16 million New Yorkers. EPA's failure to require emissions reductions from these upwind sources also creates a disproportionate and inequitable economic burden for sources of ozone precursors in New York State.

36. New York's Petition called upon EPA to require the significantly contributing states to impose suitable emission limits on the large stationary sources identified as affecting air

quality in New York within the three years allowed by section 126(c). These sources should be operating with modern NO<sub>x</sub> emission controls (*e.g.*, selective catalytic or non-catalytic reduction systems) and at emissions rates commensurate with New York's RACT standards, which are based on a control cost efficiency of approximately \$5,000 per ton of NO<sub>x</sub> removed.

37. Despite the express requirement that EPA act within 60 days on New York's Petition, on May 3, 2018, then-EPA Administrator E. Scott Pruitt signed a notice granting EPA an extension of time to act under section 307(d)(10) of the Act, 42 U.S.C. § 7607(d)(10), citing "insufficient time to complete the technical and other analyses and public notice-and-comment process required." 83 Fed. Reg. at 21,909. EPA extended its time for action approximately six months to "no later than November 9, 2018," and stated that "this extension may be invoked only once." *Id.* at 21,909-10.

38. To date, EPA has failed to hold a public hearing or take final action on the Petition.

39. Therefore, EPA is in violation of its mandatory, nondiscretionary duties set forth in 42 U.S.C. § 7426(b).

40. EPA's failure to act on the Petition within the statutory period is a clear breach of EPA's statutory duty and harms New York and the public health and welfare of its residents.

41. New York and the residents of the affected downwind areas are harmed by elevated levels of ozone pollution due in significant part to the upwind sources identified in the Petition. By failing to timely act on New York's Petition, EPA is causing them to be exposed to higher levels of ozone for a longer period of time, resulting in more harmful health impacts.

42. EPA's failure to comply with its non-discretionary duty also places unfair economic and administrative burdens on New York. New York is required, subject to punitive consequences, to timely meet its attainment obligations under the Act. DEC's modeling demonstrates that the

sources identified in the Petition are significantly contributing to ozone pollution in New York, including at monitoring locations in nonattainment or maintenance areas. Thus, New York needs EPA to fully address interstate transport from these sources to meet its 2008 and 2015 ozone NAAQS requirements under the Act.

**CLAIM FOR RELIEF**  
(Failure to Perform Nondiscretionary Duties  
Pursuant to 42 U.S.C. § 7426(b))

43. New York re-asserts and re-alleges paragraphs 1 through 42 above.

44. As set forth above, EPA had nondiscretionary duties under section 126 of the Act, 42 U.S.C. § 7426(b), to hold a public hearing on New York's Petition and to timely make the requested finding or to deny the Petition within 60 days of receipt.

45. EPA's failure to hold a public hearing on New York's Petition and to make the requested finding or to deny the Petition within 60 days of receipt (or, at the latest, by November 9, 2018), are violations of 42 U.S.C. § 7426(b), which continue to this day.

46. These violations constitute a "failure of the Administrator to perform any act or duty under this chapter which is not discretionary with the Administrator" under 42 U.S.C. § 7604(a)(2).

47. EPA's failure to take final action on the Petition has harmed and continues to harm New York and its citizens and residents, by delaying action to address the interstate transport of air pollution from the sources in the upwind states identified in the Petition. These sources significantly contribute to nonattainment of the 2008 and 2015 ozone NAAQS, and/or significantly interfere with maintenance of the same, in New York, to the detriment of the health and welfare of its citizens and residents.

**PRAYER FOR RELIEF**

WHEREFORE, New York respectfully requests that this Court enter judgment against EPA as follows:

1. Declare that EPA is in violation of section 126(b) of the Act by failing to perform a mandatory, nondiscretionary duty to timely take final action on New York's Petition;
2. Enjoin EPA, by dates certain, to perform its mandatory duties to (1) hold a public hearing on New York's Petition, and (2) make the requested finding or deny the Petition, after considering the public comments;
3. Award New York the costs of litigation, including reasonable attorneys' fees;
4. Retain jurisdiction over this matter for purposes of ensuring EPA's compliance with the Court's order; and
5. Such other and further relief as this Court deems just and proper.

Dated: April 12, 2018

Respectfully Submitted,

LETITIA JAMES  
*Attorney General of New York*

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**EXHIBIT 1:**  
**NOTICE LETTER**



STATE OF NEW YORK  
OFFICE OF THE ATTORNEY GENERAL

LETITIA JAMES  
ATTORNEY GENERAL

DIVISION OF SOCIAL JUSTICE  
ENVIRONMENTAL PROTECTION BUREAU

**BY CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

February 7, 2019

Hon. Andrew Wheeler  
Acting Administrator  
United States Environmental Protection Agency  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

**Re: Clean Air Act notice of intent to sue for failure to perform  
nondiscretionary duty to make finding or deny petition  
brought by the State of New York under 42 U.S.C. § 7426(b)**

Dear Acting Administrator Wheeler:

The State of New York respectfully requests that the United States Environmental Protection Agency (EPA) take immediate steps to remedy its breach of an absolute duty under the Clean Air Act (Act) to make a finding or deny a petition from New York, dated March 12, 2018 under section 126(b) of the Act, 42 U.S.C. § 7426(b), (the 126 Petition) to address the interstate transport of ozone pollution from sources in states upwind of New York. In the 126 Petition, New York identified sources or groups of sources in Illinois, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia and West Virginia that are significantly contributing to nonattainment or interfering with maintenance of the 2008 and/or 2015 ozone national ambient air quality standards (NAAQS) in New York. EPA received this petition on March 14, 2018 and was required to act on the 126 Petition within 60 days, but granted itself a six-month extension by notice published in the Federal Register on May 11, 2018, 83 Fed. Reg. 21,909, citing 42 U.S.C. § 7607(d)(10) and

specifying that it would take action on the petition by November 9, 2018.<sup>1</sup> However, to date, EPA has taken no action and is in default of its obligations. EPA's failure to act on the 126 Petition by the deadlines set in the Act violates the Act and harms New York and the health and welfare of its residents. Therefore, unless EPA promptly remedies this failure by making the findings requested or denying the 126 Petition, at the expiration of the required 60-day notice period, New York intends to file suit against you in your official capacity as the Acting Administrator of the EPA and against EPA for failure to perform a non-discretionary duty under the Clean Air Act. *See* 42 U.S.C. §§ 7604(a)&(b); 40 C.F.R. part 54.

Furthermore, under Section 304(d) of the Act, 42 U.S.C. § 7604(d), "[t]he court, in issuing any final order in any action brought pursuant to subsection (a) of this section, may award costs of litigation (including reasonable attorney and expert witness fees) to any party, whenever the court determines such award is appropriate." If New York must file suit to obtain EPA's compliance with this nondiscretionary duty, we intend to seek all available costs, including without limitation, reasonable attorneys' fees.

### ***Background***

Under the cooperative federalism framework of the Act, EPA and the states are required to work together to achieve healthy air quality throughout the country. To promote this, the Act requires EPA to establish and periodically revise NAAQS, which establish maximum allowable ambient air concentrations for certain pollutants. 42 U.S.C. §§ 7408-7409. States are primarily responsible for ensuring that their air quality meets the NAAQS. *Id.* § 7407(a).

Ground-level ozone is not emitted directly into the air, but is a secondary air pollutant that forms when other atmospheric pollutants, known as ozone "precursors," such as nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs), react in the presence of sunlight. 80 Fed. Reg. 65,292, 65,299 (Oct. 26, 2015). EPA has found significant negative health effects in individuals exposed to elevated levels of ozone, including coughing, throat irritation, lung tissue damage, and aggravation of existing conditions, such as asthma, bronchitis, heart disease, and emphysema. *Id.* at 65,302-11. Exposure to ozone has also been linked to premature mortality. *Id.* Some subpopulations are particularly at risk from exposure to ozone pollution, including children, the elderly, and those with existing lung diseases, such as asthma. *Id.*

EPA promulgated a revised NAAQS for ozone of 75 parts per billion (ppb) on March 12, 2008, 73 Fed. Reg. 16,436 (Mar. 27, 2008) (2008 ozone NAAQS). In 2015,

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<sup>1</sup> New York does not concede that EPA had the authority or lawfully exercised any such authority to grant itself this six-month extension.

based on updated scientific information about the health risks of ozone at lower concentrations, EPA revised the ozone NAAQS, setting the standard at 70 ppb. 80 Fed. Reg. at 65,292. Both standards remain in effect.

The formation and transport of ozone occurs on a regional scale over hundreds of miles throughout much of the eastern United States. EPA has for decades known of the regional nature of the ground-level ozone air quality problem, and that pollution from sources located in multiple upwind states contributes to downwind states' problems attaining and maintaining the ozone NAAQS, with those sources in upwind states routinely contributing to multiple downwind air quality problems in varying amounts. Thus, EPA has long recognized that downwind states cannot on their own comply with the ozone NAAQS, and that reducing ozone concentrations in downwind states such as New York requires a reduction in what EPA calls the "interstate transport" of ozone precursors in upwind states. 81 Fed. Reg. 74,504, 74,514 (Oct. 26, 2016).

The Clean Air Act requires each state to submit a state implementation plan (SIP) for every promulgation or revision of a NAAQS, within three years of that standard's promulgation or revision, that provides for the "implementation, maintenance, and enforcement" of the standard. 42 U.S.C. § 7410(a)(1). These plans are often referred to as "Infrastructure" SIPs. An Infrastructure SIP must meet the requirements listed under 42 U.S.C. § 7410(a)(2), including the requirements of 42 U.S.C. § 7410(a)(2)(D)(i)(I), referred to as the Good Neighbor Provision. The Good Neighbor Provision requires that each state's Infrastructure SIP contain adequate provisions to prohibit emissions that will significantly contribute to nonattainment of a NAAQS, or interfere with maintenance of a NAAQS, in a downwind state.

Despite the SIP requirements and Good Neighbor Provision, Congress has recognized that an array of complementary tools are necessary to address the interstate transport of pollutants such as ozone from specific sources. Section 126(b) provides that "[a]ny State or political subdivision may petition the Administrator for a finding that any major source or group of stationary sources emits or would emit any air pollutant in violation of the prohibition of [the Good Neighbor Provision]." 42 U.S.C. § 7426(b). Congress further provided for prompt action on such a petition, requiring that "[w]ithin 60 days after receipt of any petition under this subsection and after public hearing, the Administrator *shall make* such a finding or deny the petition." *Id.* (emphasis added).

Pursuant to section 126(c), if the Administrator finds that a major source or group of sources is emitting a pollutant in violation of the Good Neighbor Provision, any source subject to the finding must cease its operation within three months, unless the Administrator permits the continued operation of the source beyond the time,

conditioned on the source complying with such emission limitations<sup>2</sup> and compliance schedules<sup>3</sup> (containing appropriate increments of progress) as the Administrator may direct to bring about compliance with section 110. Such compliance must occur as expeditiously as practicable, but no later than three years after the date of the Administrator's finding.

### *Ozone Air Quality in New York*

Following EPA's promulgation of the 2008 ozone NAAQS, on July 20, 2012, EPA designated the New York-N. New Jersey-Long Island, NY-NJ-CT metropolitan area (NYMA) as a nonattainment area with a marginal classification. This area consists of nine counties within New York—Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk and Westchester—along with 12 counties in New Jersey and three in Connecticut. The Jamestown, New York area, consisting solely of Chautauqua County, was also designated as marginal nonattainment. 77 Fed. Reg. 30,088 (May 21, 2012).

The NYMA failed to attain the 2008 ozone NAAQS by the marginal attainment deadline of July 20, 2015 and was reclassified by EPA to moderate nonattainment effective June 3, 2016. 81 Fed. Reg. 26,697 (May 4, 2016). This reclassification established a new attainment deadline of July 20, 2018. The Jamestown nonattainment area attained the 2008 ozone NAAQS by the marginal attainment deadline of July 20, 2015, but New York has not requested a redesignation because of the ongoing possibility of that area again exceeding the ozone NAAQS.

The three states with areas in the NYMA have surpassed their three-percent-per-year emission reduction requirements for the 2008 ozone NAAQS, but have not reached attainment of the NAAQS. Certified monitoring data for 2015 through 2017—the basis for determining the area's compliance with the NAAQS—indicated that the NYMA did not attain the NAAQS by the 2018 moderate area deadline. New York submitted a reclassification request to EPA on November 13, 2017, prior to the filing of New York's 126 Petition, requesting that EPA classify the NYMA as a

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<sup>2</sup> The term "emission limitation" means a requirement established by the state or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under the Clean Air Act. 42 U.S.C. § 7602(k).

<sup>3</sup> The term "compliance schedule" means a schedule of required measures including an enforceable sequence of actions or operations leading to compliance with an emission limitation, other limitation, prohibition or standard. 42 U.S.C. § 7602(p).

“serious” nonattainment area.<sup>4</sup> The reclassification to a “serious” nonattainment area will require that the NYMA attain the 2008 ozone NAAQS by July 20, 2021.

As discussed above, EPA strengthened the primary and secondary ozone NAAQS in 2015, revising it to 70 ppm measured over an eight-hour period. As expected at the time New York filed its 126 Petition, the NYMA was designated as a nonattainment area for the 2015 ozone NAAQS. The Jamestown area was designated as attainment, but remains in danger of exceeding that standard primarily due to transported pollution.

Air quality monitors in both the NYMA and Jamestown areas demonstrate that high concentrations of ozone in these locations are largely the result of emissions from major stationary sources of NO<sub>x</sub> located outside and upwind of New York. These sources are often characterized by the operation of large boilers and other units that require very tall stacks to emit the exhaust from their combustion processes. As a result of the use of these tall stacks and the high temperatures of the exiting gases, enormous volumes of NO<sub>x</sub> emissions are sent high into the atmosphere. These high concentrations of NO<sub>x</sub> and subsequently formed ozone are transported to downwind areas in western New York and the NYMA where they combine with ozone formed locally and other ozone precursors to result in ozone levels that exceed the NAAQS.

New York has long been involved in efforts to reduce emissions from in-state sources of NO<sub>x</sub> and to mitigate the regional transport of NO<sub>x</sub>. New York requires in-state sources to meet a variety of stringent emissions standards and comply with NO<sub>x</sub> Reasonably Available Control Technology (RACT). In addition, New York has implemented stringent emissions control measures related to mobile sources. New York’s regional efforts have included participation in the Ozone Transport Commission, which developed the NO<sub>x</sub> Budget Program. New York has also been involved with the Ozone Transport Assessment Group, whose efforts resulted in the 1998 NO<sub>x</sub> SIP Call by EPA. New York has also participated in multiple iterations of NO<sub>x</sub> Budget trading programs, the most recent of which is the 2011 Cross-State Air Pollution Rule (CSAPR)<sup>5</sup> and 2016 CSAPR Update.<sup>6</sup>

EPA’s regional interstate transport rulemakings have proven an important tool for addressing ongoing significant contribution by upwind states and sources to downwind ozone pollution, but EPA has failed to implement a full, federal-level remedy to completely address the issue of transported ozone. EPA’s most recent

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<sup>4</sup> Following submission of New York’s 126 Petition, EPA proposed to reclassify the NYMA to “serious” nonattainment in November 2018. 83 Fed. Reg. 56,781 (Nov. 14, 2018).

<sup>5</sup> 76 Fed. Reg. 48,208 (Aug. 8, 2011).

<sup>6</sup> 81 Fed. Reg. 74,504 (Oct. 26, 2016).

rulemaking, the CSAPR Close-Out, finalized in December 2018,<sup>7</sup> failed to require any further emissions reductions in states upwind of New York beyond those required by the CSAPR Update.<sup>8</sup> New York, along with eight other states, petitioned EPA in 2013 to expand the Ozone Transport Region to include many of the states where the sources named in the 126 Petition are located. EPA denied this petition in November 2017,<sup>9</sup> and New York and several of its co-petitioners are currently challenging this denial.<sup>10</sup>

### ***New York's Section 126(b) Petition***

On March 12, 2018, New York through the New York State Department of Environmental Conservation (NYSDEC) sent EPA a section 126(b) petition seeking a finding that the groups of sources identified in each of nine states, Illinois, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia and West Virginia, significantly contribute to nonattainment or interfere with maintenance of the 2008 and 2015 ozone NAAQS in violation of the Good Neighbor Provision. New York further requested that EPA establish enforceable emissions limitations for the major NO<sub>x</sub> sources identified and establish a compliance schedule to ensure these sources expeditiously complied.

New York's 126 Petition was supported by modeling from the NYSDEC that included NO<sub>x</sub> emissions from stationary upwind sources emitting 400 tons per year or more in the electric generating unit (EGU or power plant), non-EGU, and oil and gas sectors in states that EPA had identified in its modeling for the CSAPR Update as contributing ozone concentrations of at least one percent of the 2008 ozone NAAQS—0.75 ppb or more—to a monitor in a downwind state. NYSDEC's modeling identified stationary sources in Illinois, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia and West Virginia that are significantly contributing to nonattainment or interfering with maintenance of the 2008 and/or 2015 ozone NAAQS in New York. NYSDEC's modeling showed impacts from individual states' collections of 400 tons-per-year sources of up to 6.34 ppb in Chautauqua County and 4.97 ppb in the NYMA. The upwind sources' significant contributions to New York's ozone levels regularly compromise the health and welfare of the more than 12 million New Yorkers living in the NYMA and the approximately 130,000 people in

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<sup>7</sup> 83 Fed. Reg. 65,878 (Dec. 21, 2018).

<sup>8</sup> New York and a coalition of other downwind states, and a coalition of citizen petitioners have challenged this final rule. *See* Petition for Review, *State of New York, et al. v. EPA, et al.*, Case No. 19-1019 (D.C. Cir., filed Jan. 30, 2019); Petition for Review, *Downwinders at Risk, et al. v. EPA, et al.*, Case No. 19-1020 (D.C. Cir., filed Jan. 30, 2019).

<sup>9</sup> 82 Fed. Reg. 51,238 (Nov. 3, 2017).

<sup>10</sup> Petition for Review, *New York, et al. v. EPA, et al.*, (D.C. Cir., filed Dec. 26, 2017).

Chautauqua County, and on the worst ozone days, significantly contribute to unhealthy air for more than 16 million New Yorkers. EPA's failure to require emissions reductions from these upwind sources also creates a disproportionate and inequitable economic burden for sources of ozone precursors in New York State.

As discussed above, consistent with the requirements of the Good Neighbor Provision and section 126(b), a state filing a section 126(b) petition must demonstrate that any major stationary source or group of sources upwind emits or would emit an air pollutant such as ozone precursors, that leads to difficulty attaining or maintaining the NAAQS in the petitioning downwind state. New York has met that burden in its 126 Petition.

New York's 126 Petition called upon EPA to require the significantly contributing states to impose suitable emission limits on the large stationary sources identified as affecting air quality in New York within the three years allowed by section 126(c). These sources should be operating with modern NOx emission controls (e.g., selective catalytic or non-catalytic reduction systems) and at emissions rates commensurate with New York's RACT standards, which are based on a control cost efficiency of approximately \$5,000 per ton of NOx removed. By failing to act on New York's 126 Petition and require these reasonable controls, New York and the residents of the affected downwind areas have been harmed by elevated levels of ozone pollution due in significant part to the identified upwind sources.

### ***EPA Has Failed to Perform a Non-discretionary Duty to the Detriment of New York***

Despite the express requirement that EPA act within 60 days on New York's 126 Petition, on May 3, 2018, then-EPA Administrator E. Scott Pruitt signed a notice granting EPA an extension of time to act under section 307(d)(10) of the Act, 42 U.S.C. § 7607(d)(10), citing "insufficient time to complete the technical and other analyses and public notice-and-comment process required." 83 Fed. Reg. at 21,909. EPA extended its time for action approximately six months to "no later than November 9, 2018," and stated that "this extension may be invoked only once." *Id.* at 21,909-10. To date, EPA has taken no action on the 126 Petition.

EPA's failure to act on the 126 Petition within the statutory period is a clear breach of EPA's statutory duty and harms New York and the public health and welfare of its residents. EPA's failure to comply with its non-discretionary duty also places unfair economic and administrative burdens on New York. NYSDEC's modeling demonstrates that the sources identified in the 126 Petition are significantly contributing to ozone pollution in New York. Thus, New York needs EPA to fully address interstate transport from these and other states upwind from New York, to meet its ozone NAAQS requirements under the Act.

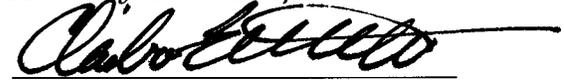
To date, EPA has failed to perform its mandatory duty pursuant to 42 U.S.C. § 7426(b) to take final action on New York's 126 Petition, which if granted, would provide significant relief to New York. EPA's failure to fulfill its mandatory duty violates the Clean Air Act and harms New York and its residents. Consequently, this letter provides notice as required under section 304 of the Act, 42 U.S.C. § 7604, and 40 C.F.R. part 54, that New York intends to file suit against you and EPA for failing to timely act on New York's 126 Petition.

Unless EPA takes the required actions before the end of the applicable notice period, 60 days after the postmark date of this letter, we intend to bring a suit in United States District Court under section 304 of the Act for EPA's failure to perform the non-discretionary duties mandated by 42 U.S.C. § 7426(b). The suit will seek injunctive and declaratory relief, the costs of litigation (including without limitation, reasonable attorneys' fees), and may seek other relief.

Very truly yours,

LETITIA JAMES  
*Attorney General of New York*

By:



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**EXHIBIT 2:**  
**SECTION 126 PETITION**

**OFFICE OF THE COMMISSIONER**

New York State Department of Environmental Conservation  
625 Broadway, 14th Floor, Albany, New York 12233-1010  
P: (518) 402-8545 | F: (518) 402-8541  
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MAR 12 2018

Scott Pruitt  
Administrator  
U.S. Environmental Protection Agency  
Mail Code 1101A  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

Dear Administrator Pruitt:

The New York State Department of Environmental Conservation (DEC) is submitting the enclosed petition pursuant to section 126(b) of the Clean Air Act (CAA) because pollution from upwind sources significantly contributes to nonattainment and interferes with maintenance of the ozone National Ambient Air Quality Standards (NAAQS) in New York State. The New York-Northern New Jersey-Long Island, NY-NJ-CT area remains in nonattainment of the 2008 ozone NAAQS and is expected to be similarly designated for the 2015 ozone NAAQS; meanwhile, Chautauqua and Erie Counties in western New York are on the cusp of exceeding the 2015 NAAQS. Approval of this section 126(b) petition by the U.S. Environmental Protection Agency (EPA) would benefit the health and welfare of the millions of people that live and work in these areas.

DEC performed a modeling analysis that identified certain high-emitting stationary sources (i.e., sources that were projected to emit at least 400 tons of nitrogen oxides (NOx) in 2017 from the following nine states that significantly contribute to nonattainment or interfere with maintenance in New York State: Illinois, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia, and West Virginia. In accordance with CAA section 126(b), DEC requests that EPA make a finding that these sources are in violation of the "good neighbor" provision of CAA section 110(a)(2)(D)(i) and that EPA establish adequate emission limits to eliminate the significant contribution from these sources to nonattainment and interference with maintenance in New York State.

New York requires its stationary sources to meet high standards of NOx control through the application of stringent Reasonably Available Control Technology emission limits. Requiring the same of upwind sources that significantly contribute to nonattainment and interfere with maintenance in New York State will provide ample public health benefits and reduce the disproportionate economic burden to NOx sources in New York State.

In accordance with EPA's endorsement of CAA section 126(b) as an effective pathway for limiting upwind states' ozone contributions in its November 3, 2017 denial of the multi-state CAA section 176A petition, DEC requests a timely approval of this petition.

Please contact Mr. Steven Flint, Director, Division of Air Resources, at (518) 402-8452 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Basil Seggos", written in a cursive style.

Basil Seggos  
Commissioner

Enclosure

c: R. Ruvo, EPA  
C. McCabe, EPA  
M. Koerber, EPA  
R. Wayland, EPA  
S. Flint



Department of  
Environmental  
Conservation

# **NEW YORK STATE PETITION FOR A FINDING PURSUANT TO CLEAN AIR ACT SECTION 126(b)**

March 2018

**DIVISION OF AIR RESOURCES**

Bureau of Air Quality Planning

Albany, NY 12233-3251

P: (518) 402-8396 | F: (518) 402-9035 | [dar.sips@dec.ny.gov](mailto:dar.sips@dec.ny.gov)



## Executive Summary

This is a petition by New York State through its Department of Environmental Conservation (DEC) for a finding under Clean Air Act (CAA) section 126(b) that certain stationary sources located in upwind states impact the ability of New York State to attain the National Ambient Air Quality Standards (NAAQS) for ozone. Specifically, upwind sources interfere with the New York-Northern New Jersey-Long Island, NY-NJ-CT area (hereafter the New York metropolitan area or NYMA) attaining the 2008 and 2015 ozone NAAQS and threaten the ability of Chautauqua County in western New York to maintain attainment of the 2008 and 2015 ozone NAAQS. This petition identifies stationary sources from the following nine states as interfering with attainment or maintenance of the 2008 and 2015 ozone NAAQS in New York State: Illinois, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia, and West Virginia.

The NYMA remains in nonattainment of the 2008 ozone NAAQS as the area failed to attain by its initial marginal classification deadline of July 20, 2015 and monitoring data indicate it will again fail to attain by the moderate classification deadline of July 20, 2018 (based on preliminary 2015-2017 data). Chautauqua County was designated as nonattainment for the 2008 ozone NAAQS, though it currently monitors attainment. Significant levels of transported ozone will interfere with the area's ability to continue monitoring attainment and will negatively impact the area's future chances of being redesignated to attainment.

Furthermore, the NYMA is expected to be designated nonattainment for the 2015 ozone NAAQS once EPA finalizes its designations. Preliminary 2017 design values demonstrate that multiple monitors in the New York, Connecticut, and New Jersey portions of the NYMA exceed the 2015 NAAQS, which was set at a level of 0.070 parts per million (ppm).

Modeling analyses have repeatedly confirmed that there are significant ozone impacts in New York State from the upwind states whose sources are named in this petition. These sources interfere with the ability of the NYMA to attain the ozone NAAQS and Chautauqua County to maintain the NAAQS. DEC completed a modeling exercise in support of this petition that analyzed emissions from the collection of 400 ton-per-year sources in the electric generating unit (EGU), non-EGU, and oil and gas sectors, in each significantly contributing state – i.e., those states that were identified in EPA's modeling for the Cross-State Air Pollution Rule (CSAPR) as contributing ozone concentrations of at least one percent of the 2008 NAAQS (or 0.75 parts per billion (ppb) or more) to a monitor in a downwind state. The results show impacts from individual states' collection of 400 ton-per-year sources of up to 6.34 ppb in Chautauqua County and 4.97 ppb in the NYMA nonattainment area. The upwind sources' significant contributions compromise the health and welfare of the 20 million citizens living within the NYMA and the 135,000 citizens in Chautauqua County and create a disproportionate economic burden for sources of ozone precursors in New York State.

DEC is calling upon EPA to require the significantly contributing states to impose suitable emission limits on these large stationary sources that are affecting air quality in New York within the three years allowed for under section 126(c). These sources should be operating with modern nitrogen oxide (NO<sub>x</sub>) emission controls (e.g. selective catalytic or non-catalytic reduction systems) and at emission rates commensurate with New York State's Reasonably Available Control Technology (RACT) standards, which are based on a control cost efficiency of \$5,000 per ton of NO<sub>x</sub> removed. Given EPA's endorsement of the section 126(b) statutory option in its November 3, 2017 denial of the section 176A petition, DEC expects a timely approval of this petition.

## Statutory Authority

CAA section 126(b) provides that:

*Any State or political subdivision may petition the Administrator for a finding that any major source or group of stationary sources emits or would emit any air pollutant in violation of the prohibition of section 110(a)(2)(D)(i) or this section. Within 60 days after receipt of any petition under this subsection and after public hearing, the Administrator shall make such a finding or deny the petition.<sup>1</sup>*

Section 110(a)(2)(D)(i) is also known as the "good neighbor" provision. It requires each state's SIP to contain provisions prohibiting any source or other type of emissions activity within the state from emitting any air pollutant in amounts that will contribute significantly to nonattainment in, or interfere with maintenance by, any other state with respect to a NAAQS. Consistent with these provisions, the burden on a state filing a petition pursuant to section 126(b) is to demonstrate that any major stationary source or group of stationary sources emits or would emit an air pollutant that leads to difficulty attaining or maintaining a NAAQS.

Within 60 days after receipt of the section 126(b) petition and after a public hearing, the Administrator must make the requested finding or deny the petition. Pursuant to CAA section 126(c), if the Administrator finds that a major source or group of sources is emitting a pollutant in violation of section 110, any source subject to the finding must cease its operation within three months, unless the Administrator permits the continued operation of the source beyond the time, conditioned on the source complying with such emission limitations and compliance schedules (containing increments of progress) as the Administrator may direct to bring about compliance with section 110. Such compliance must be brought about as expeditiously as practicable but in no case later than three years after the date of the Administrator's finding.

The term "emission limitation" means a requirement established by the state or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or

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<sup>1</sup> Note that CAA section 126(b) references section 110(a)(2)(D)(ii); EPA attributes this to a scrivener's error, whereas the correct citation is section 110(a)(2)(D)(i). See "Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport," Final Rule; May 25, 1999; 64 FR 28267.

maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under the CAA.<sup>2</sup> The term “compliance schedule” means a schedule of required measures including an enforceable sequence of actions or operations leading to compliance with an emission limitation, other limitation, prohibition, or standard.<sup>3</sup>

## Background and Necessity

### Ozone Formation and Health/Welfare Effects

Ozone is formed when NO<sub>x</sub> and volatile organic compounds (VOCs) react with oxygen in the presence of sunlight and heat. Peak ozone concentrations in New York State typically occur during the May to September period when temperatures are highest. NO<sub>x</sub> and VOC emissions from local urban sources over successive hot days combine with high-level concentrations of ozone and precursors that have been transported into the area from sources located outside the state by westerly to southerly winds.

EPA’s most recent Integrated Science Assessment (ISA) for ozone determined that a “causal” relationship exists between short-term exposure to ozone in ambient air and negative effects on the respiratory system, and that a “likely to be causal” relationship exists between long-term exposure to ozone in ambient air and respiratory effects.<sup>4</sup> The ISA also determined that the relationships between short-term exposures to ozone in ambient air and both total mortality and cardiovascular effects are likely to be causal, based on expanded evidence in the recent review.<sup>5</sup> Additionally, the latest review strengthened the body of evidence indicating the occurrence of respiratory effects due to long-term ozone exposure,<sup>6</sup> and recent studies have increased the certainty of the association between short-term ozone concentrations and mortality in adults.<sup>7</sup>

Ground-level ozone can irritate lung airways and cause skin inflammation much like sunburn. Other symptoms from exposure include wheezing, coughing, pain when taking a deep breath, and breathing difficulties during exercise or outdoor activities. Even at very low levels, exposure to ground-level ozone can result in decreased lung function, primarily in children who are active outdoors, as well as increased hospital admissions and emergency room visits for respiratory illnesses among children and adults with pre-existing respiratory diseases (e.g., asthma). People with respiratory problems are most vulnerable to the health effects associated with ozone exposure, but even healthy people that are active outdoors can be affected when ozone levels are high.

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<sup>2</sup> CAA Section 302(k)

<sup>3</sup> CAA Section 302(p)

<sup>4</sup> U.S. EPA; “Final Report: Integrated Science Assessment of Ozone and Related Photochemical Oxidants.” 2013. EPA/600/R-10/076F. P. 1-6 to 1-7.

<sup>5</sup> Ibid. P. 1-7 to 1-8.

<sup>6</sup> Ibid. Chapter 7.

<sup>7</sup> “National Ambient Air Quality Standards for Ozone.” Final Rule. Published October 26, 2015. 80 FR 65309.

In addition to its health effects, ozone interferes with the ability of plants to produce and store nutrients, which makes them more susceptible to disease, insects, harsh weather, and other pollutants. This impacts annual crop production throughout the United States, resulting in significant losses and injury to native vegetation and ecosystems. Furthermore, ozone damages the leaves of trees and other plants, ruining the appearance of cities, national parks, and recreation areas. Ozone can also damage certain man-made materials, such as textile fibers, dyes, rubber products, and paints.

### Ozone Air Quality in the NYMA and Western New York

EPA revised the primary and secondary NAAQS for ozone in 2008 to levels of 0.075 ppm, measured over an 8-hour period. Effective July 20, 2012, EPA designated the New York-N. New Jersey-Long Island, NY-NJ-CT metropolitan area as a nonattainment area for the 2008 ozone NAAQS with a marginal classification. This area consists of nine counties within New York – Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, and Westchester – along with twelve counties in New Jersey and three in Connecticut. The Jamestown, New York area, consisting solely of Chautauqua County, was also designated as marginal nonattainment.<sup>8</sup>

The NYMA failed to attain the 2008 NAAQS by the marginal attainment deadline of July 20, 2015 and was reclassified by EPA to moderate nonattainment effective June 3, 2016, providing another three years to attain.<sup>9</sup> This established a new attainment deadline of July 20, 2018, determined with data from 2015-2017. The Jamestown nonattainment area attained the NAAQS by the marginal attainment deadline of July 20, 2015 though it remains in danger of exceeding the ozone NAAQS, particularly the 2015 standard.

New York, New Jersey, and Connecticut have all been surpassing their three-percent-per-year emission reduction requirements for the 2008 NAAQS, but are still far from reaching attainment in the NYMA. Certified monitoring data through 2016 and preliminary 2017 data indicate that the NYMA did not attain the 2008 ozone NAAQS by the moderate area deadline (effectively the end of 2017). The area's "design value monitor" (i.e., the highest-recording monitor in the area) is located in southern Connecticut and had both a 2016 design value and preliminary 2017 design value of 83 ppb. DEC submitted a reclassification request to serious nonattainment on November 13, 2017; a serious classification would provide an additional three years, until July 20, 2021 (based on 2018-2020 monitoring data), to attain the NAAQS.

EPA revised the primary and secondary ozone NAAQS again in 2015 to 0.070 ppm, measured over an 8-hour period, because the 0.075 ppm standard was not sufficiently protective of human health. DEC expects a similar nonattainment designation for the

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<sup>8</sup> "Air Quality Designations for the 2008 Ozone National Ambient Air Quality Standards." Final Rule. Published May 21, 2012; effective July 20, 2012. 77 FR 30088-30160.

<sup>9</sup> "Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Several Areas for the 2008 Ozone National Ambient Air Quality Standards." Final Rule. Published May 4, 2016; effective June 3, 2016. 81 FR 26697-26722.

New York-N. New Jersey-Long Island, NY-NJ-CT area as stated in the “120-day letter” issued by EPA on December 20, 2017 to Governor Andrew Cuomo, based on recent design values. This designation was expected by the October 1, 2017 statutory deadline, though as of this filing EPA has yet to issue final designations.

Given the continued inability to attain the 2008 NAAQS, the upcoming nonattainment designation for the NYMA for the 2015 NAAQS, and the potential for areas in western New York to exceed the 2008 and 2015 NAAQS, New York State requires relief from the upwind contributors named in this petition.

### Transported Ozone Pollution

Complicating the strategy to reduce ground-level ozone in the NYMA is the fact that the chemical reactions that create ozone can take place while the pollutants are being transported through the air by the wind. This means elevated levels of ozone can exist many miles away from the source of their original precursor emissions. Therefore, unlike more traditional criteria pollutants (e.g., sulfur dioxide and lead, which are emitted directly and can be controlled at their source), reducing ozone concentrations locally poses additional challenges.

The high concentrations of ozone that are transported to New York State are largely the result of emissions from major stationary sources of NO<sub>x</sub> located out-of-state. These sources are often characterized by the operation of large boilers and other units that require very tall stacks to emit the exhaust from their combustion processes. Because of the use of these tall stacks and the high temperatures of the exiting gases, enormous volumes of NO<sub>x</sub> emissions are sent high into the atmosphere. These high concentrations of NO<sub>x</sub> and the subsequently-formed ozone are transported aloft during the night to downwind areas like western New York and the NYMA where they combine with locally-formed ozone and precursors during the day to result in exceedances of the NAAQS.

New York State has been involved in efforts to mitigate regional transport of NO<sub>x</sub> for decades, beginning with its participation in the Ozone Transport Commission which developed the original NO<sub>x</sub> Budget Program. New York’s efforts continued with the Ozone Transport Assessment Group (OTAG) – a partnership between EPA, the Environmental Council of States, and various industry and environmental groups to study the effects of ozone precursor emissions on downwind areas. This partnership resulted in EPA’s October 1998 finding (commonly known as the “NO<sub>x</sub> SIP Call”) that 22 states and the District of Columbia significantly contributed to nonattainment and maintenance issues in downwind areas and to the ozone-related health issues therein, therefore violating their “good neighbor” obligations under CAA section

110(a)(2)(D)(i)(I).<sup>10</sup> EPA included a model NOx Budget Trading Program rule with this finding as a tool for states to meet their trading obligations.

The NOx Budget Trading Program was the first of multiple iterations of ozone-season NOx trading programs that have been implemented at the federal level in an attempt to alleviate eastern states' interstate contributions pursuant to section 110(a)(2)(D)(i)(I). The most recent of these federal programs is CSAPR, which was originally released on August 8, 2011 for the 1997 ozone NAAQS<sup>11</sup> and subsequently updated on October 26, 2016 for the 2008 ozone NAAQS.<sup>12</sup> CSAPR is the result of states failing to fulfill their good neighbor obligations for transport; it represents the coordinated issuance of Federal Implementation Plans (FIPs) for 22 eastern states that are linked to downwind nonattainment or maintenance areas. These FIPs require affected EGUs in each covered state to comply with the program's seasonal emissions budgets.

While the CSAPR program provides the legal and technical basis for states to eliminate their significant contributions to excessive ozone pollution, EPA has failed to implement a full, federal-level remedy to completely address the issue of transported ozone. In the CSAPR Update, EPA stated that "the EGU NOx ozone season emission budgets finalized in this action represent a *partial remedy* to address interstate emission transport for the 2008 ozone NAAQS" (emphasis added).<sup>13</sup> The NYMA was one of the areas that was projected to remain in nonattainment beyond the application of the rule's NOx budgets, with monitors in Fairfield and New Haven Counties in the Connecticut portion of the area continuing to project nonattainment in 2017. Additionally, multiple additional monitors in the Connecticut and New York portions of the NYMA were projected as maintenance monitors.

Since the CSAPR Update does not fully address states' transport obligations, EPA has issued findings that all nine states named in this petition (in addition to others) failed to submit adequate good neighbor SIPs for the 2008 ozone NAAQS. Moreover, EPA has failed to fulfill its duty to issue FIPs by the two-year deadline in certain instances:

- June 2, 2016 – FIP deadline for Kentucky (EPA is under a District Court order to finalize by June 30, 2018);
- August 12, 2017 – FIP deadline for Illinois, Michigan, Pennsylvania, Virginia, West Virginia;
- July 15, 2018 – FIP deadline for Indiana, Ohio;
- August 19, 2018 – FIP deadline for Maryland.

EPA's failure to enforce states' good neighbor obligations necessitates that New York take further action for relief from interstate transport.

<sup>10</sup> "Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone." Final Rule. Published October 27, 1998; effective December 28, 1998. 63 FR 57356-57538.

<sup>11</sup> "Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals. Final Rule. Published August 8, 2011; effective October 7, 2011. 76 FR 48208-48483.

<sup>12</sup> "Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS." Final Rule. Published October 26, 2016; effective December 27, 2016. 81 FR 74504-74650.

<sup>13</sup> *Ibid.*, 81 FR 74508.

## Dunkirk Monitor (Chautauqua County) Transport Study

A recent DEC study quantified the effect of transport on the ozone design value at the Dunkirk monitor (ID 36-013-0006). This monitor, which is located in Chautauqua County in Western New York, is officially designated nonattainment for the 2008 ozone NAAQS and has the potential to exceed the 2015 ozone NAAQS. This study used a synoptic analysis including back-trajectories and ozone concentration data from EPA's Air Quality System to identify upwind pollution contributions.

The study finds that air transported into Chautauqua County on the worst air quality days is already, on average, within two ppb of – and often exceeds – the 2015 ozone standard. Consequently, given the absence of major sources in the area, this study highlights the need for ozone precursor emissions reductions from upwind states, especially sources identified in this petition that are located in Ohio, Indiana, Michigan, Kentucky, and Illinois. The study results are summarized in Table 1, while a more comprehensive discussion of the analysis is contained in Appendix A.

Table 1. Maximum Daily 8-Hour Ozone Concentrations (ppb) for Design Days with Direct Inflow

Date	Erie, PA	Dunkirk, NY	Upwind source areas
05/15/13	69	66	Chicago, Detroit
05/29/13	62	69	Ohio Valley, Cleveland
06/22/13	64	70	Ohio Valley, Cleveland
09/10/13	70	76	Chicago, Detroit, Cleveland
05/26/14	71	74	Detroit, Cleveland
06/16/14	61	71	Chicago, Detroit, Cleveland
05/03/15	65	74	Chicago, Detroit, Cleveland
05/24/15	65	71	Chicago, Detroit, Cleveland, Ohio Valley
05/24/16	70	69	Detroit
05/25/16	79	82	Chicago, Detroit, Cleveland, Ohio Valley, Pittsburgh
06/11/16	73	80	Chicago, Detroit, Cleveland, Ohio Valley
07/19/17	78	79	Chicago, Detroit
08/01/17	63	67	Detroit, Cleveland
<b>Average</b>	<b>68</b>	<b>73</b>	

## New York State's Efforts to Control its Major Stationary Sources

The request made to EPA in this petition is to require upwind states to control major EGU and non-EGU stationary sources to an extent that mirrors the level of control for similar sources in New York. New York's inclusion in the Ozone Transport Region (OTR) requires RACT to be implemented statewide, and the severity of NYMA's ozone nonattainment results in even stricter emissions thresholds for RACT applicability in that area.

The threshold to determine economic feasibility for NO<sub>x</sub> RACT in New York State is an inflation-adjusted \$5,000 per ton of NO<sub>x</sub> reduced. DEC has promulgated some regulations with emission limits specific to a source category (e.g., industrial boilers under 6 NYCRR Subpart 227-2), and others that require facility-specific analyses to determine technically feasible controls within this cost threshold (e.g., cement and glass plants under 6 NYCRR Subparts 220-1 and 220-2, respectively). DEC also adopts all federal Control Techniques Guidelines and Alternative Control Techniques, except in instances where no sources exist for a particular source category, statewide.

Upwind non-OTR states have no similar mandate for installing controls at major non-EGU sources outside of moderate (or above) nonattainment areas. Emissions from EGUs are typically dictated by NO<sub>x</sub> budgets through CSAPR rather than through state regulations. As discussed above, the CSAPR update for the 2008 ozone NAAQS is only a partial remedy to states' ozone transport obligations, since EPA focused on "immediately available and cost-effective emissions reductions that are achievable by the 2017 ozone season."<sup>14</sup> EPA considered "cost-effective" controls to be within a threshold of \$1,400 per ton of NO<sub>x</sub> reduced – less than a third of the economic standard that New York's major sources are held to. And by focusing only on short-term emission reductions, EPA ruled out potentially cost-effective controls that would have benefited the NYMA albeit on a slightly longer timeframe.

Additionally, CSAPR is a seasonal trading program, with compliance averaged over the entire ozone season. This method does not ensure relief to downwind states on the high electric demand days in which NO<sub>x</sub> emissions are highest and ozone formation is at its peak. To address that concern, New York's RACT limits are based on daily (24-hour block) averages. This shorter-term averaging scheme requires emissions controls to be run continuously to meet the regulatory limits.

### New York State's Attempts to Address Upwind Transport

Because EPA's NO<sub>x</sub> trading programs do not provide a full remedy to upwind states' section 110(a)(2)(D)(i)(I) obligations, New York State has taken additional actions to curtail the ozone pollution from upwind states that is impacting public health in the NYMA.

On December 9, 2013, New York and seven other states submitted a petition to EPA pursuant to CAA section 176A to expand the OTR to include nine additional states: Illinois, Indiana, Kentucky, Michigan, North Carolina, Ohio, Tennessee, Virginia, and West Virginia. (Note that the petition was amended on December 10, 2013 to add Pennsylvania to the list of petitioners.) The petitioning states utilized EPA's air quality contribution modeling along with their own technical analysis to demonstrate the need for the upwind states to control emissions of their ozone precursors that impact nonattainment and maintenance areas in downwind states. Expansion of the OTR

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<sup>14</sup> 81 FR 74521

would require these additional states to engage in planning discussions, and to implement control measures commensurate with those already in place in the petitioning states (e.g., vehicle inspection and maintenance programs, New Source Review, and RACT) in order to reduce emissions of ozone precursors.

However, on November 3, 2017, EPA denied the petitioning states' request, stating there are more appropriate statutory options available to address interstate transport, specifically citing CAA sections 110(a)(2)(D)(i) and 126(b). DEC is submitting this section 126(b) petition for relief from harmful and unlawful ozone pollution from upwind states consistent with EPA recommendations.<sup>15</sup>

In addition, New York State joined as plaintiff-intervenor in a suit brought by Sierra Club that addressed the "undisputed failure" of EPA to perform its CAA-mandated duty to issue a FIP to address the interstate transport from Kentucky that significantly contributes to other states' nonattainment or maintenance issues. The suit was decided in favor of Sierra Club and New York, with the decision declaring that the statute "imposed an absolute duty on the EPA to issue the FIP within two years of Kentucky's failure to adopt an adequate [SIP]."<sup>16</sup> The court ordered EPA to complete its FIP by June 30, 2018.

Furthermore, plaintiffs New York and Connecticut filed suit on January 17, 2018 against EPA and Administrator Pruitt for similarly failing to complete transport FIPs for an additional group of 24 states, which includes five that significantly contribute to ozone nonattainment in the NYMA: Illinois, Michigan, Pennsylvania, Virginia, and West Virginia. August 12, 2017 marked the two-year deadline for EPA to issue a FIP to cover the good neighbor obligations for these states. EPA has not taken any action to fulfill its obligation. The court decision in the Kentucky suit has established that these timeframes are not negotiable.

## Analysis of Significant Ozone Contributions

### Methodology

New York State's analysis for this section 126(b) petition considered the highest-emitting facilities – specifically, EGU and non-EGU facilities, including from the oil and gas sector, that emit 400 tons per year or more of NO<sub>x</sub> – from each state that significantly contributed to nonattainment or interfered with maintenance in the NYMA and/or interfered with maintenance in Chautauqua County. (DEC used a threshold of one percent of the NAAQS to determine "significant" contributions or interference,

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<sup>15</sup> A group of the petitioning states, including New York, is challenging EPA and Administrator Pruitt's denial of the section 176A petition as arbitrary and capricious and not supported by the record.

<sup>16</sup> Order re Partial Consent Decree and Summary Judgment. U.S. District Court – Northern District of California. Sierra Club, Plaintiff, State of New York, Plaintiff-Intervenor, v. Scott Pruitt, Defendant. Case No. 3:15-cv-04328-JD. Filed May 23, 2017.

following EPA precedent.<sup>17</sup>) These high-emitting facilities are expected to have the greatest impact on the ability of the NYMA and Chautauqua County to attain and maintain the 2008 and 2015 NAAQS, and therefore can reasonably be retrofitted with control equipment or can operate existing controls more frequently in an effort to reduce NO<sub>x</sub>.

EPA's ozone contribution modeling for the 2008 ozone NAAQS, released on September 7, 2016 in conjunction with the final CSAPR Update rule, provided the necessary information for DEC to determine which states significantly contribute to ozone nonattainment issues in the NYMA.<sup>18</sup> Ten states were projected to contribute at least one percent of the 2008 NAAQS (i.e., 0.75 ppb) at nonattainment monitors in the NYMA in 2017: Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, Ohio, Pennsylvania, Virginia, and West Virginia. These 10 significantly contributing states formed the basis of DEC's analysis, as they violate the good neighbor provision of CAA section 110(a)(2)(D)(i).

While EPA released additional air quality modeling in October 2017 to serve as the basis for good neighbor SIPs for the 2015 NAAQS, DEC has significant concerns about the assumptions and results of this modeling – for example, the expectation that uncontrolled EGUs will greatly reduce their emission rates in the absence of enforceable limits, and the treatment of model cells containing a land/water interface. Without further analysis and enforceable commitments to support the modeled reductions, EPA's modeling does not fulfill states' obligations under CAA section 110(a)(2)(D)(i). Furthermore, CAA section 126(c) explicitly states that compliance must be met "in no case later than three years after the date of [a section 126(b)] finding." EPA's 2023 modeling does not fit this timeframe and cannot be used to support a review of this petition.

DEC utilized the 2017 Beta 2 projection inventory developed by the Mid-Atlantic Regional Air Management Association (MARAMA) to identify the facilities emitting 400 tons per year or more of NO<sub>x</sub> in each of the 10 significantly contributing states. The 2017 EGU projection was done by MARAMA using the Eastern Regional Technical Advisory Committee (ERTAC) tool, as opposed to the Integrated Planning Model typically used by EPA in its EGU projection modeling. To ensure a complete facility list, DEC also identified sources greater than 400 tons in the 2014 National Emissions Inventory (NEI), to be accounted for in the contribution modeling with their MARAMA projected 2017 emissions, where still operating. (This explains the inclusion of some sources with projected 2017 emissions less than 400 tons.) The list of facilities included in the contribution modeling, and their projected 2017 emissions, are included as Appendix B.

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<sup>17</sup> "Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS." Final Rule. Published October 26, 2016; effective December 27, 2016. 81 FR 74508.

<sup>18</sup> "Final CSAPR Update\_Ozone Design Values & Contributions\_All Sites.xlsx." Available at EPA's "Final Cross-State Air Pollution Rule Update" website: <https://www.epa.gov/airmarkets/final-cross-state-air-pollution-rule-update>

Once identified, the facilities' emissions were processed for modeling. The sources emitting at least 400 tons per year in the 2017 Beta 2 emission files were processed through the Sparse Matrix Operator Kernel Emissions (SMOKE) processor on a state-by-state basis. A baseline run was performed with the MARAMA Beta 2 emission files; a control run was then performed with the high-emitting sources for each state "zeroed out." The difference between the base and control runs represents the emissions impact from each state's collection of 400 ton-per-year sources.

The Community Multiscale Air Quality (CMAQ) model runs utilized model version 5.0.2 with CB05 gas chemistry. EPA's WRF 2011 meteorological data were used.

DEC's CMAQ modeling analysis generally followed the method described for ozone contribution modeling in EPA's Technical Support Document for the CSAPR Update, with some adjustments.<sup>19</sup> DEC used a methodology that would represent days when ozone concentrations are approaching the NAAQS, as follows: Modeled hourly ozone concentrations were used to calculate the 8-hour daily maximum ozone (MDA8) concentration in each grid cell on each day of the two-and-a-half month modeling period. If a monitor grid cell had five days or more with MDA8 of at least 71 ppb, the maximum MDA8 difference (between the baseline and control runs) was selected. If a monitor grid cell had fewer than five days with MDA8 of at least 71 ppb, but at least five days with MDA8 of at least 60 ppb, the maximum difference of those days was selected. If there were fewer than five such days, the monitor was disregarded.

DEC chose to model a period of May 18 through July 30; while resource constraints prevented DEC from performing a complete ozone-season or annual analysis for each significantly contributing state, this scenario provides an adequate approximation of ozone impacts by capturing the majority of ozone exceedance days at the monitors of interest.

### Modeled Impacts that Form Basis of Petition

The model output, summarized in Table 2, represents the maximum influence from the combined 400 ton-per-year sources from an individual state on a particular monitor. This maximum influence can be from any day over the two-and-a-half month modeling period. Due to the 60-ppb threshold utilized at each monitor described above, impacts at some monitors were not reported.

DEC's focus is on two monitors for which EPA's 2016 contribution modeling showed continued nonattainment or maintenance issues for the 2008 and 2015 NAAQS, in part attributable to upwind state contributions. It is also worth noting that the Riverhead monitor was predicted by EPA's modeling to be well below the 2008 NAAQS in 2017, but continues to exceed the standard. States contributing significant amounts of ozone to these monitors would therefore be considered in violation of the good neighbor

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<sup>19</sup> "Air Quality Modeling Technical Support Document for the Final Cross State Air Pollution Rule Update." EPA Office of Air Quality Planning and Standards. August 2016.

provision for the 2008 and 2015 NAAQS and subject to a petition pursuant to CAA section 126(b). Preliminary 2017 monitored data are also provided here as a confirmation of the continuing ozone issues and their relation to EPA's modeling predictions.

- Babylon (ID 36-103-0002), Suffolk County:
  - projected 2017 design value of 76 ppb, indicating nonattainment;
  - preliminary monitored 2017 design value of 76 ppb.
- Susan Wagner (ID 36-085-0067), Richmond County:
  - projected *maximum* design value of 77 ppb, which EPA uses to indicate maintenance;
  - preliminary monitored 2017 design value of 76 ppb.
- Riverhead (ID 36-103-0004), Suffolk County:
  - Projected 2017 design value of 70 ppb, indicating attainment;
  - Preliminary monitored 2017 design value of 76 ppb

DEC also analyzed upwind contributions to the Dunkirk monitor (ID 36-013-0006) in Chautauqua County, which is designated nonattainment for the 2008 ozone NAAQS. Although the area preliminarily monitored attainment of the NAAQS in 2017, it continues to have the potential to exceed the NAAQS – particularly the updated 2015 standards – due to transported ozone pollution.

The 400 ton-per-year sources from nine individual states were shown to have impacts that exceeded the significant contribution thresholds for the 2008 ozone NAAQS (0.75 ppb) and the 2015 ozone NAAQS (0.70 ppb) at the NYMA and/or Chautauqua County monitors described above: Illinois, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia, and West Virginia. Modeled impacts from the 400 ton-per-year sources in New Jersey proved to not significantly contribute to any nonattainment or maintenance monitors.

Table 2. NYMA and Upstate Impacts from 400 Ton-per-Year Sources (Contributions in ppb)

	Monitoring Site	County	AQS Code	Latitude	Longitude	IL	IN	KY	MD	MI	NJ	OH	PA	VA	WV
NYMA	IS 52*	Bronx	36-005-0110	40.81618	-73.9020	0.192	0.348	0.264	0.716	0.773	0.526	1.077	4.401	0.911	2.006
	Pfizer Lab	Bronx	36-005-0133	40.86790	-73.8781	0.183	1.037	0.693	0.559	0.807	0.145	1.197	2.441	0.624	1.888
	CCNY*	New York	36-061-0135	40.81976	-73.9483	0.192	0.348	0.264	0.716	0.773	0.526	1.077	4.401	0.911	2.006
	Queens College 2	Queens	36-081-0124	40.73614	-73.8215	0.221	0.351	0.404	0.848	0.729	0.594	0.928	3.760	0.847	1.280
	Susan Wagner HS	Richmond	36-085-0067	40.59664	-74.1253	0.205	1.012	0.727	1.509	0.684	0.477	1.350	4.660	0.807	2.273
	Rockland County	Rockland	36-087-0005	41.18208	-74.0282	0.043	0.088	0.065	0.454	0.494	0.283	0.681	4.968	0.346	1.448
	Babylon	Suffolk	36-103-0002	40.74529	-73.4192	0.257	0.516	0.476	0.873	0.641	0.328	0.910	1.978	0.586	0.578
	Riverhead	Suffolk	36-103-0004	40.96078	-72.7124	0.300	0.559	0.252	1.416	0.354	0.450	0.684	1.331	0.929	0.528
	Holtsville	Suffolk	36-103-0009	40.82799	-73.0575	0.159	0.339	0.228	1.160	0.617	0.364	0.739	1.266	0.456	0.335
	White Plains	Westchester	36-119-2004	41.05192	-73.7637	0.040	0.350	0.627	0.798	0.464	0.147	1.109	3.638	0.350	1.554
	Upstate	Dunkirk	Chautauqua	36-013-0006	42.49963	-79.3188	0.806	2.794	1.379	0.049	1.498	0.000	6.343	0.049	0.819
Millbrook		Dutchess	36-02-70007	41.78555	-73.7414	0.037	0.087	0.044	0.875	0.186	0.250	1.658	3.486	0.167	0.571
Amherst		Erie	36-029-0002	42.99328	-78.7715	0.644	4.207	1.479	0.053	1.449	0.000	4.936	0.021	0.323	0.095
Whiteface Mt.		Essex	36-031-0002	44.36608	-73.9031	0.740	1.072	0.227	0.029	1.402	0.002	1.424	0.133	0.220	0.569
Rochester 2		Monroe	36-055-1007	43.14618	-77.5482	0.370	1.195	0.365	0.035	1.770	0.005	2.497	0.194	0.355	0.973
Middleport		Niagara	36-063-1006	43.22386	-78.4789	0.350	1.005	1.550	0.155	1.524	0.005	3.076	0.138	0.303	0.836
East Syracuse		Onondaga	36-067-1015	43.05235	-76.0592	0.986	1.127	0.367	0.238	0.482	0.003	1.033	0.677	0.338	1.058
Valley Central HS		Orange	36-071-5001	41.52375	-74.2153	0.010	0.028	0.028	0.190	0.280	0.743	1.771	3.641	0.153	0.520
Fulton		Oswego	36-075-0003	43.28428	-76.4632	0.790	0.819	0.176	0.050	0.799	0.003	1.167	0.351	0.311	0.977
Mt. Ninham		Putnam	36-079-0005	41.45589	-73.7098	0.040	0.082	0.046	0.847	0.340	0.169	0.627	4.223	0.320	1.148
Williamson		Wayne	36-117-3001	43.23086	-77.1714	0.526	0.592	0.102	0.054	1.209	0.004	1.980	0.331	0.283	0.887

Significant contribution under 2008 NAAQS (&gt; 0.75 ppb)

Significant contribution under 2015 NAAQS (&gt; 0.70 ppb)

\*Shared grid cell for IS52 and CCNY results in identical concentrations

Significant transport contributions are projected to occur at all ozone monitors within the NYMA. The Susan Wagner monitor in Staten Island is of particular interest to DEC because it often records the highest ozone concentrations in the area despite being upwind of New York City's central business district, indicating a heavy transport component. EPA's 2016 transport modeling for the 2008 NAAQS attributed a mere 7.0 percent of the 2017 average design value to New York State. These modeling results demonstrate a significant transport contribution from the high-emitting stationary sources in states as far away as Indiana.

Upstate monitors are also impacted by the high-emitting stationary sources in these significantly contributing states. The monitors in western New York exhibit especially high impacts – particularly the Amherst (Erie County) and Dunkirk (Chautauqua County) monitors, which show major contributions from upwind states. Per EPA's 2016 contribution modeling, 11.8 percent of the ozone contribution to the 2017 average design value at the Amherst monitor is attributed to New York State sources; meanwhile, a mere 2.0 percent of the contribution at Dunkirk comes from New York State. Each area has a history of ozone nonattainment, and may ultimately exceed the 2015 NAAQS depending on ozone concentrations in future years. Based on the above, it is clear that emissions from these significantly contributing upwind states' large sources could be the difference between attainment and nonattainment in these areas, particularly for the 2015 NAAQS.

Included as appendices are plots that display the modeled impacts on New York State monitors from each state's high-emitting sources: Appendix C features each state's highest impact on any New York State monitor on any day. New Jersey is excluded from this appendix since it did not significantly contribute to any nonattainment or maintenance monitors. Appendix D displays the maximum impacts on the Susan Wagner (Richmond County) monitor from each state whose collective 400 ton-per-year sources significantly contributed to it – i.e., Indiana, Kentucky (for the 2015 NAAQS), Maryland, Ohio, Pennsylvania, Virginia, and West Virginia.

### Modeled Impacts in Connecticut and New Jersey Portions of Nonattainment Area

Because portions of Connecticut and New Jersey are part of the NYMA nonattainment area, upwind states' ozone impacts on those states' monitors are also of concern to DEC. Table 3 summarizes the modeled impacts from the 400 ton-per-year stationary sources from each upwind state on NYMA monitors in Connecticut and New Jersey.

Of greatest note are the impacts on the Connecticut monitors identified in EPA's 2016 transport modeling for the 2008 ozone NAAQS as nonattainment or maintenance monitors in 2017. Again, preliminary 2017 monitored data are provided here as a confirmation of the continuing ozone issues predicted by EPA's modeling – in some cases, preliminary monitored values are much higher than modeled predictions.

- Westport (ID 09-001-9003), Fairfield County:
  - projected 2017 design value of 76 ppb, indicating nonattainment;

- preliminary monitored 2017 design value of 83 ppb.
- Madison Beach (ID 09-009-9002), New Haven County:
  - projected 2017 design value of 76 ppb, indicating nonattainment;
  - preliminary monitored 2017 design value of 82 ppb.
- Stratford (ID 09-001-3007), Fairfield County:
  - projected *maximum* design value of 79 ppb, indicating maintenance status;
  - preliminary monitored 2017 design value of 83 ppb.
- Greenwich (ID 09-001-0017), Fairfield County:
  - projected *maximum* design value of 76 ppb, indicating maintenance status;
  - preliminary monitored 2017 design value of 79 ppb.

These results further support the inclusion of sources from Maryland, Michigan, Ohio, Pennsylvania, and Virginia in this petition.

As with the Riverhead monitor in Suffolk County, New York, additional monitors in Connecticut have preliminarily monitored nonattainment in 2017 despite having been predicted to attain in 2017 by EPA's modeling:

- Danbury (ID 09-001-1123), Fairfield County:
  - projected design value of 71 ppb;
  - preliminary monitored 2017 design value of 77 ppb.
- Middletown (ID 09-007-0007), Middlesex County:
  - projected design value of 69 ppb,
  - preliminary monitored 2017 design value of 79 ppb.
- New Haven (ID 09-009-0027), New Haven County:
  - projected design value of 66 ppb,
  - preliminary monitored 2017 design value of 77 ppb.

Table 3. Connecticut and New Jersey Impacts from 400 Ton-per-Year Sources (Contributions in ppb)

	Monitoring Site	County	AQS Code	Latitude	Longitude	IL	IN	KY	MD	MI	NJ	OH	PA	VA	WV
Connecticut	Greenwich	Fairfield	09-001-0017	41.00361	-73.58500	0.211	0.579	0.431	0.670	0.906	0.385	0.833	2.086	1.282	0.669
	Danbury	Fairfield	09-001-1123	41.39917	-73.44310	0.200	0.821	0.527	1.087	0.401	0.162	0.672	3.674	0.453	1.309
	Stratford	Fairfield	09-001-3007	41.15250	-73.10310	0.196	0.535	0.323	1.693	0.513	0.448	0.631	1.660	0.636	0.587
	Westport	Fairfield	09-001-9003	41.11833	-73.33670	0.147	0.567	0.354	1.715	0.506	0.464	0.663	1.641	0.689	0.568
	Middletown	Middlesex	09-007-0007	41.55222	-72.63000	0.148	0.365	0.251	0.976	0.392	0.253	0.349	1.860	0.393	0.092
	New Haven	New Haven	09-009-0027	41.30140	-72.90290	0.183	0.455	0.226	1.732	0.551	0.340	0.649	1.643	0.575	0.594
	Madison Beach	New Haven	09-009-9002	41.26083	-72.55000	0.330	0.635	0.215	2.362	0.680	0.287	0.549	1.570	0.776	0.511
	New Jersey	Leonia	Bergen	34-003-0006	40.87044	-73.99200	0.118	0.979	0.674	0.654	0.383	0.148	0.779	3.907	0.419
Newark Firehouse		Essex	34-013-0003	40.72099	-74.19290	0.207	1.002	0.719	0.544	0.730	0.085	1.469	5.722	0.691	2.238
Bayonne		Hudson	34-017-0006	40.67025	-74.12610	0.197	0.982	0.695	0.750	0.751	0.262	1.263	4.839	0.617	2.403
Flemington		Hunterdon	34-019-0001	40.51526	-74.80670	0.195	0.529	0.453	0.631	0.916	0.286	1.559	5.195	0.304	2.539
Rutgers Univ.		Middlesex	34-023-0011	40.46218	-74.42940	0.248	0.477	0.766	1.416	0.812	0.494	1.106	3.593	0.584	2.724
Monmouth Univ.		Monmouth	34-025-0005	40.27765	-74.00510	0.247	0.622	0.700	0.732	1.006	0.340	1.594	4.439	0.248	1.596
Chester		Morris	34-027-3001	40.78763	-74.67630	0.189	1.425	0.805	0.332	0.691	0.002	1.324	5.839	0.272	1.965
Ramapo		Passaic	34-031-5001	41.05862	-74.25550	0.039	0.081	0.057	0.399	0.430	1.253	0.724	5.286	0.378	1.560
Columbia WMA		Warren	34-041-0007	40.92458	-75.06780	0.183	0.330	0.003	0.156	0.746	0.650	0.954	4.777	0.197	2.433

Significant contribution under 2008 NAAQS (&gt; 0.75 ppb)

Significant contribution under 2015 NAAQS (&gt; 0.70 ppb)

## Request of EPA

Pursuant to CAA section 126(b), DEC requests that Administrator Pruitt take the following action on the major NO<sub>x</sub> sources named in this petition to assist New York State with attaining and maintaining the 2008 and 2015 ozone NAAQS: First, EPA should make a finding within the statutorily-mandated 60 days that the groups of identified sources in each of the nine named states significantly contribute to nonattainment or interfere with maintenance of the 2008 and 2015 ozone NAAQS in violation of CAA section 110(a)(2)(D)(i). Second, EPA should establish enforceable emission limitations for the major NO<sub>x</sub> sources listed in Appendix B at levels designed to prevent them from significantly contributing to air pollution in New York State, and establish a compliance schedule, including increments of progress, to ensure that the named major NO<sub>x</sub> sources comply with the emission limitations as expeditiously as practicable, but no later than three years provided by section 126(c).

DEC notes that some stationary sources named in this petition (e.g., sources that were controlled as a compliance strategy for CSAPR or a previous trading program) may already operate with a NO<sub>x</sub> emission rate equivalent to RACT as defined by New York State, which bases its presumptive limits and facility-specific control analyses on a standard of \$5,000 per ton of NO<sub>x</sub> reduced. In these instances, DEC requests that EPA establish enforceable daily emission limit during the ozone season to require the sources to operate as they are currently operating, to prevent emission controls from being turned off, like in the case of a CSAPR budget surplus.

Appendix B includes average emission rates by EGU facility for the 2014 to 2016 period (these data are unavailable for non-EGUs); highlighted in green are three-year average emission rates less than or equal to 0.15 lb/mmBtu, which DEC considers to be in line with RACT. For the remainder of the facilities with emission rates highlighted in red, DEC requests that EPA establishes permanent and enforceable NO<sub>x</sub> emission limits based on its determination of available cost-effective controls.



## Appendix A

### Additional Details of Dunkirk Contribution Study



Dunkirk Contribution Study Methodology:

- Design days (days considered in the calculation of the design value, or the four days with the largest daily maximum 8-hour ozone concentrations) were identified for the Dunkirk monitor each year from 2013 to 2017.
- Long-range (120 hour) HYSPLIT back-trajectories were used to single out the design days that had direct inflow of air across the New York State border (fewer than three hours in New York State, and in the previous five days had not crossed the state or streamed along the boundaries);
  - 13 of 20 design days met these criteria. (Even in the remaining seven cases there is some inflow, though it is combined with an unknown amount of local pollution.)
- These long-range trajectories were cross-referenced with a NASA map of tropospheric column NO<sub>x</sub> concentrations to identify the probable source areas of pollution arriving at the Dunkirk monitor.
- Short-range (24 hour) HYSPLIT back-trajectories were then utilized to ensure incoming air flows were steady on the design days, and to assess the nearby Erie, Pennsylvania monitor as an upwind site.
  - The proximity of the Erie site makes it representative of the air quality entering western New York State on these stable, direct inflow days.
- The table below provides a detailed summary of the study results; figures on the following pages support the above details.

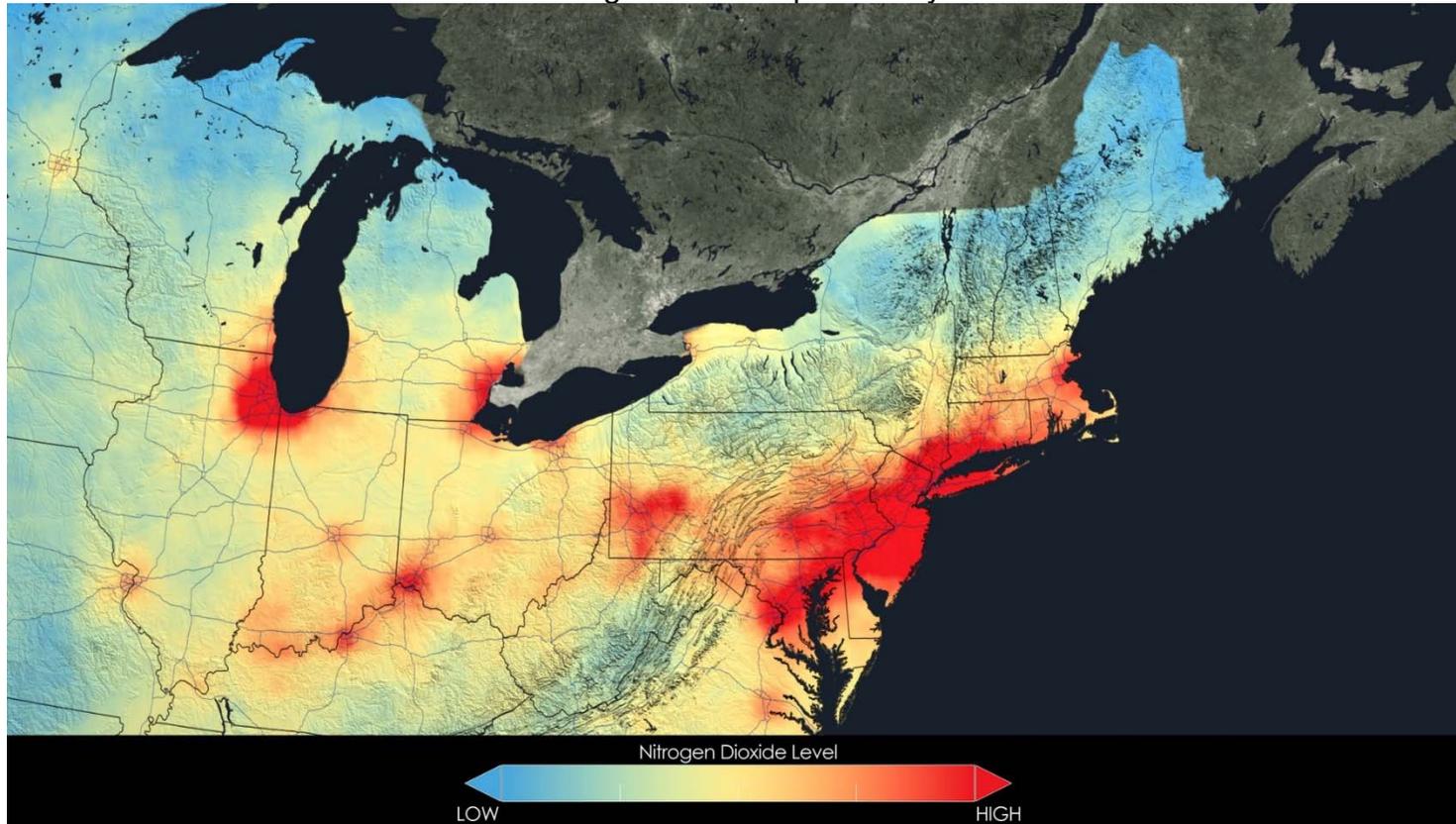
Date	Air flow type	Upwind sources	Erie daily max 8-hr ozone (ppb)	Dunkirk daily max 8-hr ozone (ppb)
5/15/2013	Inflow	Chicago, Detroit	69	66
5/29/2013	Inflow	Ohio Valley, Cleveland	62	69
6/22/2013	Inflow	Ohio Valley, Cleveland	64	70
09/10/2013	Inflow	Chicago, Detroit, Cleveland	70	76
4/21/2014	Recirculation	Chicago, Detroit, Ohio Valley, Pittsburgh, New York State	69	70
05/26/2014	Inflow	Detroit, Cleveland	71	74
06/16/2014	Inflow	Chicago, Detroit, Cleveland	61	71
6/28/2014	Recirculation	Ohio Valley, Cleveland, Pittsburgh, New York State	67	66
05/03/2015	Inflow	Chicago, Detroit, Cleveland	65	74
05/08/2015	Stagnation	Ohio Valley, Pittsburgh	75	78
05/24/2015	Inflow	Chicago, Detroit, Cleveland, Ohio Valley	65	71
09/16/2015	Stagnation	Chicago, Detroit, Cleveland, Ohio Valley	74	74
5/24/2016	Inflow	Detroit	70	69
05/25/2016	Inflow	Chicago, Detroit, Cleveland, Ohio Valley, Pittsburgh	79	82
06/11/2016	Inflow	Chicago, Detroit, Cleveland, Ohio Valley	73	80
06/19/2016	Recirculation	Cleveland, New York State	65	73
6/9/2017	Recirculation	Detroit, Cleveland, New York State	56	66
6/10/2017	Recirculation	Chicago, Cleveland, Ohio Valley, New York State	65	77
7/19/2017	Inflow	Chicago, Detroit	78	79
8/1/2017	Inflow	Detroit, Cleveland	63	67
<b>Average of Direct Inflow Events:</b>			<b>68</b>	<b>73</b>

Average tropospheric column concentrations of nitrogen dioxide for 2011

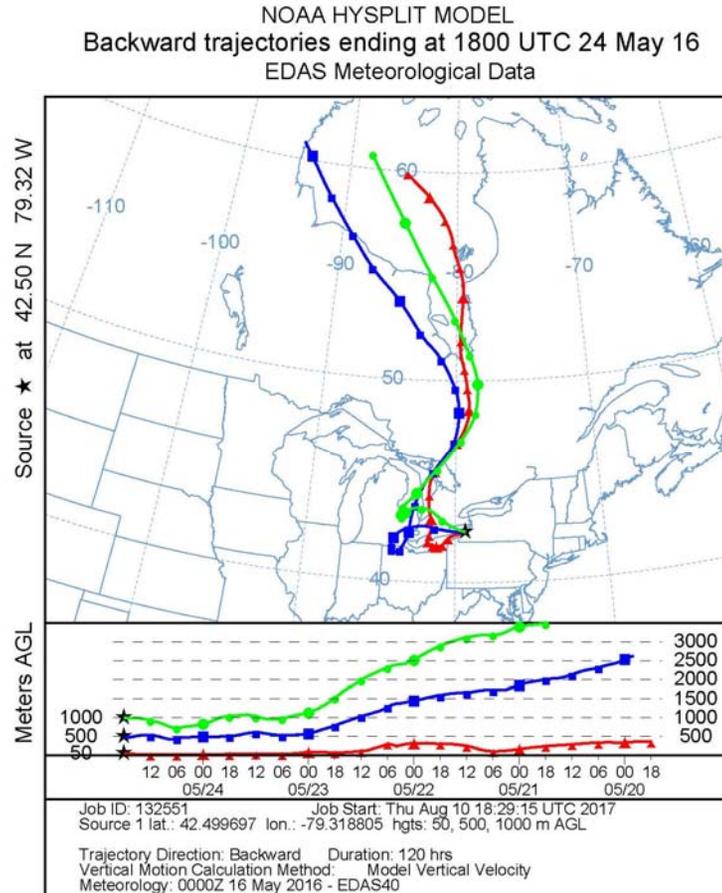
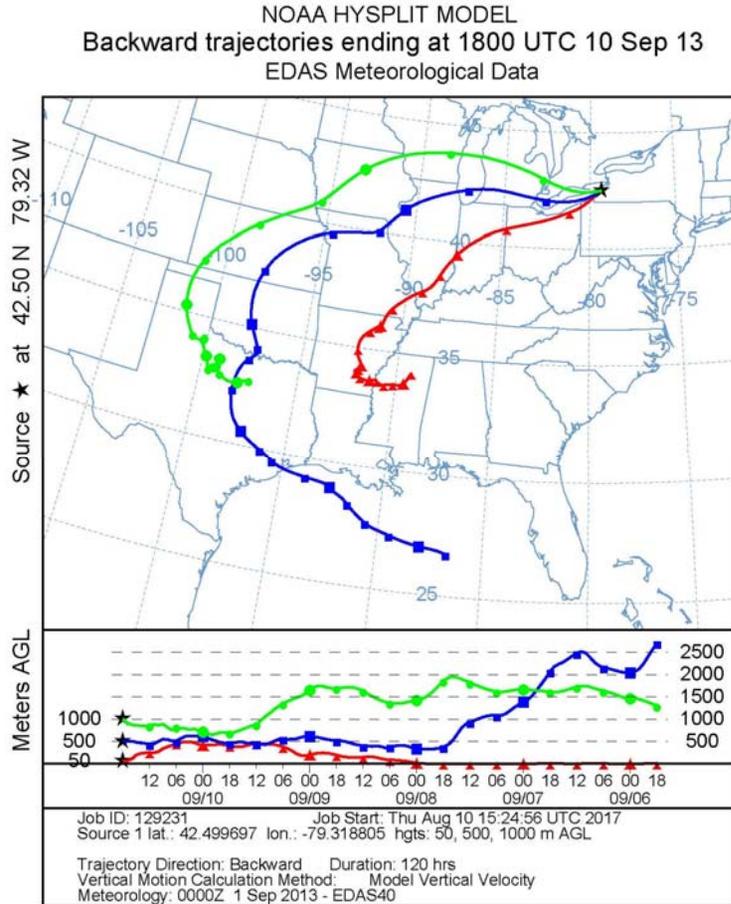
Source: NASA Aura satellite

Major pollution source areas:

- Metropolitan Chicago
- Metropolitan Detroit / Windsor
- Metropolitan Cleveland
- Ohio Valley, along Indiana and Kentucky
- Metropolitan Pittsburgh
- Northeast Coastal Corridor extending from Chesapeake Bay to Greater Boston



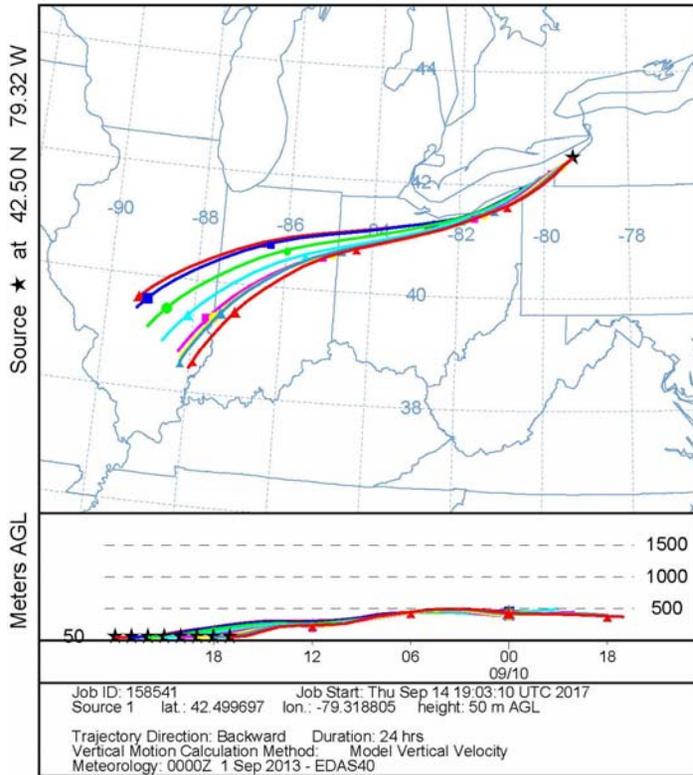
Examples of WSW (September 10, 2013) and WNW (May 24, 2016) flow into Dunkirk  
 (120-hour back-trajectories starting over Dunkirk at 2 p.m. local time)



**Red** = starting at 50m; **Blue** = starting at 500m; **Green** = starting at 1000m

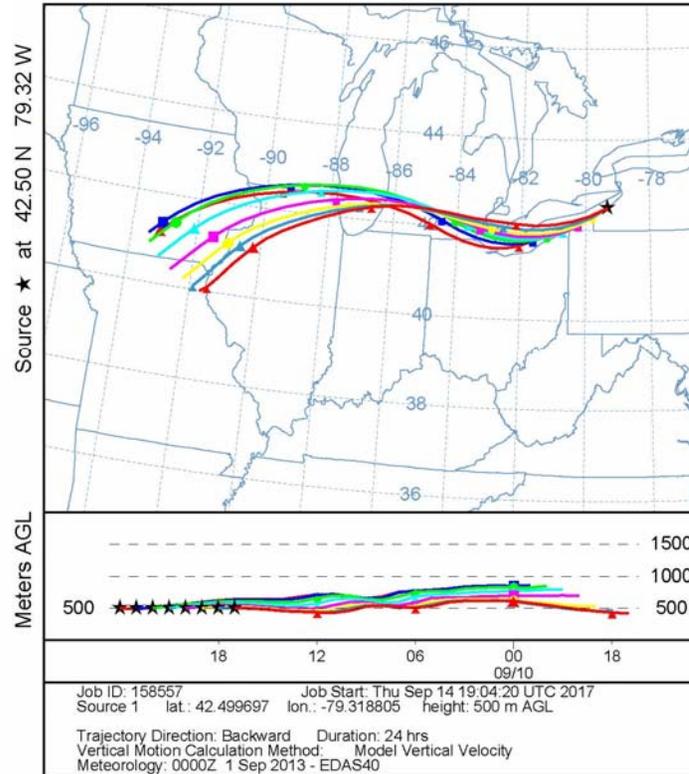
24-Hour Dunkirk Trajectories for each hour of 8-hour period defining daily max 8-hour ozone on September 10, 2013 (WSW inflow)

NOAA HYSPLIT MODEL  
Backward trajectories ending at 0000 UTC 11 Sep 13  
EDAS Meteorological Data



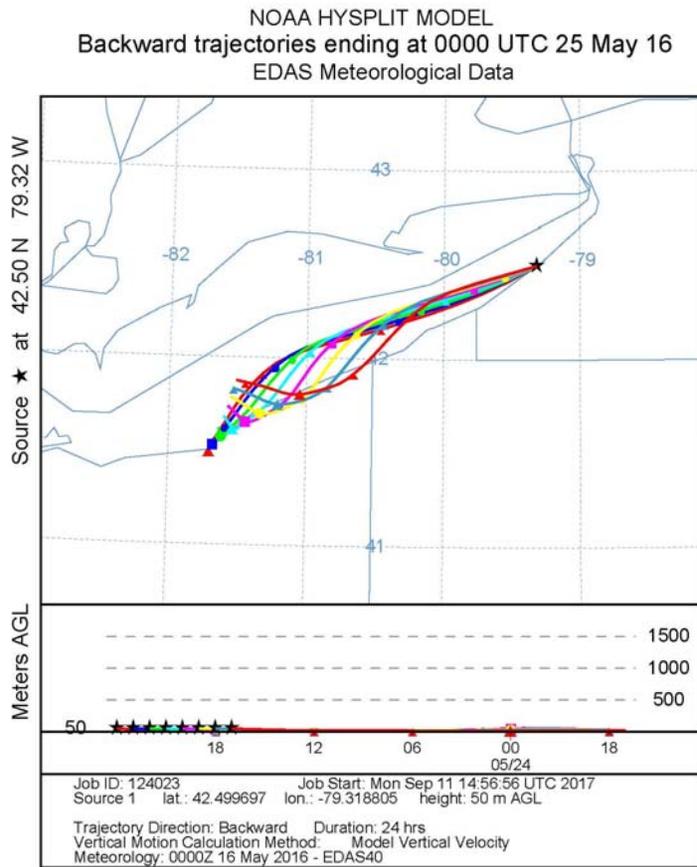
**50m starting level**

NOAA HYSPLIT MODEL  
Backward trajectories ending at 0000 UTC 11 Sep 13  
EDAS Meteorological Data

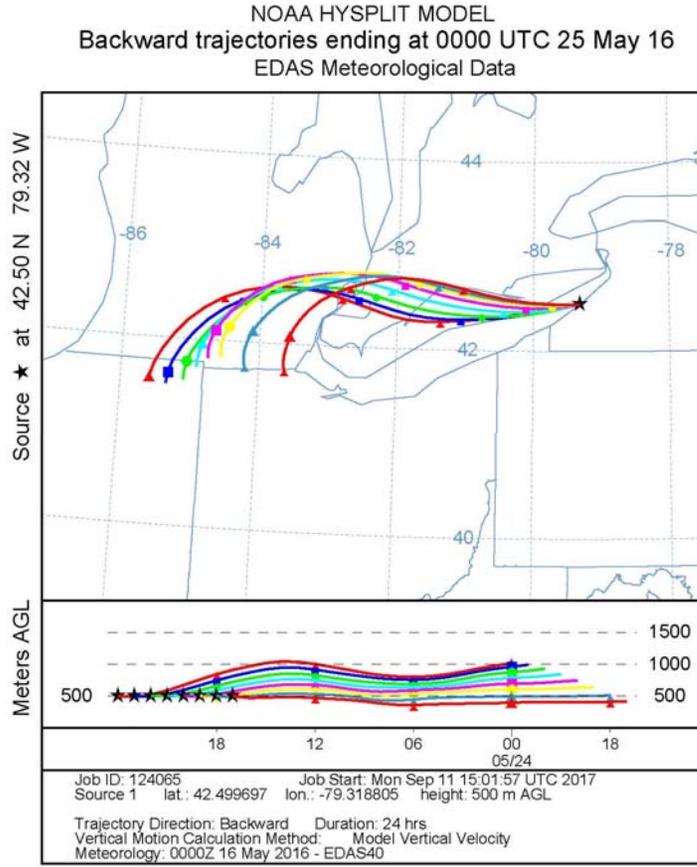


**500m starting level**

24-Hour Dunkirk Trajectories for each hour of 8-hour period defining daily max 8-hour ozone on May 24, 2016 (WNW inflow)

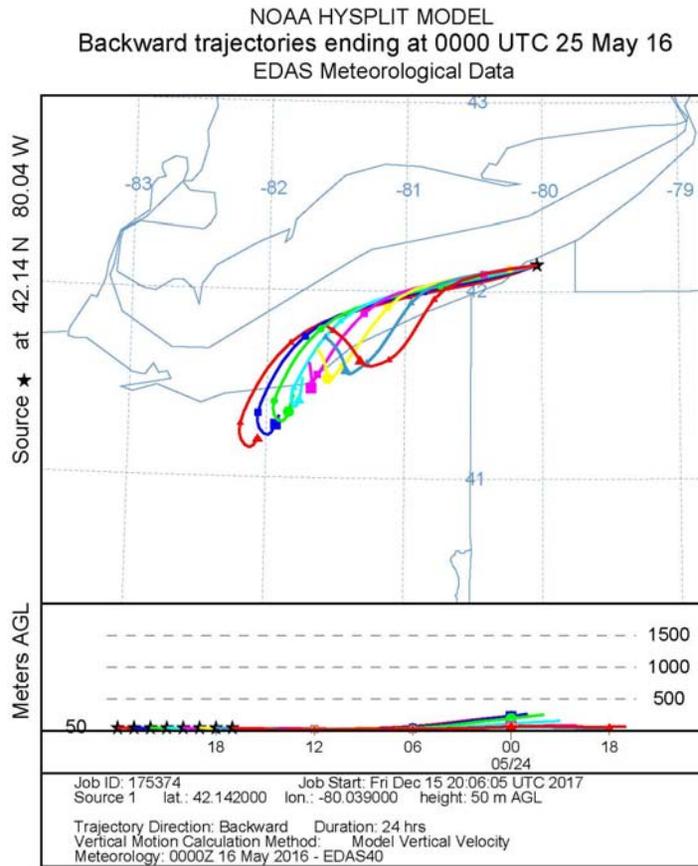


**50m starting level**

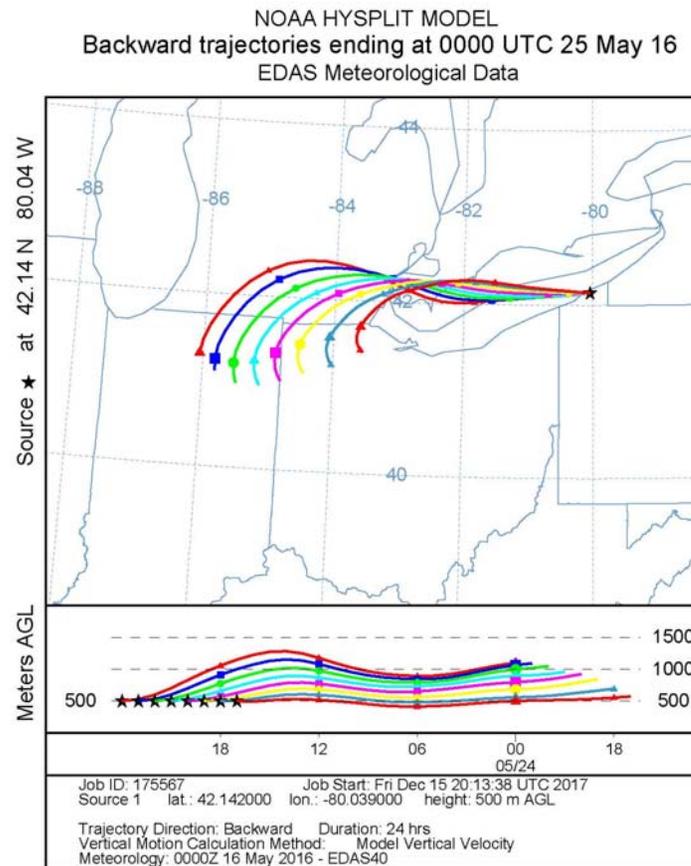


**500m starting level**

24-Hour Erie Trajectories for each hour of 8-hour period defining daily max 8-hour ozone on May 24, 2016 (WNW inflow)



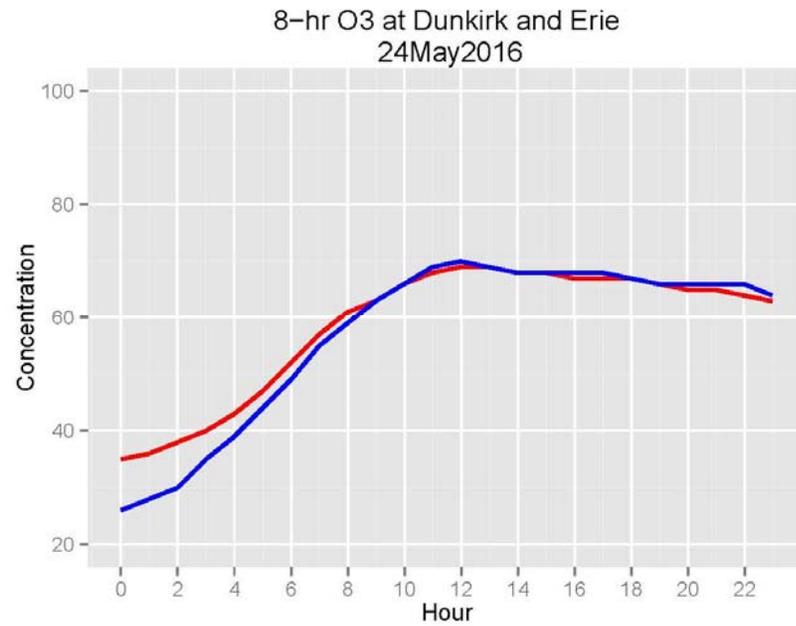
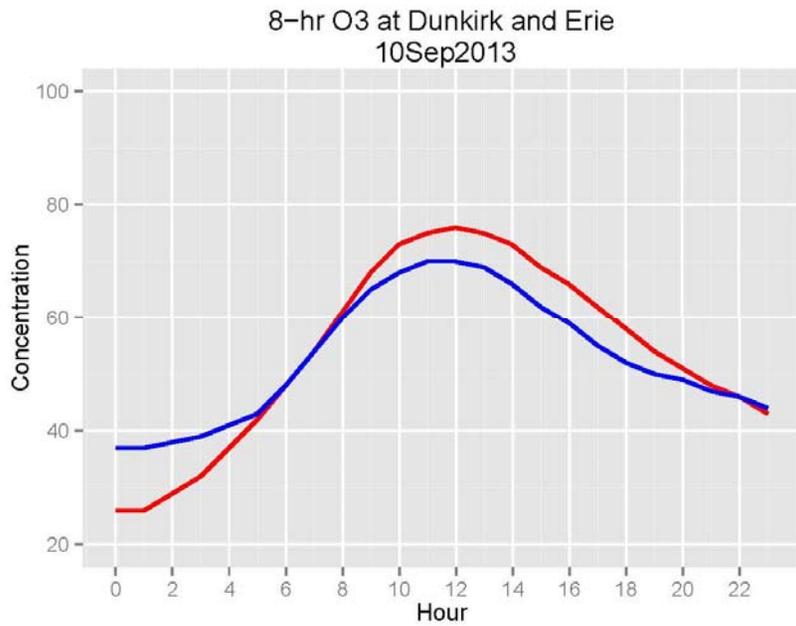
**50m starting level**



**500m starting level**

Time Series of 8-hour ozone averages for Dunkirk (red) and Erie (blue)  
 September 10, 2013 (WSW flow) and May 24, 2016 (WNW flow)

- The purpose of these plots was to confirm the short-term trajectory conclusion that the Dunkirk and Erie monitors experience the same air mass
- The daily cycle and maximum values look similar, and we conclude the monitors track each other





## Appendix B

List of 400 Ton-per-Year Stationary Sources Significantly Contributing to  
Nonattainment and Interfering with Maintenance in New York State



### Electric Generating Units Facility List

State	Plant ID	Plant Name	Projected	2014	2014	2014	2015	2015	2015	2016	2016	2016	2014-2016	2014-2016
			2017 NOx (Tons)	NOx (Tons)	Heat Input (mmBtu)	NOx Rate (lb/mmBtu)	NOx (Tons)	Heat Input (mmBtu)	NOx Rate (lb/mmBtu)	NOx (Tons)	Heat Input (mmBtu)	NOx Rate (lb/mmBtu)	Avg NOx (Tons)	Avg NOx Rate (lb/mmBtu)
IL	8199411	Powerton	5,754.9	5,794.6	99,939,300	0.116	3276.9	65,593,748	0.100	2956.1	54,532,488	0.108	4,009.2	0.108
IL	7808911	Joppa Steam	4,755.3	4,024.2	75,405,102	0.107	2965.3	53,765,200	0.110	1895.1	35,325,584	0.107	2,961.5	0.108
IL	5422711	E D Edwards	3,592.3	2,432.8	39,374,995	0.124	2,140.8	30,446,795	0.141	1,762.6	28,192,302	0.125	2,112.1	0.130
IL	7792311	Waukegan	2,423.4	1,611.2	30,076,648	0.107	1130.9	19,724,689	0.115	1031.1	18,926,608	0.109	1,257.7	0.110
IL	10857911	Prairie State Generating Company	2,277.8	2,806.3	95,524,110	0.059	3625.4	112,745,247	0.064	3547.3	111,772,257	0.063	3,326.3	0.062
IL	1929211	Kincaid Station	2,029.5	1,968.2	65,281,618	0.060	1701.5	54,898,947	0.062	1478.3	47,771,596	0.062	1,716.0	0.061
IL	2587011	Newton	1,952.3	2,898.0	65,754,869	0.088	2195.1	50,394,878	0.087	1618.5	36,018,005	0.090	2,237.2	0.088
IL	7954611	Baldwin Energy Complex	1,830.4	4,703.5	119,159,388	0.079	4247.6	108,232,067	0.078	4039.3	102,132,534	0.079	4,330.1	0.079
IL	8164511	Marion	1,649.6	3,510.7	23,665,636	0.297	1179.3	24,284,063	0.097	915.7	21,839,993	0.084	1,868.5	0.159
IL	4685311	Hennepin Power Station	1,561.6	1,366.2	18,729,022	0.146	1210.1	17,390,110	0.139	1202.6	16,513,451	0.146	1,259.6	0.144
IL	7340311	Coffeen	1,422.1	1,878.6	56,129,000	0.067	1614.6	49,522,655	0.065	1697.1	48,562,151	0.070	1,730.1	0.067
IL	7337411	Havana	1,132.8	1,180.9	31,583,549	0.075	892.1	23,344,525	0.076	1188.4	30,279,146	0.078	1,087.1	0.077
IL	3206511	Duck Creek	1,106.8	1,065.1	22,385,698	0.095	1012.3	22,722,935	0.089	1070.5	23,470,382	0.091	1,049.3	0.092
IL	7377311	Dallman	1,027.9	1,104.8	27,685,809	0.080	822.1	23,348,484	0.070	773.0	20,954,721	0.074	900.0	0.075
IL	8018111	Will County	921.9	2,131.0	46,874,588	0.091	1371.8	30,636,969	0.090	1052.2	22,944,134	0.092	1,518.4	0.091
IL	7973011	Midwest Generations-Joliet Station 29 and 9*	75.7	3,329.8	66,415,064	0.100	3507.1	72,615,108	0.097	960.8	20,298,812	0.095	2,599.2	0.097
*Listed separately in EPA's CAMD; emissions combined here														
IN	8017211	Rockport	20,637.9	19,727.5	164,635,674	0.240	13,921.8	127,626,833	0.218	12,888.1	118,678,065	0.217	15,512.4	0.225
IN	7363111	Gibson	14,623.7	14,292.2	173,662,612	0.165	10,834.0	143,438,239	0.151	13,190.1	164,635,699	0.160	12,772.1	0.159
IN	7744211	Clifty Creek	11,252.3	9,132.0	62,198,852	0.294	6,755.6	55,565,640	0.243	9,355.4	54,692,411	0.342	8,414.3	0.293
IN	7362411	Petersburg	9,945.9	13,047.8	118,170,716	0.221	12,426.8	99,369,897	0.250	10,813.2	104,265,688	0.207	12,095.9	0.226
IN	7957011	R M Schahfer Generating Station	7,405.7	7,115.9	93,459,227	0.152	5,172.3	67,544,523	0.153	4,396.6	55,982,713	0.157	5,561.6	0.154
IN	7248511	Cayuga	7,118.9	8,692.1	49,786,770	0.349	10,508.1	54,248,930	0.387	12,369.6	63,915,408	0.387	10,523.3	0.375
IN	4147311	Wabash River	4,187.1	3,351.8	27,604,598	0.243	3,541.1	27,558,797	0.257	941.9	8,723,105	0.216	2,611.6	0.239
IN	8396211	Merom	3,447.2	2,043.7	66,859,729	0.061	1,619.8	54,494,321	0.059	1,942.7	64,678,583	0.060	1,868.7	0.060
IN	7376611	Bailly Generating Station	1,862.2	1,726.3	27,374,470	0.126	1,072.3	18,063,606	0.119	1,345.2	23,532,548	0.114	1,381.3	0.120
IN	8166111	A B Brown Generating Station	1,843.7	2,866.5	33,596,427	0.171	2,138.6	28,556,215	0.150	1,694.0	24,810,718	0.137	2,233.1	0.152
IN	8183111	Alcoa Allowance Management Inc	1,673.9	10,780.1	64,676,328	0.333	10,440.1	64,401,854	0.324	6,837.3	43,417,012	0.315	9,352.5	0.324
IN	8011511	Michigan City Generating Station	1,504.0	1,241.1	26,633,260	0.093	793.9	16,191,050	0.098	815.4	18,745,645	0.087	950.1	0.093
IN	4478911	Edwardsport	1,405.3	698.8	22,534,424	0.062	841.2	25,943,302	0.065	761.5	25,038,478	0.061	767.2	0.063
IN	8183011	F B Culley Generating Station	1,061.9	1,344.0	19,437,698	0.138	870.3	17,553,073	0.099	1,108.4	14,796,643	0.150	1,107.6	0.129
IN	7742411	R Gallagher	678.3	1,656.7	9,229,760	0.359	940.4	5,575,423	0.337	648.5	3,783,511	0.343	1,081.9	0.346
IN	7255211	IP&L Harding Street Station	55.4	4,428.7	42,199,009	0.210	2,480.6	36,427,503	0.136	1,036.2	23,205,770	0.089	2,648.5	0.145
IN	8225111	IP&L Eagle Valley Station	44.7	1,264.8	7,773,806	0.325	427.3	2,577,054	0.332	182.9	1,199,471	0.305	625.0	0.321
KY	6037011	Shawnee	15,026.4	12,331.2	78,513,005	0.314	9,152.6	74,888,248	0.244	11,002.1	79,272,414	0.278	10,828.7	0.279
KY	7353711	Mill Creek	8,122.2	11,213.1	89,685,506	0.250	8,504.3	81,668,897	0.208	6,885.6	81,500,384	0.169	8,867.6	0.209
KY	5198511	Ghent	7,485.5	10,721.3	130,792,867	0.164	7,779.0	117,810,231	0.132	8,431.2	118,378,402	0.142	8,977.2	0.146
KY	5343711	Coleman	6,496.0	2,151.7	12,069,402	0.357	N/A	N/A	N/A	N/A	N/A	N/A	2,151.7	0.357
KY	5196711	Paradise	4,252.6	9,465.4	145,665,511	0.130	7,493.4	128,545,281	0.117	7,583.5	110,873,424	0.137	8,180.8	0.128
KY	6098611	R D Green	3,943.4	4,499.0	38,254,957	0.235	3,425.0	29,142,734	0.235	3,715.4	31,753,310	0.234	3,879.8	0.235
KY	5891711	Elmer Smith	3,880.9	7,347.6	24,545,102	0.599	4,358.3	23,435,083	0.372	3,053.7	21,265,846	0.287	4,919.9	0.419
KY	7335511	H L Spurlock	3,581.3	3,352.2	86,044,311	0.078	2,777.5	71,519,246	0.078	3,398.7	87,409,219	0.078	3,176.2	0.078
KY	6040811	East Bend	2,767.1	4,166.2	32,985,031	0.253	5,982.3	45,601,205	0.262	3,511.7	41,537,357	0.169	4,553.4	0.228
KY	5933111	E W Brown	2,196.8	3,375.4	38,187,089	0.177	2,812.1	33,843,902	0.166	2,258.8	28,303,431	0.160	2,815.4	0.168
KY	5742811	Trimble County	2,066.6	3,364.9	81,220,604	0.083	2,934.7	89,495,195	0.066	2,905.5	84,158,609	0.069	3,068.4	0.072
KY	5787711	John S. Cooper	1,508.9	863.1	9,668,046	0.179	628.6	7,796,544	0.161	559.8	7,032,680	0.159	683.9	0.166
KY	5523111	William C. Dale	1,359.8	41.6	204,330	0.408	102.1	510,292	0.400	N/A	N/A	N/A	71.9	0.404

KY	5561611 D B Wilson	<b>1,067.6</b>	1,034.3	33,064,392	0.063	1,305.9	39,941,780	0.065	1,152.0	36,240,652	0.064	1,164.0		0.064
KY	6067211 HMP&L Station 2	<b>836.2</b>	1,093.2	24,899,181	0.088	976.7	16,279,955	0.120	1,960.8	20,082,196	0.195	1,343.6		0.134
KY	5702411 Louisville Gas & Electric Co., Cane Run Stn	<b>89.4</b>	4,448.2	26,387,888	0.337	1,639.7	25,725,464	0.127	427.5	31,986,742	0.027	2,171.8		0.164
KY	6019011 Kentucky Power Co-Big Sandy Plant	<b>2.0</b>	4,130.5	41,313,164	0.200	3,821.6	28,779,909	0.266	438.5	5,347,156	0.164	2,796.9		0.210
MD	6084311 Brandon Shores	<b>4,366.7</b>	2,532.0	54,554,289	0.093	2,071.0	56,261,021	0.074	2,003.5	54,261,920	0.074	2,202.1		0.080
MD	6011911 Mirant Chalk Point	<b>4,194.5</b>	3,861.0	34,883,066	0.221	2,109.2	24,825,362	0.170	2,303.7	31,570,209	0.146	2,757.9		0.179
MD	5155011 C P Crane	<b>1,806.3</b>	1,223.4	6,218,452	0.393	1,070.4	5,344,520	0.401	654.2	3,821,337	0.342	982.7		0.379
MD	5998011 Mirant Dickerson	<b>1,697.9</b>	1,681.8	13,557,376	0.248	1,009.3	10,260,897	0.197	981.8	10,540,781	0.186	1,224.3		0.210
MD	6084311 Herbert A Wagner	<b>1,341.6</b>	1,086.8	14,587,555	0.149	1,025.4	15,922,221	0.129	561.5	13,122,257	0.086	891.2		0.121
MD	6011511 Mirant Morgantown	<b>1,252.0</b>	1,279.9	60,472,176	0.042	872.2	41,255,581	0.042	920.3	46,811,309	0.039	1,024.1		0.041
MD	7717711 AES Warrior Run	<b>914.4</b>	549.6	14,615,569	0.075	443.9	14,119,606	0.063	356.7	11,630,593	0.061	450.1		0.066
MI	7239111 Belle River	<b>8,449.1</b>	9,113.8	83,039,399	0.220	8,276.5	78,583,186	0.211	7,052.7	73,044,097	0.193	8,147.7		0.208
MI	7239111 St. Clair	<b>8,160.0</b>	7,902.5	57,344,551	0.276	7,192.5	58,129,806	0.247	5,463.1	40,317,805	0.271	6,852.7		0.265
MI	7888311 Monroe	<b>6,178.3</b>	8,295.5	157,824,072	0.105	4,996.9	161,341,773	0.062	4,110.7	146,356,344	0.056	5,801.1		0.074
MI	7778411 Presque Isle	<b>4,929.9</b>	3,763.6	23,642,632	0.318	3,868.5	21,977,002	0.352	3,757.6	22,966,610	0.327	3,796.6		0.333
MI	8125511 J H Campbell	<b>4,344.1</b>	4,732.3	88,969,922	0.106	2,881.1	93,051,269	0.062	2,247.1	67,566,729	0.067	3,286.8		0.078
MI	6473711 Midland Cogeneration Venture	<b>2,470.2</b>	1,625.5	33,298,329	0.098	3,005.9	52,011,885	0.116	3,883.1	68,004,748	0.114	2,838.2		0.109
MI	7422511 Trenton Channel	<b>2,394.2</b>	3,106.8	28,095,246	0.221	2,639.9	24,868,667	0.212	1,946.2	20,897,219	0.186	2,564.3		0.207
MI	8229311 River Rouge	<b>1,877.3</b>	3,668.9	22,814,228	0.322	2,595.7	18,618,102	0.279	1,859.4	12,757,617	0.292	2,708.0		0.297
MI	5985211 Eckert Station	<b>1,719.7</b>	834.8	7,838,044	0.213	727.3	6,740,672	0.216	785.4	7,346,586	0.214	782.5		0.214
MI	4174811 Erickson	<b>1,222.0</b>	1,228.3	12,595,815	0.195	1,178.3	11,782,100	0.200	1,058.3	10,724,985	0.197	1,155.0		0.197
MI	4856911 TES Filer City Station	<b>1,155.3</b>	1,569.7	6,852,659	0.458	1,615.3	7,084,008	0.456	1,373.6	7,130,408	0.385	1,519.5		0.433
MI	8172811 Dan E Karn	<b>1,129.2</b>	678.1	22,048,359	0.062	509.8	22,168,192	0.046	717.4	27,031,106	0.053	635.1		0.054
MI	7778711 Dearborn Industrial Generation	<b>406.7</b>	323.2	25,502,467	0.025	385.9	30,613,339	0.025	497.9	40,520,422	0.025	402.3		0.025
MI	7779711 Marquette Board of Light and Power	<b>266.8</b>	379.8	3,839,810	0.198	365.1	3,848,862	0.190	373.5	3,798,325	0.197	372.8		0.195
NJ	7989011 Carneys Point	<b>690.0</b>	903.6	12,788,495	0.141	756.3	12,067,027	0.125	692.3	11,753,378	0.118	784.1		0.128
NJ	7392311 Bergen	<b>520.9</b>	486.9	48,262,837	0.020	475.0	45,946,265	0.021	299.7	37,682,415	0.016	420.5		0.019
NJ	6719711 North Jersey Energy Associates	<b>450.9</b>	433.5	11,605,790	0.075	349.0	10,625,281	0.066	291.2	7,843,892	0.074	357.9		0.072
NJ	6719611 Sewaren Generating Station	<b>435.7</b>	35.7	682,739	0.105	25.2	183,873	0.274	223.6	1,078,143	0.415	94.8		0.265
NJ	7591411 Hudson Generating Station	<b>416.2</b>	524.9	13,100,969	0.080	168.1	4,975,703	0.068	175.3	4,152,233	0.084	289.4		0.077
NJ	8093811 Logan Generating Plant	<b>379.7</b>	625.4	10,313,398	0.121	421.3	7,574,870	0.111	410.2	7,482,619	0.110	485.6		0.114
NJ	5133011 B. L. England Generating Station	<b>372.5</b>	533.7	2,718,284	0.393	319.1	1,664,979	0.383	202.1	1,020,073	0.396	351.7		0.391
OH	7983011 Kyger Creek	<b>9,205.0</b>	5,587.6	57,065,139	0.196	4,172.0	40,048,480	0.208	5,821.6	54,665,716	0.213	5,193.7		0.206
OH	8010811 Conesville	<b>8,726.7</b>	11,581.5	85,630,349	0.271	6,564.7	55,563,714	0.236	5,981.9	51,022,283	0.234	8,042.7		0.247
OH	8294311 W H Zimmer Generating Station	<b>8,663.6</b>	11,300.2	69,741,897	0.324	7,037.0	56,917,095	0.247	5,460.0	51,295,304	0.213	7,932.4		0.261
OH	8101311 J M Stuart	<b>7,984.7</b>	7,117.1	111,225,511	0.128	5,475.8	104,565,774	0.105	5,465.4	115,734,720	0.094	6,019.4		0.109
OH	8190811 W H Sammis	<b>7,902.7</b>	8,421.3	117,365,843	0.144	6,250.2	89,003,911	0.140	4,993.6	81,638,155	0.122	6,555.0		0.135
OH	8148511 Gen J M Gavin	<b>7,213.6</b>	10,028.0	162,988,977	0.123	10,655.1	147,206,149	0.145	7,331.6	141,652,922	0.104	9,338.2		0.124
OH	8130811 Avon Lake Power Plant	<b>4,811.6</b>	3,657.5	20,955,582	0.349	5,561.7	27,244,224	0.408	2,057.4	11,213,995	0.367	3,758.9		0.375
OH	7738711 Miami Fort Generating Station	<b>4,526.4</b>	6,398.1	73,468,288	0.174	5,828.0	62,806,124	0.186	5,052.1	65,479,043	0.154	5,759.4		0.171
OH	8101411 Killen Station	<b>3,739.5</b>	7,110.9	41,445,800	0.343	5,655.5	36,398,878	0.311	6,058.2	35,988,025	0.337	6,274.8		0.330
OH	8115711 Cardinal	<b>2,264.6</b>	4,050.9	102,812,173	0.079	3,334.5	88,034,680	0.076	3,761.2	90,152,524	0.083	3,715.5		0.079
OH	8302011 Bay Shore	<b>837.6</b>	567.1	12,929,142	0.088	639.2	14,699,038	0.087	363.8	12,828,837	0.057	523.4		0.077
PA	3853711 Bruce Mansfield	<b>11,124.3</b>	18,563.1	163,438,740	0.227	11,699.9	132,998,643	0.176	9,128.5	113,158,979	0.161	13,130.5		0.188
PA	3866111 Keystone	<b>7,642.7</b>	17,009.2	112,359,466	0.303	14,312.6	97,146,022	0.295	13,380.5	105,560,720	0.254	14,900.8		0.284
PA	2905911 Conemaugh	<b>6,696.1</b>	17,090.9	105,411,569	0.324	14,840.1	110,303,312	0.269	11,162.9	94,580,462	0.236	14,364.6		0.276
PA	3005211 Homer City	<b>5,657.0</b>	22,116.4	115,786,811	0.382	18,371.0	94,094,696	0.390	11,287.9	69,817,048	0.323	17,258.5		0.365
PA	3881111 Montour	<b>5,297.9</b>	12,388.8	65,140,628	0.380	11,267.6	63,633,299	0.354	8,078.9	42,428,005	0.381	10,578.4		0.372

PA	8404811	Cheswick	<b>3,372.2</b>	6,101.1	30,639,565	0.398	3,494.0	22,111,341	0.316	4,220.7	21,475,813	0.393	4,605.3	0.369
PA	3193911	Brunner Island	<b>3,126.7</b>	11,053.1	59,705,203	0.370	8,303.7	48,942,274	0.339	6,280.9	35,443,761	0.354	8,545.9	0.355
PA	55524	Calpine Mid Merit, LLC - York Energy	<b>2,837.4</b>	65.8	20,177,292	0.007	58.3	15,687,354	0.007	40.9	12,504,354	0.007	55.0	0.007
PA	3005111	Seward	<b>2,102.8</b>	1,411.8	28,465,465	0.099	959.9	18,947,057	0.101	1,745.7	30,537,546	0.114	1,372.5	0.105
PA	2985011	Shawville	<b>915.0</b>	5,442.6	25,164,048	0.433	2,066.1	9,957,784	0.415	101.2	2,430,630	0.083	2,536.6	0.310
PA	4760211	Scrubgrass Generating Plant	<b>740.9</b>	594.5	7,518,927	0.158	312.0	4,243,679	0.147	547.2	7,354,190	0.149	484.6	0.151
PA	6594511	Cambria Cogen	<b>734.0</b>	1,066.7	9,869,910	0.216	769.6	8,108,813	0.190	1,121.7	9,340,347	0.240	986.0	0.215
PA	6594411	Colver Power Project	<b>710.5</b>	888.3	10,898,712	0.163	802.5	10,413,109	0.154	737.5	9,312,141	0.158	809.4	0.159
PA	7889011	Panther Creek Energy Facility	<b>567.3</b>	499.7	8,221,153	0.122	378.7	6,420,726	0.118	102.8	1,693,403	0.121	327.1	0.120
PA	3881711	Martins Creek	<b>557.0</b>	1,872.9	18,869,390	0.199	3,994.3	45,796,100	0.174	4,030.8	47,607,844	0.169	3,299.3	0.181
PA	6558911	Northampton Generating Plant	<b>449.4</b>	326.1	7,816,525	0.083	230.8	5,330,167	0.087	142.1	3,192,664	0.089	233.0	0.086
PA	8331411	Wheelabrator - Frackville	<b>441.2</b>	391.1	5,479,743	0.143	320.0	3,967,677	0.161	299.3	4,853,372	0.123	336.8	0.142
PA	3776611	NRG Power Midwest New Castle Plant	<b>362.5</b>	712.4	3,403,889	0.419	672.0	3,612,622	0.372	779.6	9,392,164	0.166	721.3	0.319
PA	3881811	NRG REMA LLC Portland Gen Station	<b>4.3</b>	428.8	2,673,776	0.321	1.0	21,255	0.091	4.8	34,931	0.275	144.8	0.229
VA	6160611	Clover Power Station	<b>6,984.2</b>	8,458.3	60,379,818	0.280	8,412.4	57,977,019	0.290	8,307.3	58,547,473	0.284	8,392.7	0.285
VA	4181011	Chesterfield Power Station	<b>2,967.6</b>	2,890.5	85,547,400	0.068	3,197.7	91,033,598	0.070	2,724.4	82,969,014	0.066	2,937.5	0.068
VA	4039911	Spruance Genco, LLC	<b>2,649.3</b>	1,682.9	11,379,210	0.296	1,536.5	10,581,478	0.290	1,319.1	9,162,455	0.288	1,512.8	0.291
VA	4565211	Yorktown Power Station	<b>1,230.5</b>	1,889.8	10,690,683	0.354	1,045.2	6,824,139	0.306	1,052.9	5,062,103	0.416	1,329.3	0.359
VA	6633911	Cogentrix-Hopewell	<b>1,002.5</b>	732.6	9,377,745	0.156	736.9	13,498,275	0.109	544.4	10,790,977	0.101	671.3	0.122
VA	16530111	Virginia City Hybrid Energy Center	<b>906.9</b>	1,208.9	35,625,835	0.068	974.8	30,240,824	0.064	1,053.9	35,572,585	0.059	1,079.2	0.064
VA	5883511	Hopewell Cogeneration Facility	<b>542.0</b>	732.6	9,377,745	0.156	736.9	13,498,275	0.109	544.4	10,790,977	0.101	671.3	0.122
VA	6631811	Doswell Limited Partnership	<b>427.0</b>	534.9	32,446,850	0.033	722.1	42,410,343	0.034	729.9	40,620,943	0.036	662.3	0.034
VA	5748311	Dominion-Mecklenburg Power Station	<b>380.5</b>	907.0	6,395,845	0.284	668.0	4,706,670	0.284	593.7	4,096,478	0.290	722.9	0.286
VA	7520511	Dominion - Possum Point Power Station	<b>321.7</b>	413.0	28,166,029	0.029	472.5	27,337,777	0.035	297.8	26,507,858	0.022	394.4	0.029
VA	5763511	American Electric Power-Clinch River Plant	<b>27.6</b>	998.7	7,521,342	0.266	801.1	4,785,885	0.335	211.4	3,511,568	0.120	670.4	0.240
WV	6271711	Harrison Power Station	<b>13,505.5</b>	21,764.2	122,823,706	0.354	17,876.6	113,882,126	0.314	11,981.6	130,232,313	0.184	17,207.4	0.284
WV	6773611	Fort Martin Power Station	<b>11,554.1</b>	9,489.6	63,574,613	0.299	9,650.4	67,686,117	0.285	9,788.6	63,282,525	0.309	9,642.9	0.298
WV	4782811	Pleasants Power Station	<b>5,638.0</b>	12,948.0	81,568,069	0.317	11,298.1	69,591,235	0.325	7,404.4	65,971,959	0.224	10,550.2	0.289
WV	6789111	John E Amos	<b>4,037.8</b>	4,736.5	129,010,365	0.073	6,084.7	138,109,257	0.088	6,284.9	146,312,186	0.086	5,702.0	0.082
WV	6257011	Mount Storm Power Station	<b>3,271.5</b>	3,657.9	100,584,284	0.073	3,903.2	100,624,677	0.078	3,468.9	94,287,175	0.074	3,676.7	0.075
WV	6760811	Mountaineer (1301)	<b>2,371.1</b>	3,019.2	82,991,220	0.073	3,793.7	78,323,403	0.097	3,941.0	80,127,096	0.098	3,584.6	0.089
WV	6902311	Mitchell (WV)	<b>2,339.4</b>	3,391.0	82,504,596	0.082	2,359.1	53,875,167	0.088	3,383.9	78,210,530	0.087	3,044.7	0.085
WV	4864511	Grant Town Power Plant	<b>1,520.8</b>	1,561.3	8,936,674	0.349	1,336.2	7,999,086	0.334	1,456.7	9,857,787	0.296	1,451.4	0.326
WV	16320111	Longview Power	<b>1,004.6</b>	1,146.6	36,003,082	0.064	889.8	28,855,296	0.062	1,562.5	50,075,229	0.062	1,199.6	0.063



## Non-Electric Generating Units Facility List

State	Plant ID	Plant Name	Projected 2017 NOx (Tons)
IL	7940411	ConocoPhillips Co	2,551.0
IL	8139911	Archer Daniels Midland Co	2,247.2
IL	7808811	Lafarge Midwest Inc	1,827.7
IL	8208511	Illinois Cement Co	1,815.2
IL	7360711	Exxon Mobil Oil Corp	1,671.6
IL	7793411	Ppg Industries	1,669.1
IL	8222511	Marathon Petroleum Co LLC	1,356.7
IL	8191211	US Steel Granite City	1,182.6
IL	2599311	SUEZ DEGS of Tuscola LLC	1,046.9
IL	8065311	Aventine Renewable Energy Inc	867.5
IL	8191811	CITGO Petroleum Corp	674.0
IL	7361511	Archer Daniels Midland Co	667.5
IL	4635211	Pilkington North America Inc	625.4
IL	2444211	Rentech Energy Midwest Corp	590.1
IL	8209311	Equistar Chemicals LP	516.4
IL	7298911	ElectroMotive Diesel Inc	480.7
IL	10923611	Gateway Energy & Coke Co LLC	406.7
IL	14423711	GALESBURG	398.3
IL	8139511	Ardagh Glass Inc	391.9
IL	7793311	Tate & Lyle Ingredients Americas LLC	366.5
IL	946411	Ingredion Incorporated Argo Plant	0
IN	8183111	ALCOA WARRICK POWER PLT AGC DIV OF AL	9,636.5
IN	7376511	ArcelorMittal Burns Harbor Inc.	8,206.5
IN	3986511	Indiana Harbor East	4,714.2
IN	8192011	US STEEL GARY WORKS	4,343.1
IN	8225311	LEHIGH CEMENT COMPANY LLC	3,700.1
IN	7431611	LONE STAR INDUSTRIES, INC	3,194.5
IN	7247711	BP PRODUCTS NORTH AMERICA INC, WHITING R	2,471.5
IN	8198511	Essroc Cement Corp	2,331.5
IN	8224411	Essroc Cement Corp	2,025.0
IN	7364611	SABIC INNOVATIVE PLASTICS MT. VERNON LLC	1,690.3
IN	8202711	Carmeuse Lime Inc	1,687.6
IN	3986611	ARCELORMITTAL INDIANA HARBOR LLC	1,606.0
IN	4885311	Citizens Thermal	1,481.2
IN	7744611	COVANTA INDIANAPOLIS, INC.	1,077.4
IN	8182811	INDIANA HARBOR COKE COMPANY	859.4
IN	5453011	Ardagh Glass Inc	684.8
IN	8074511	TATE & LYLE SAGAMORE OPERATION	577.0
IN	8223611	ELI LILLY & COMPANY CLINTON LABS	556.6
IN	7376411	TATE & LYLE, LAFAYETTE SOUTH (33)	489.0
IN	7376911	SDI Steel Dynamics Incorporated	479.8

IN	4912511	PURDUE UNIVERSITY -WADE UTILITY PLANT	453.6
IN	5552011	UNIVERSITY OF NOTRE DAME DU LAC	435.3
IN	12766611	Wabash River Combined Cycle Plant	61.1
KY	7349811	Carmeuse Lime & Stone Inc	1,913.6
KY	5060111	Ak Steel Corp	1,380.3
KY	9619211	Domtar Paper Co LLC - Hawesville Operati	1,303.3
KY	7353311	Kosmos Cement Company	1,097.0
KY	7331911	Marathon Petroleum Co LLC - Catlettsburg	957.3
KY	7351711	Carmeuse Lime Inc	820.9
KY	5926411	AGC Flat Glass N America Inc	634.0
KY	7331511	Newpage Corp	619.4
KY	5198911	North American Stainless	536.0
KY	5929411	Westlake Vinyls Inc	460.4
KY	7365211	CC Metals and Alloys LLC	457.5
KY	13417311	Mississippi Lime Co - Verona Plant	363.9
MD	7763811	Luke Paper Company	3,607.1
MD	8200011	Lehigh Cement Company - Union Bridge	2,623.2
MD	7931411	Holcim (US), Inc.	1,522.1
MD	8239711	Sparrows Point, LLC	1,165.6
MD	5857411	Wheelabrator Baltimore, LP	0
MD	7719011	Montgomery County RRF	0
MI	8062611	TILDEN MINING COMPANY LC	5,561.2
MI	8127411	LAFARGE MIDWEST INC.	3,461.8
MI	9535411	Detroit Metropolitan Wayne County	2,993.7
MI	7780811	EMPIRE IRON MINING PARTNERSHIP	2,799.0
MI	8126511	ESCANABA PAPER COMPANY	2,556.7
MI	8483611	U S STEEL GREAT LAKES WORKS	2,129.9
MI	7888111	GUARDIAN INDUSTRIES	2,042.1
MI	8160611	St. Marys Cement, Inc. (U.S.)	2,019.5
MI	8171811	DETROIT RENEWABLE POWER, LLC	1,618.3
MI	7286011	VERSO PAPER - QUINNESEC	1,226.4
MI	8129311	Holland BPW, Generating Station & WWTP	876.2
MI	8483711	SEVERSTAL DEARBORN, LLC	610.8
MI	7778911	CARMEUSE LIME Inc, RIVER ROUGE OPERATIO	547.0
MI	8157711	Michigan State University	523.5
MI	8229011	Packaging Corporation of America - Filer	521.5
MI	8126211	Decorative Panels International, Inc	464.8
MI	8245611	MARATHON PETROLEUM COMPANY LP	348.2
MI	16662611	EES COKE BATTERY LLC	0
MI	16879411	WESTPORT LD, INC.	0
NJ	7903711	Phillips 66 Bayway Refinery	918.9
NJ	8177011	Covanta Essex Company	779.5

NJ	7201311 Paulsboro Refining Company LLC	648.4
NJ	7906111 Union County Resource Recovery Facility	621.8
OH	8463811 Carmeuse Lime, Inc. - Maple Grove Operat	2,968.0
OH	8008811 AK Steel Corporation (1409010006)	2,152.4
OH	8133211 MARTIN MARIETTA MAGNESIA SPECIALTIES INC	2,029.4
OH	3950711 Department of Public Utilities, City of	1,901.9
OH	8131111 P. H. Glatfelter Company - Chillicothe F	1,759.1
OH	8102411 PCS Nitrogen Ohio, L.P. (0302020370)	1,298.4
OH	8150111 CEMEX Construction Materials Atlantic, L	1,175.0
OH	7937411 ArcelorMittal Cleveland Inc. (1318001613	1,161.2
OH	9253511 Pilkington North America Inc (0487010012	1,087.9
OH	8418011 BP-Husky Refining LLC (0448020007)	862.5
OH	7319811 Toledo Refining Company, LLC. (044801024	829.0
OH	8007011 Lima Refining Company (0302020012)	813.9
OH	8259911 Anchor Hocking, LLC (0123010078)	768.0
OH	8130411 Globe Metallurgical Inc. (0684000105)	765.9
OH	9301711 DTE St. Bernard, LLC (1431394148)	763.1
OH	8014411 General Electric Aircraft Engines: Peebl	755.4
OH	9236811 Haverhill Coke Company LLC (0773000182)	700.9
OH	13571611 INEOS USA LLC (0302020371)	670.6
OH	8115611 ArcelorMittal Warren (0278000648)	661.3
OH	7401911 Alliance Casting Co. LLC (1576010014)	613.5
OH	7996411 Lafarge North America - Paulding Plant (	536.0
OH	8130511 Kraton Polymers U.S. LLC (0684010011)	533.6
OH	8010911 RockTenn CP,LLC (0616010001)	530.0
OH	8149211 Carmeuse Lime, Inc - Grand River Operati	520.1
OH	8149311 PAINESVILLE MUNICIPAL ELECTRIC PLANT (02	509.0
OH	8301711 Libbey Glass Inc. (0448010066)	464.2
OH	8115911 Owens Brockway Glass Containers - Plant	451.9
OH	7922111 General Electric Aviation, Evendale Plan	420.8
OH	8130211 Graymont Dolime (OH), Inc. (0362000079)	420.2
OH	7996011 Cargill, Inc. - Dayton (0857041124)	400.1
OH	8130611 Orion Engineered Carbons LLC (0684010049)	391.8
OH	8011211 Wausau Paper Towel & Tissue, LLC (1409010043)	340.5
PA	8204511 USS/CLAIRTON WORKS	3,287.3
PA	4952111 MAGNESITA REFRACTORIES/YORK	2,807.1
PA	4966111 PH GLATFELTER CO/SPRING GROVE	1,720.3
PA	6463511 PPG IND INC/WORKS NO 6	1,501.7
PA	7873611 SUNOCO INC (R&M)/MARCUS HOOK REFINERY	1,447.2
PA	8219711 COVANTA DELAWARE VALLEY LP/DELAWARE VALL	1,433.7
PA	6651211 ESSROC/NAZARETH LOWER CEMENT PLT I II I	1,346.2
PA	6597611 LEHIGH CEMENT CO LLC/EVANSVILLE CEMENT P	1,163.2
PA	6652211 PHILA ENERGY SOL REF/ PES	1,122.5
PA	2989611 GUARDIAN IND CORP/JEFFERSON HILLS	987.4

PA	6559611	DOMTAR PAPER CO/JOHNSONBURG MILL	977.8
PA	6603511	PITTSBURGH GLASS WORKS/MEADVILLE WORKS 8	949.0
PA	7889111	GRAYMONT PA INC/PLEASANT GAP & BELLEFONT	946.9
PA	7991511	HORSEHEAD CORP/MONACA SMELTER	913.7
PA	4843611	COVANTA PLYMOUTH RENEWABLE ENERGY/ PLYMO	835.8
PA	8220011	WHEELABRATOR FALLS INC/FALLS TWP	831.5
PA	3881611	HERCULES CEMENT CO LP/STOCKERTOWN	801.5
PA	7409411	US STEEL CORP/IRVIN PLT	793.3
PA	4952011	PROCTER & GAMBLE PAPER PROD CO/MEHOOPANY	719.3
PA	6581211	LANCASTER CNTY RRF/ LANCASTER	656.8
PA	7874511	MONROE ENERGY LLC/TRAINER	617.5
PA	14454711	CONWAY	609.9
PA	6582211	KEYSTONE PORTLAND CEMENT/EAST ALLEN	579.4
PA	4120011	YORK CNTY SOLID WASTE/YORK CNTY RESOURCE	567.0
PA	7407611	SHENANGO INC/SHENANGO COKE PLT	449.6
PA	3884311	CARMEUSE LIME INC/MILLARD LIME PLT	444.3
PA	6582111	INTL WAXES INC/FARMERS VALLEY	424.7
VA	10698711	Duke Energy Generation Services of Narro	3,549.9
VA	5798711	Meadwestvaco Packaging Resource Group	3,041.5
VA	5769011	Honeywell International Inc - Hopewell	3,018.0
VA	4182011	Smurfit Stone Container Corporation - We	1,869.5
VA	5039811	Roanoke Cement Company	1,866.1
VA	8517811	Old Virginia Brick Co	1,330.7
VA	5748611	Radford Army Ammunition Plant	1,273.0
VA	5768811	Smurfit Stone Container Enterprises Inc-	1,242.8
VA	5795711	Greif Packaging LLC	620.1
VA	4184511	Chemical Lime Company	581.5
VA	4034811	Jewell Coke Company LLP	520.2
VA	4195111	Covanta Alexandria/Arlington Inc	471.5
VA	6148011	Owens-Brockway Glass Container Division	412.9
VA	4183311	GP Big Island LLC	239.8
VA	4004311	Celanese Acetate LLC	43.2
VA	4183011	Wheelabrator Portsmouth Inc, RDF Facility	0.5
VA	6743611	Covanta Fairfax Inc	0
VA	5747111	International Paper Company	0
WV	4878711	PPG INDUSTRIES, INC., NATRIUM PLANT	1,946.2
WV	5782411	BAYER CROPSCIENCE	1,749.2
WV	4987611	CAPITOL CEMENT - ESSROC MARTINSBURG	1,495.5
WV	4878911	DUPONT WASHINGTON WORKS	1,043.8
WV	4864311	MOUNTAIN STATE CARBON, LLC	964.9
WV	4985711	WEST VIRGINIA ALLOYS, INC.	891.8
WV	6773811	MORGANTOWN ENERGY ASSOCIATES	818.7
WV	4985611	Rain CII Carbon LLC - Moundsville Calcin	408.5

## Oil & Gas Sector Facility List

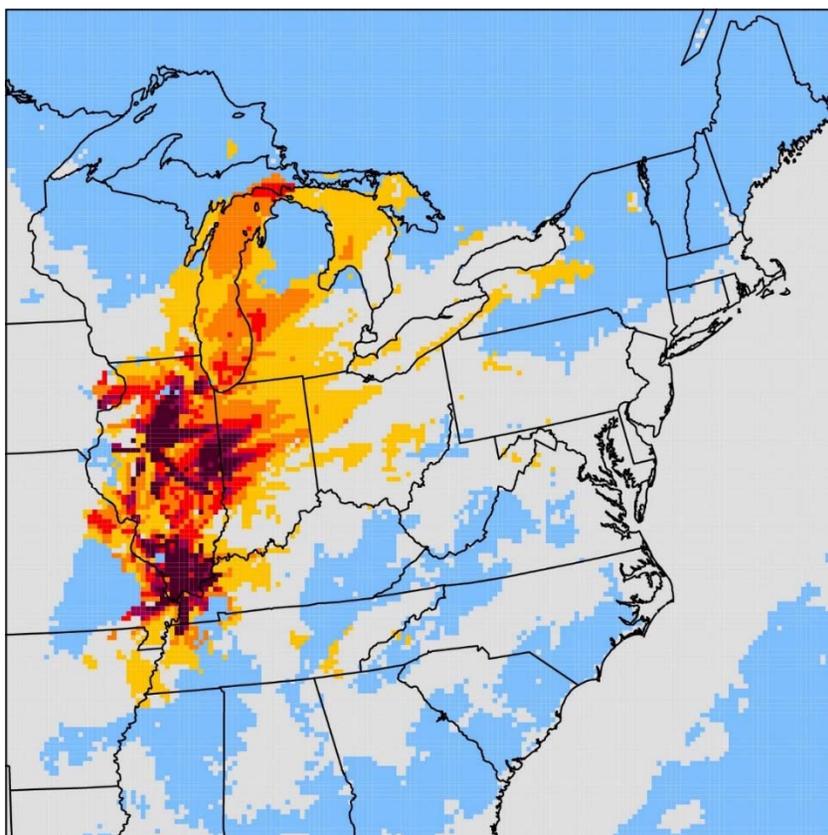
State	Plant ID	Plant Name	Projected 2017 NOx (Tons)
IL	5550111	Natural Gas Pipeline of America	2,611.6
IL	1816411	Natural Gas Pipeline Co of America	1,948.9
IL	5535511	Trunkline Gas Co	1,448.7
IL	2749511	Trunkline Gas Co	1,168.1
IL	2600611	Panhandle Eastern Pipe Line Co	1,167.4
IL	5574811	Trunkline Gas Co	1,081.8
IL	5529311	ANR Pipeline Co	641.1
IL	558811	Peoples Gas Light & Coke Co	474.3
IL	4484711	Panhandle Eastern Pipe Line Co	418.5
IL	5401911	Midwestern Gas Transmission	144.8
IN	4544011	PEPL - EDGERTON COMPRESSOR STATION	1,556.8
IN	8238711	PEPL - ZIONSVILLE COMPRESSOR STATION	1,282.3
IN	7957111	ANR PIPELINE CO PORTLAND STATION	1,165.9
IN	4887211	ANR PIPELINE CELESTINE STATION	876.0
IN	4911611	T G C - NORTH JUDSON STATION	620.8
IN	8201211	ANR PIPELINE CO - SHELBYVILLE STATION	617.9
IN	4671411	PANHANDLE EASTERN PIPE LINE COMPANY M	342.4
IN	4728511	T G C - AMBIA STATION	332.9
IN	7250811	Midwestern Gas Transmission Company Sta	100.2
KY	6127911	Texas Eastern Transmission LP - Danville	1,076.8
KY	5830611	ANR Pipeline Co (Madisonville Compressor	790.6
KY	5201011	Columbia Gulf Trans Co	619.4
KY	6096911	TN Gas Pipeline Co LLC - Station 200	185.4
MD	5997311	Transcontinental Gas Pipeline	1,206.0
MI	8246111	ANR Pipeline Company Lincoln Compressor	639.7
MI	4190611	ANR Pipeline Co - Woolfolk Compressor S	562.0
MI	4007011	Great Lakes Gas - Farwell Compressor Sta	545.1
MI	4201211	ROMEO GAS PROCESSING PLANT	542.5
MI	6358811	CONSUMERS ENERGY COMPANY- WHITE PIGEON C	486.8
MI	8195311	ANR Pipeline Company - Bridgman Compressor Station	386.5
MI	4006811	Consumers Energy - Muskegon River Compressor Stat	372.6
MI	7011311	DTE Gas Company BELLE RIVER COMPRESSOR STATION	361.1
MI	5888811	Howell Compressor Station	359.3
MI	5215311	DTE Gas Company-Taggart Compressor Station	282.0
OH	7938111	ANR Pipeline Company (0320010169)	1,472.4
OH	8259811	CRAWFORD COMPRESSOR STATION (0123000137)	681.7
OH	8425111	East Ohio Gas - Chippewa Station (028500)	522.1
OH	8050011	LUCAS COMPRESSOR STATION (0370000164)	469.6

OH	8050111 PAVONIA COMPRESSOR STATION (0370000226)	453.5
OH	8132011 Tennessee Gas Pipeline- Station 214 (0210	431.5
OH	13573011 Marathon Petroleum Company LP - Canton Refinery (1576002006)	274.3
OH	8008011 Tennessee Gas Pipeline Station 209 (0630000001)	263.3
OH	7984611 Tennessee Gas Pipeline Station 204 (0605000020)	66.3
PA	2980811 TRANSCONTINENTAL GAS/FRAZER STA 200	731.3
PA	3194611 TRANSCONTINENTAL GAS PIPE LINE CO LLC/ST	442.1
VA	4005411 Transco Gas Pipe Line Corp Station 165	2,304.3
VA	6217611 Transco Station 170	756.5
WV	6790711 FILES CREEK 6C4340	1,298.8
WV	6214811 DOMINION - OSCAR NELSON COMPRESSOR STN	1,097.9
WV	6341411 CEREDO 4C3360	1,025.7
WV	6341511 KENOVA 4C3350	693.6
WV	6340611 CLEVELAND 6C4330	543.0
WV	6900411 DOMINION - CAMDEN COMPRESSOR STATION	530.6
WV	6900311 EQUITRANS - COPLEY RUN CS 70	505.6
WV	6885411 DOMINION - CORNWELL COMPRESSOR STATION	403.3
WV	6790511 Columbia Gas - GLADY 6C4350	370.9
WV	6885111 Columbia Gas - CLENDENIN 4C1200	288.1
WV	6760611 Columbia Gas - ADALINE 7C6600	287.3
WV	6256711 Columbia Gas - GLENVILLE 4C1170	46.8

## Appendix C

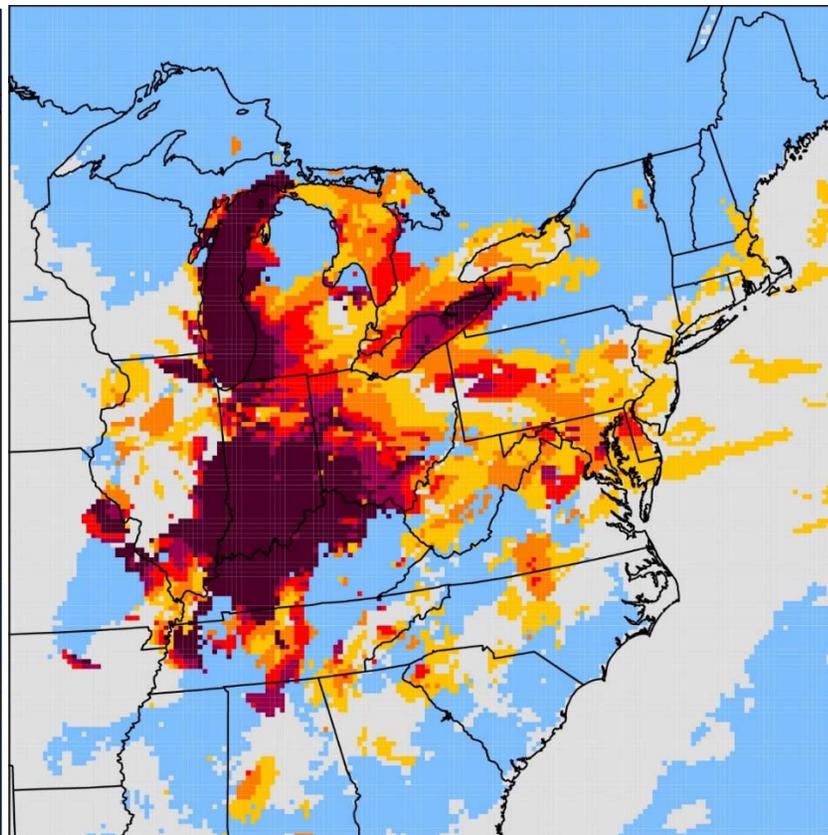
Maximum Impacts on New York State Monitors from  
400 Ton-per-Year Sources in Significantly Contributing States





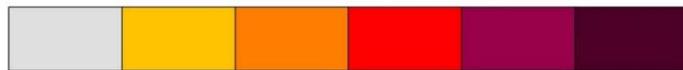
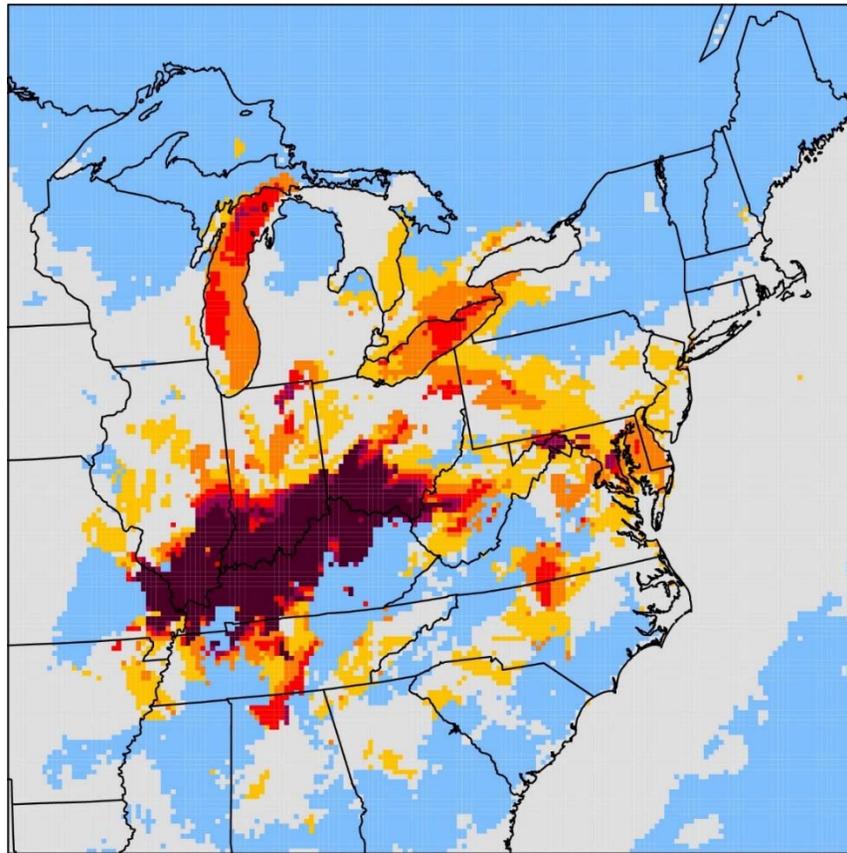
0.7 1.4 2.1 2.8 3.5

**Maximum impact from Illinois:  
0.986 ppb at East Syracuse (Onondaga Co.) monitor**



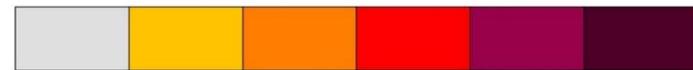
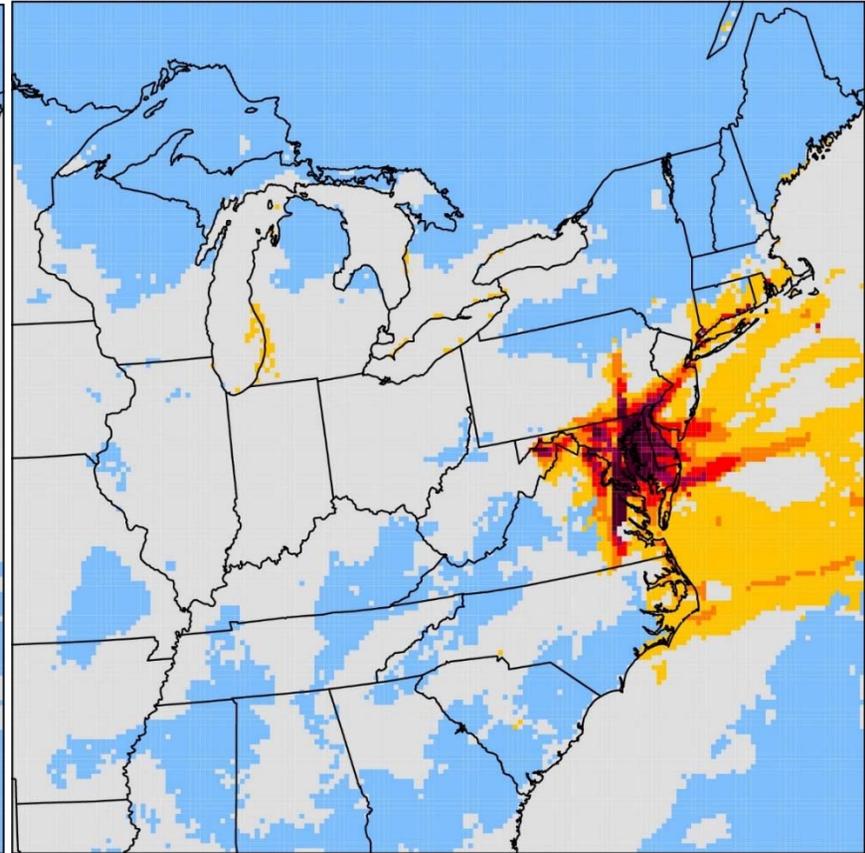
0.7 1.4 2.1 2.8 3.5

**Maximum impact from Indiana:  
4.207 ppb at Amherst (Erie Co.) monitor**



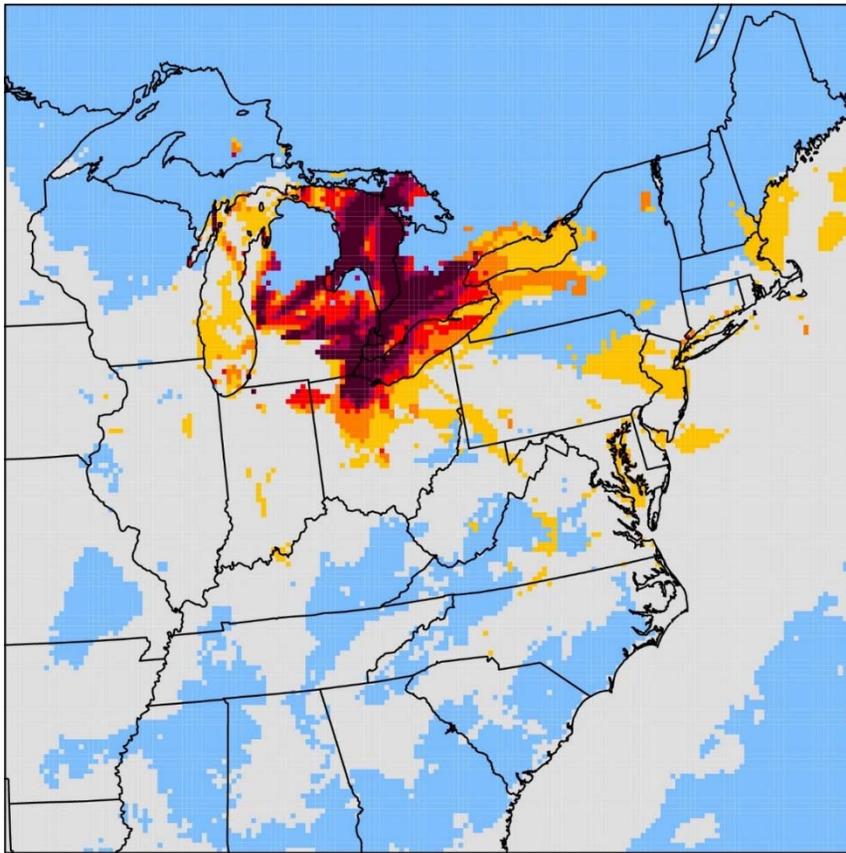
0.7 1.4 2.1 2.8 3.5

Maximum impact from Kentucky:  
1.550 ppb at Middleport (Niagara Co.) monitor



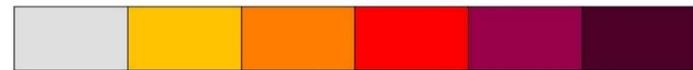
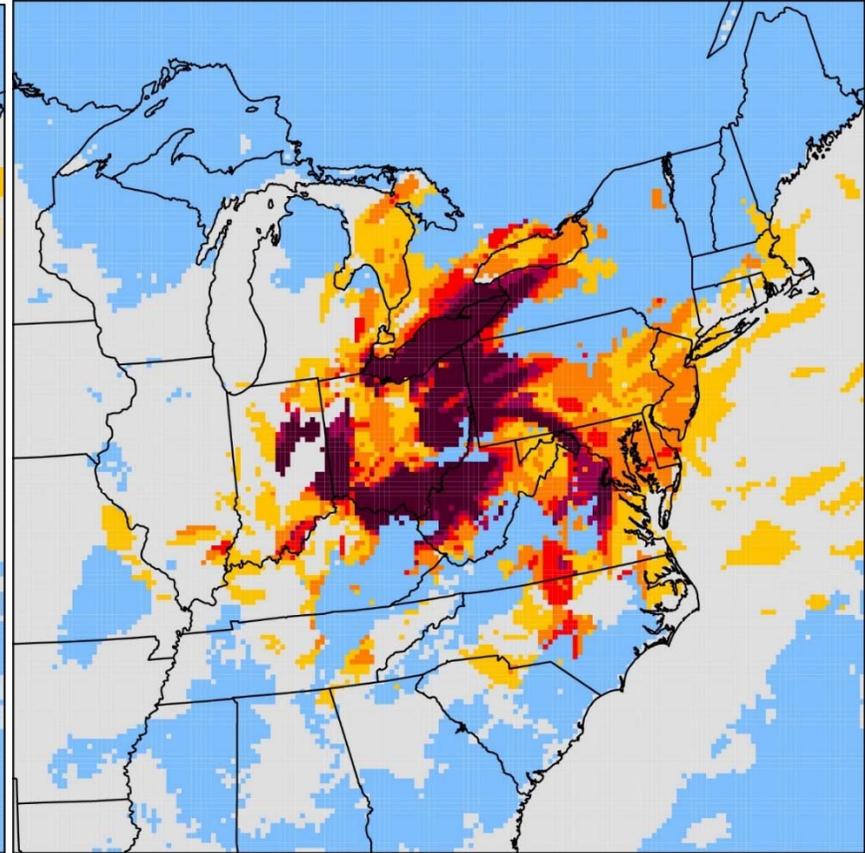
0.7 1.4 2.1 2.8 3.5

Maximum impact from Maryland:  
1.509 ppb at Susan Wagner (Richmond Co.) monitor



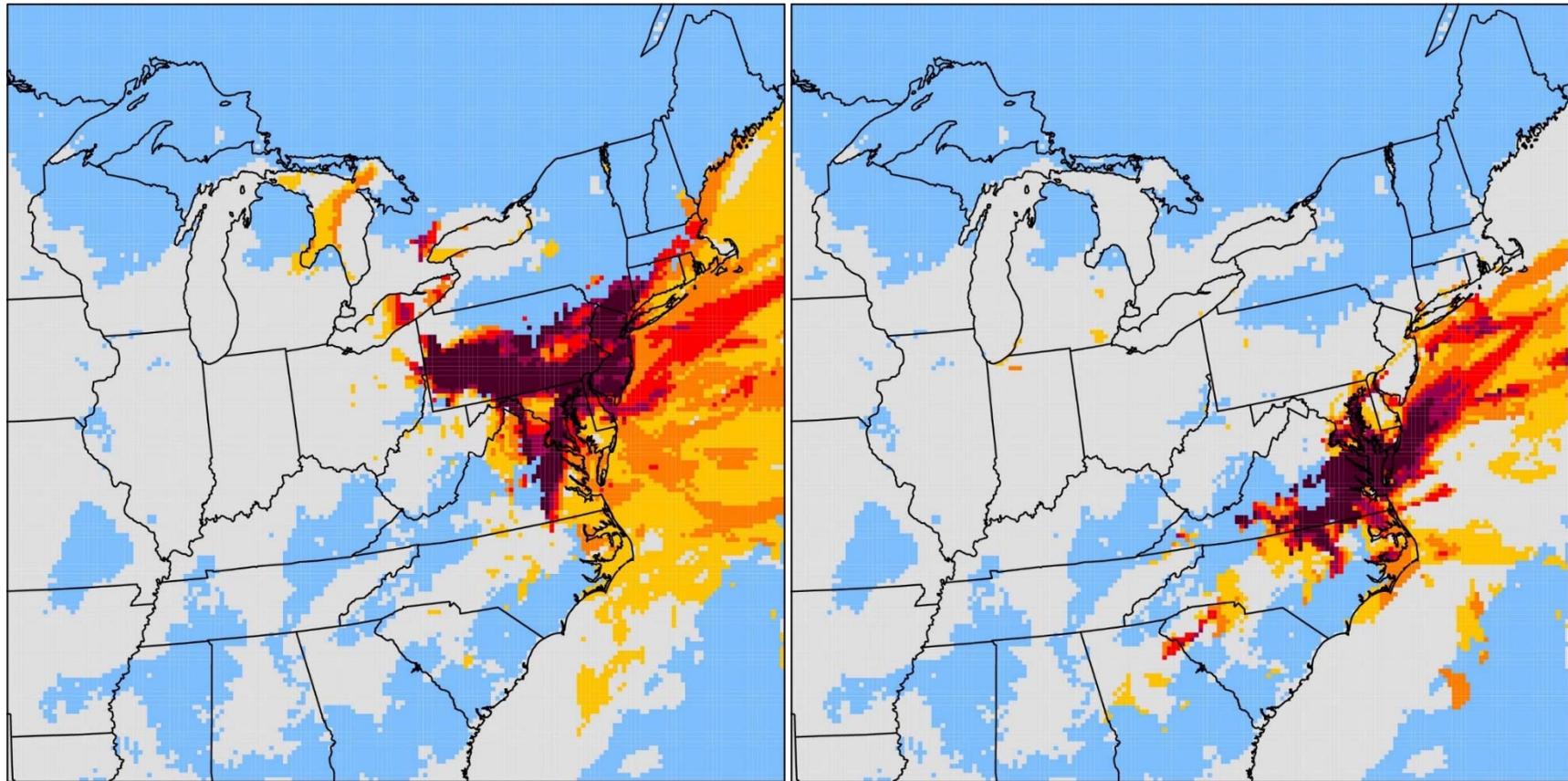
0.7 1.4 2.1 2.8 3.5

Maximum impact from Michigan:  
1.770 ppb at Rochester (Monroe Co.) monitor



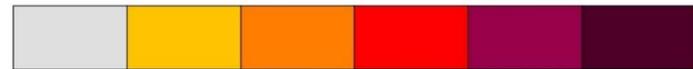
0.7 1.4 2.1 2.8 3.5

Maximum impact from Ohio:  
6.343 ppb at Dunkirk (Chautauqua Co.) monitor



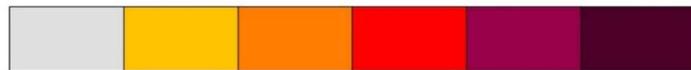
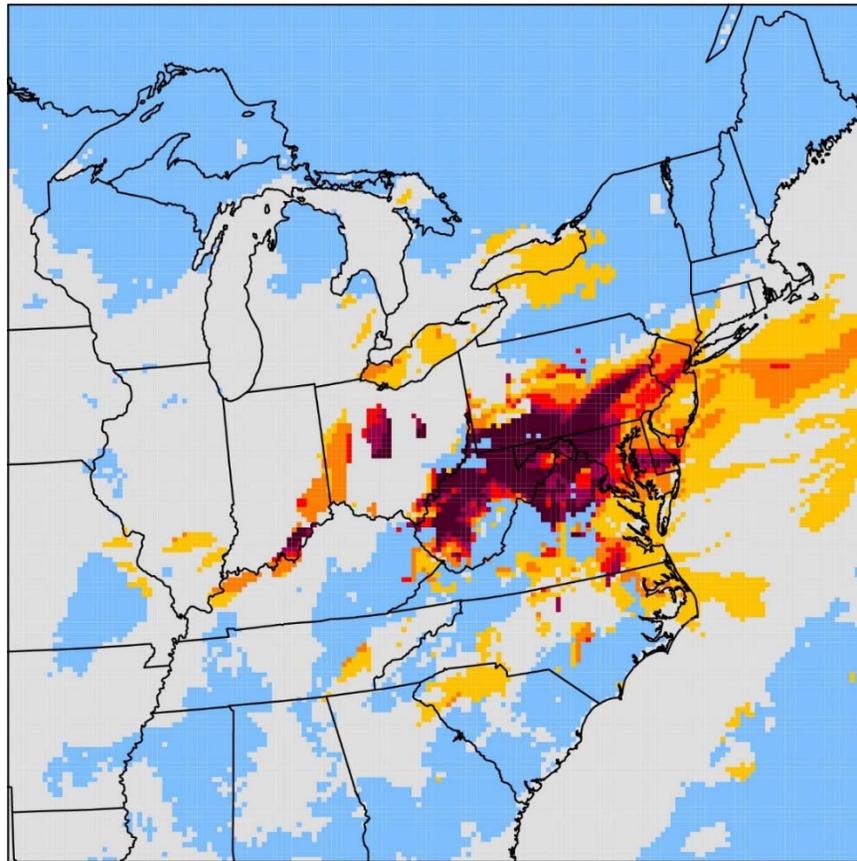
**0.7 1.4 2.1 2.8 3.5**

**Maximum impact from Pennsylvania:  
4.968 ppb at Rockland (Rockland Co.) monitor**



**0.7 1.4 2.1 2.8 3.5**

**Maximum impact from Virginia:  
0.929 ppb at Riverhead (Suffolk Co.) monitor**



**0.7 1.4 2.1 2.8 3.5**

**Maximum impact from West Virginia:  
2.273 ppb at Susan Wagner (Richmond Co.) monitor**



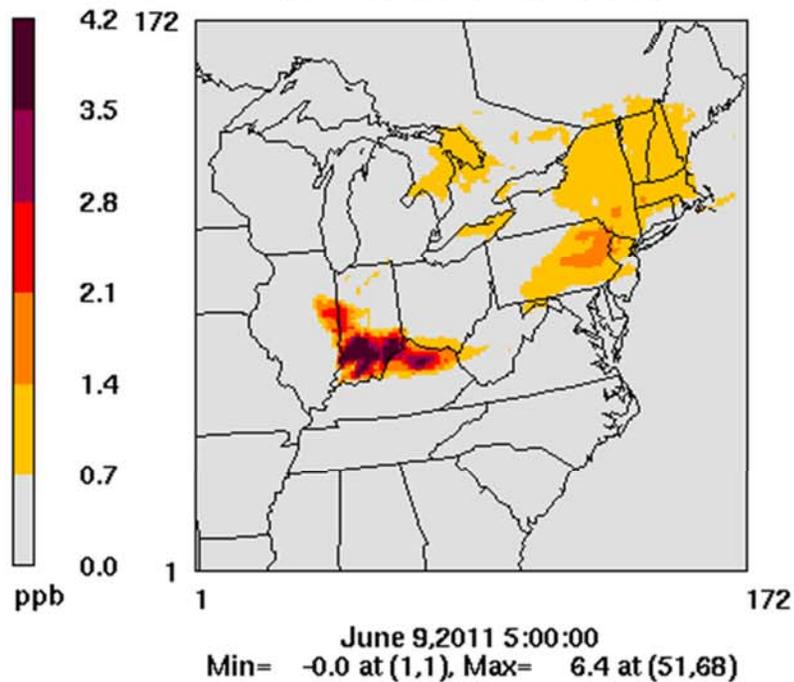
## Appendix D

Maximum Impacts on Susan Wagner Monitor (Richmond County) from  
400 Ton-per-Year Sources in Significantly Contributing States



### Ozone Impacts from IN

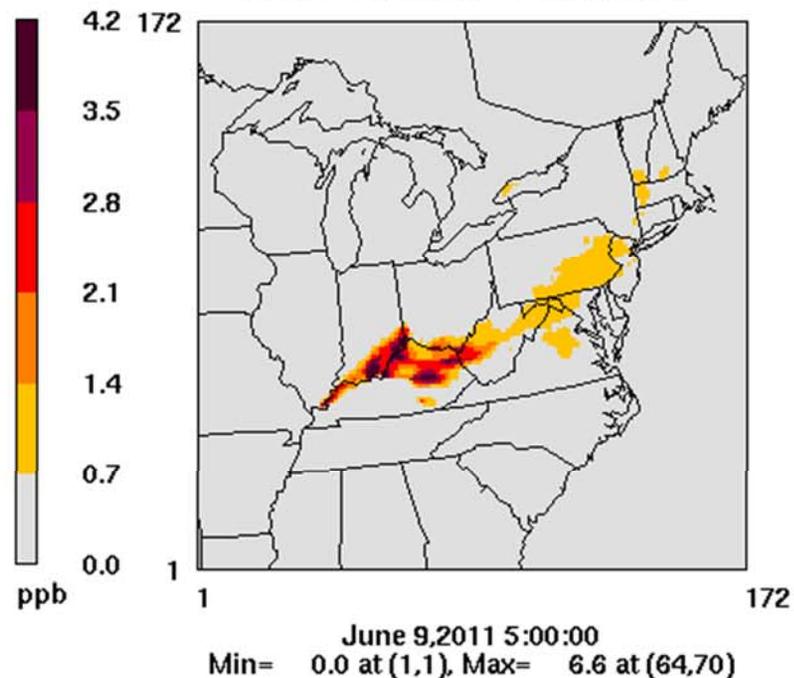
Between 2017 Base and 2017 IN Control Cases  
From Mid-May till End of July, 2011



Maximum Indiana impact on Susan Wagner monitor = 1.012 ppb

### Ozone Impacts from KY

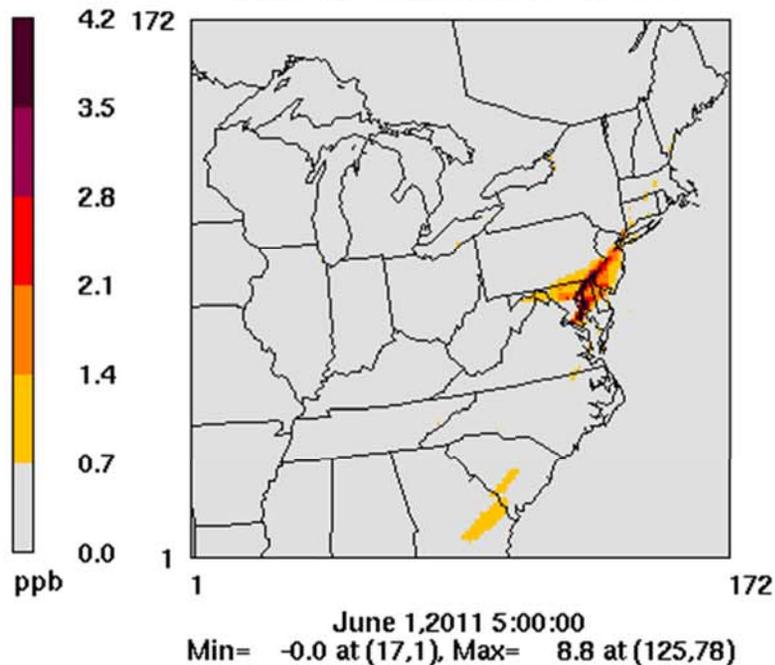
Between 2017 Base and 2017 KY Control Cases  
From Mid-May till End of July, 2011



Maximum Kentucky impact on Susan Wagner monitor = 0.727 ppb

### Ozone Impacts from MD

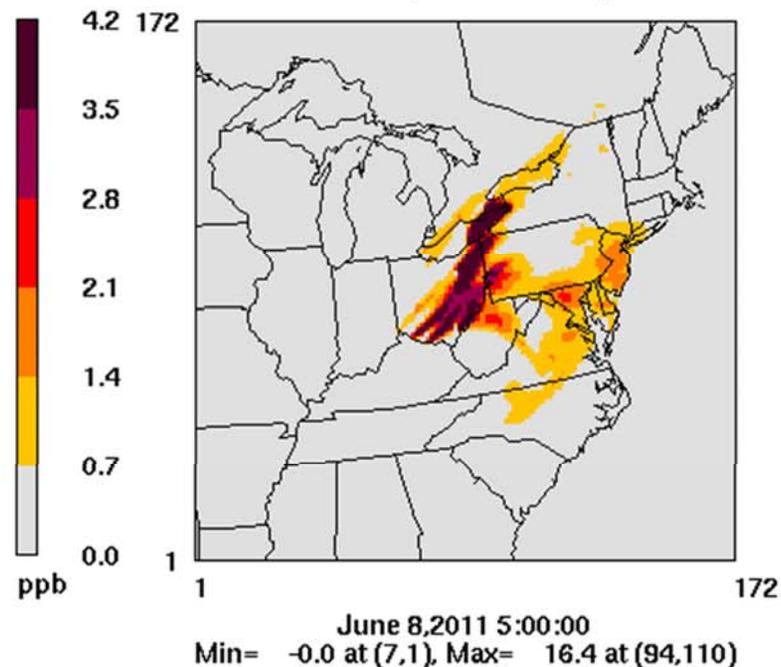
Between 2017 Base and 2017 MD Control Cases  
From Mid-May till End of July, 2011



Maximum Maryland impact on Susan Wagner monitor = 1.509 ppb

### Ozone Impacts from OH

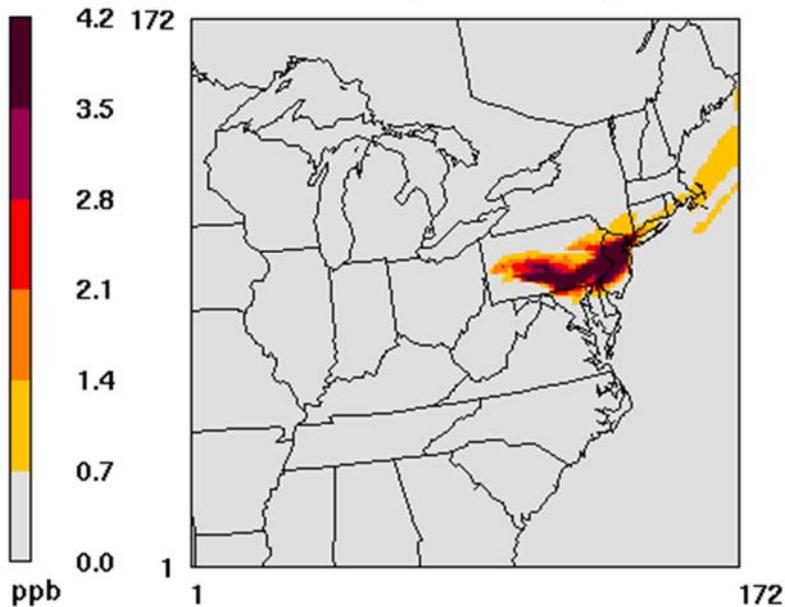
Between 2017 Base and 2017 OH Control Cases  
From Mid-May till End of July, 2011



Maximum Ohio impact on Susan Wagner monitor = 1.350 ppb

### Ozone Impacts from PA

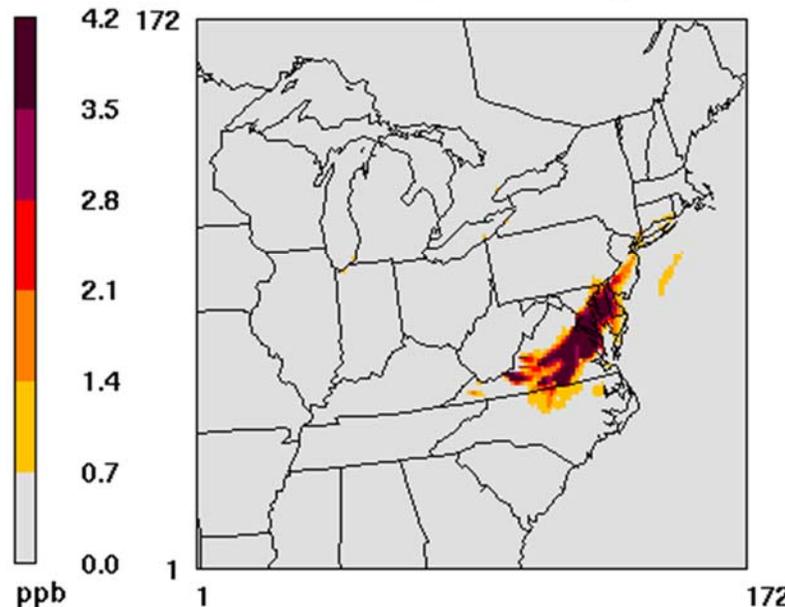
Between 2017 Base and 2017 PA Control Cases  
From Mid-May till End of July, 2011



July 18, 2011 5:00:00  
Min= -0.0 at (15,1), Max= 10.8 at (123,91)

### Ozone Impacts from VA

Between 2017 Base and 2017 VA Control Cases  
From Mid-May till End of July, 2011

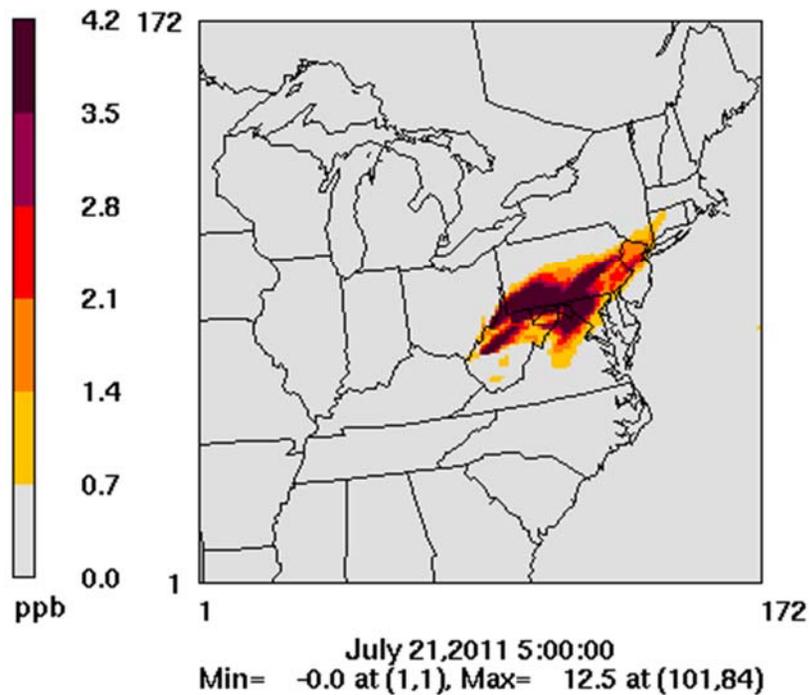


July 21, 2011 5:00:00  
Min= -0.0 at (5,1), Max= 14.0 at (115,60)

Maximum Pennsylvania impact on Susan Wagner monitor = 4.660 ppb    Maximum Virginia impact on Susan Wagner monitor = 0.807 ppb

## Ozone Impacts from WV

Between 2017 Base and 2017 WV Control Cases  
From Mid-May till End of July, 2011



Maximum West Virginia impact on Susan Wagner monitor = 2.273 ppb