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Certification of Adequacy of the Massachusetts State Implementation Plan to meet the Nonattainment New Source Review requirements of the Clean Air Act for the 2008 Ozone National Ambient Air Quality Standards for Dukes County

February 9, 2018

This is the Massachusetts Department of Environmental Protection's (MassDEP) certification that its existing Nonattainment New Source Review (NNSR) regulation at 310 CMR 7.00: Appendix A satisfies the requirements of Sections 182(a) and 184(b) of the Clean Air Act (CAA) for the 2008 ozone National Ambient Air Quality Standards (NAAQS). This certification is being submitted to EPA as a revision to the Massachusetts State Implementation Plan (SIP). Note that this certification relies on the inclusion in the SIP of revised portions of 310 CMR 7.00 Appendix A that also are being submitted to EPA as a revision to the SIP along with this certification.

Background

Effective July 20, 2012, the U.S. Environmental Protection Agency (EPA) designated Dukes County, Massachusetts as marginal non-attainment for the 2008 ozone NAAQS.[1] CAA Section 182(a) requires states to adopt a SIP implementing an NNSR program for areas designated nonattainment for a NAAQS. Because Massachusetts already has a program in its SIP to implement NNSR, Massachusetts can certify the adequacy of its existing NNSR program with respect to the 2008 ozone NAAQS for Dukes County as a SIP revision.

[1] 40 CFR Part 81 Air Quality Designations for the 2008 Ozone National Ambient Air Quality Standards, Final rule. (77 FR 30088) May 21, 2012. https://www.gpo.gov/fdsys/pkg/FR-2012-05-21/pdf/2012-11618.pdf (effective July 20, 2012).

On March 6, 2015, EPA issued a final implementation rule for the 2008 ozone NAAQS[2] that set the deadline for NNSR SIP submittals for nonattainment areas at 36 months after the effective date of area designations (i.e., July 20, 2015).

Effective March 6, 2017, EPA issued a Findings of Failure To Submit (the Findings) to several states, including Massachusetts, for failure to submit a number of required SIP revisions including the nonattainment new source review (NNSR) SIP revision.[3] The Findings was only for Dukes County since it is the only area in the Commonwealth that was designated nonattainment for the 2008 ozone standard. The Findings requires Massachusetts to submit a NNSR SIP revision for Dukes County that EPA determines to be complete by September 6, 2018. The Findings confirmed that the requirement to submit an NNSR SIP does not apply to attainment areas in states like Massachusetts that are part of the Ozone Transport Region (OTR)[4].

Certification

The NNSR requirements for the 2008 ozone NAAQS are located in 40 CFR 51.165. The table below lists the NNSR requirement and the corresponding provision in 310 CMR 7.00: APPENDIX A that satisfies that requirement.

MassDEP certifies that its existing NNSR regulations at 310 CMR 7.00: Appendix A satisfy the requirements of Section 182(a) of the CAA for the 2008 ozone NAAQS as specified in 40 CFR 51.165 for Duke's County. Furthermore, the regulations also satisfy the requirements of 40 CFR 51.165(a)(12) and 40 CFR 51.1105 for Dukes County by meeting the anti-backsliding requirements equivalent to the previous more stringent "serious" designation.

[2] Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements; Final Rule (80 FR 12264) March 6, 2015. https://www.gpo.gov/fdsys/pkg/FR-2015-03-06/pdf/2015-04012.pdf

[3] 40 CFR PART 52 Findings of Failure To Submit State Implementation Plan Submittals for the 2008 Ozone National Ambient Air Quality Standards (NAAQS), Final rule. (82 FR 9158) February 3, 2017. https://www.gpo.gov/fdsys/pkg/FR-2017-02-03/pdf/2017-02188.pdf

[4] Ibid. p. 9160 "The CAA sets out specific requirements for states in the OTR.[9] Upon promulgation of the 2008 ozone NAAQS, states in the OTR were required to submit a SIP revision for RACT.[10] This requirement is the only recurring obligation for an OTR state upon revision of a NAAQS, unless that state also contains some portion of a nonattainment area for the revised NAAQS. In that case, the nonattainment requirements described above also apply to those portions of that state."

Table 1: MassDEP Regulations that Meet 40 CFR 51.165 Requirements

Requirement from 40 CFR 51.165	Provision in 310 CMR 7.00: APPENDIX A satisfying the requirement
Subsection (a)(1)(iv)(A)(1)(i)-(iv) Major Source Threshold for VOC and NO_x – Anti-backsliding requires threshold to remain at Serious (50 tpy for both VOC and NO_x). (iv)(A) *Major stationary source* means: (*1*) Any stationary source of air pollutants that emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant (as defined in paragraph (a)(1)(xxxvii) of this section), except that lower emissions thresholds shall apply in areas subject to subpart 2, subpart 3, or subpart 4 of part D, title I of the Act, according to paragraphs (a)(1)(iv)(A)(*1*)(*i*) through (*viii*) of this section. (*i*) 50 tons per year of Volatile organic compounds in any serious ozone nonattainment area. (*ii*) 50 tons per year of Volatile organic compounds in an area within an ozone transport region, except for any severe or extreme ozone nonattainment area. (*iii*) 25 tons per year of Volatile organic compounds in any severe ozone nonattainment area. (*iv*) 10 tons per year of Volatile organic compounds in any extreme ozone nonattainment area. (*v*) 50 tons per year of Carbon monoxide in any serious nonattainment area for carbon monoxide, where stationary sources contribute significantly to Carbon monoxide levels in the area (as determined under rules issued by the Administrator). (*vi*) 70 tons per year of PM_{10} in any serious nonattainment area for PM_{10}. (*vii*) 70 tons per year of $PM_{2.5}$ in any serious nonattainment area for $PM_{2.5}$.	(2) Definitions, Major Modification (b) Major Modification means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant, for which the existing source is major, subject to regulation under the Act. (a) Any net emissions increase that is considered significant for VOCs shall be considered significant for ozone; and (b) For the purpose of applying the requirements of 310 CMR 7.00: *Appendix A* to major stationary sources of NO_x any significant net emissions increase of NO_x is considered significant for ozone, in addition to any separate requirements for NO_x under part C or D of Title I of the Act;

(*viii*) 70 tons per year of any individual precursor for $PM_{2.5}$ (as defined in paragraph (a)(1)(xxxvii) of this section), in any serious nonattainment area for $PM_{2.5.}$ (*2*) For the purposes of applying the requirements of paragraph (a)(8) of this section to stationary sources of nitrogen oxides located in an ozone nonattainment area or in an ozone transport region, any stationary source which emits, or has the potential to emit, 100 tons per year or more of nitrogen oxides emissions, except that the emission thresholds in paragraphs (a)(1)(iv)(A)(*2*)(*i*) through (*vi*) of this section shall apply in areas subject to subpart 2 of part D, title I of the Act. (*i*) 100 tons per year or more of nitrogen oxides in any ozone nonattainment area classified as marginal or moderate. (*ii*) 100 tons per year or more of nitrogen oxides in any ozone nonattainment area classified as a transitional, submarginal, or incomplete or no data area, when such area is located in an ozone transport region. (*iii*) 100 tons per year or more of nitrogen oxides in any area designated under section 107(d) of the Act as attainment or unclassifiable for ozone that is located in an ozone transport region. (*iv*) 50 tons per year or more of nitrogen oxides in any serious nonattainment area for ozone. (*v*) 25 tons per year or more of nitrogen oxides in any severe nonattainment area for ozone. (*vi*) 10 tons per year or more of nitrogen oxides in any extreme nonattainment area for ozone; or	
Subsection (a)(1)(iv)(A)(*3*): Change constitutes a major source by itself. (*3*) Any physical change that would occur at a stationary source not qualifying under	(2) Definitions, Major Stationary Source (b) <u>Major Stationary Source</u> means any stationary source of air pollutants which emits, or has the

paragraphs (a)(1)(iv)(A)(*1*) or (*2*) of this section as a major stationary source, if the change would constitute a major stationary source by itself.	federal potential emissions greater than or equal to, 100 tpy or more of any pollutant subject to regulation under the Act, except that lower emissions thresholds shall apply as follows: 50 TPY of volatile organic compounds (VOC), or 50 TPY of oxides of nitrogen (NO_x). In addition, any physical change that would occur at a stationary source not previously qualifying as a major stationary source will be considered a major stationary source, if the physical change would result in the following increases either in actual emissions or in the federal potential to emit, greater than or equal to: 50 TPY of volatile organic compounds (VOC), or 50 TPY of oxides of nitrogen (NO_x), or 100 TPY or more of any other pollutant subject to regulation under the Act.
Subsection (a)(1)(v)(E): Significant net emission increase for NO_x is significant for ozone. (E) For the purpose of applying the requirements of (a)(8) of this section to modifications at major stationary sources of nitrogen oxides located in ozone nonattainment areas or in ozone transport regions, whether or not subject to subpart 2, part D, title I of the Act, any significant net emissions increase of nitrogen oxides is considered significant for ozone.	(2) Definitions, Major Modification (b) <u>Major Modification</u> means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant, for which the existing source is major, subject to regulation under the Act. (a) Any net emissions increase that is considered significant for VOCs shall be considered significant for ozone; and (b) For the purpose of applying the requirements of 310 CMR 7.00: *Appendix A* to major stationary sources of NO_x any significant net emissions increase of NO_x is considered significant for ozone, in addition to any separate requirements for NO_x under part C or D of Title I of the Act;
Subsection (a)(1)(v)(F): Any emission changes of VOC in extreme area triggers NNSR. (F) Any physical change in, or change in the method of operation of, a major stationary source of volatile organic compounds that results in any increase in	not applicable

emissions of volatile organic compounds from any discrete operation, emissions unit, or other pollutant emitting activity at the source shall be considered a significant net emissions increase and a major modification for ozone, if the major stationary source is located in an extreme ozone nonattainment area that is subject to subpart 2, part D, title I of the Act.	
Subsection (a)(1)(x)(A)-(C) and (E): Significant emission rates for VOC and NO_x as precursors. (x)(A) *Significant* means, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates: POLLUTANT EMISSION RATE Carbon monoxide: 100 tons per year (tpy) Nitrogen oxides: 40 tpy Sulfur dioxide: 40 tpy Ozone: 40 tpy of Volatile organic compounds or Nitrogen oxides Lead: 0.6 tpy PM_{10}: 15 tpy $PM_{2.5}$: 10 tpy of direct $PM_{2.5}$ emissions; 40 tpy of Sulfur dioxide emissions, 40 tpy of Nitrogen oxide emissions, or 40 tpy of VOC emissions, to the extent that any such pollutant is defined as a precursor for $PM_{2.5}$ in paragraph (a)(1)(xxxvii) of this section. (B) Notwithstanding the significant emissions rate for ozone in paragraph (a)(1)(x)(A) of this section, significant means, in reference to an emissions increase or a net emissions increase, any increase in actual emissions of volatile organic compounds that would result from any physical change in, or change in the method of operation of, a major stationary source locating in a serious or severe ozone nonattainment area that is subject to	(2) Definitions, Significant (a), Ozone <u>Significant</u> means (a) In reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates: POLLUTANT EMISSION RATE Carbon monoxide: 100 tpy Ozone: 25 tpy of nitrogen oxides (NO_x) where an administratively complete application was received on or after November 15, 1992 for the physical change or change in the method of operation. Ozone: 40 tpy of VOC 25 tpy of VOC where an administratively complete application was received on or after November 15, 1992 for the physical change or change in the method of operation.

subpart 2, part D, title I of the Act, if such emissions increase of volatile organic compounds exceeds 25 tons per year. (C) For the purposes of applying the requirements of paragraph (a)(8) of this section to modifications at major stationary sources of nitrogen oxides located in an ozone nonattainment area or in an ozone transport region, the significant emission rates and other requirements for volatile organic compounds in paragraphs (a)(1)(x)(A), (B), and (E) of this section shall apply to nitrogen oxides emissions. . . . (E) Notwithstanding the significant emissions rates for ozone under paragraphs (a)(1)(x)(A) and (B) of this section, any increase in actual emissions of volatile organic compounds from any emissions unit at a major stationary source of volatile organic compounds located in an extreme ozone nonattainment area that is subject to subpart 2, part D, title I of the Act shall be considered a significant net emissions increase.	
Subsection (a)(3)(ii)(C)(*1*): Provisions for determining emission reduction credits due to shutdowns. (C)(1) Emissions reductions achieved by shutting down an existing emission unit or curtailing production or operating hours may be generally credited for offsets if they meet the requirements in paragraphs (a)(3)(ii)(C)(1)(i) through (ii) of this section. (i) Such reductions are surplus, permanent, quantifiable, and federally enforceable. (ii) The shutdown or curtailment occurred	(6)(f)1. (f) Shutdowns. 1. Emissions reductions achieved by shutting down an existing source or curtailing production or operating hours below baseline levels may be generally credited if such reductions are real, surplus, permanent, quantifiable and federally enforceable. In addition, the shutdown or curtailment is creditable only if it occurred after December 31, 1990, and the following conditions have been met: a. the Department has submitted a completed emissions inventory as required by the Clean Air Act, § 182(a)(1); and b. the Department has submitted complete revisions to 310 CMR 7.00: *Appendix A* as

after the last day of the base year for the SIP planning process. For purposes of this paragraph, a reviewing authority may choose to consider a prior shutdown or curtailment to have occurred after the last day of the base year if the projected emissions inventory used to develop the attainment demonstration explicitly includes the emissions from such previously shutdown or curtailed emission units. However, in no event may credit be given for shutdowns that occurred before August 7, 1977.	required by The Clean Air Act, § 182(a)(2)(C); and c. the Department submits the 15% VOC reduction plan required by the Clean Air Act, § 182(b)(1)(A); and d. the Department submits the attainment demonstration required by The Clean Air Act 182(c)(2);
Subsection (a)(3)(ii)(C)(*2*): An exception to (C)(*1*) above. (2) Emissions reductions achieved by shutting down an existing emissions unit or curtailing production or operating hours and that do not meet the requirements in paragraph (a)(3)(ii)(C)(1)(ii) of this section may be generally credited only if: (i) The shutdown or curtailment occurred on or after the date the construction permit application is filed; or (ii) The applicant can establish that the proposed new emissions unit is a replacement for the shutdown or curtailed emissions unit, and the emissions reductions achieved by the shutdown or curtailment met the requirements of paragraph (a)(3)(ii)(C)(1)(i) of this section.	(6)(f)2. (f) Shutdowns. . . . 2. If any of the submissions in 310 CMR 7.00: *Appendix A*(6)(f)1.a. through d. are delinquent, incomplete or disapproved, emissions reductions from shutdowns or curtailments cannot be used, unless the shutdown or curtailment occurred either on or after the date the new source plan approval application is filed or unless the applicant can establish that the proposed new source is a replacement for the shutdown or curtailed source, and the cutoff date provisions of *Appendix A*(6)(f)1. are observed.
Subsection (a)(8): NO_x is treated as an ozone precursor unless in a NO_x waiver area. (8) The plan shall provide that the requirements of this section applicable to major stationary sources and major	(2) Definitions, Nonattainment Pollutant <u>Nonattainment Pollutant</u> means an air pollutant (or precursor of the pollutant, as applicable) for which an area is designated nonattainment (as of the date on which a complete application is filed) pursuant to § 107(d) [Nonattainment Designations] of the

modifications of volatile organic compounds shall apply to nitrogen oxides emissions from major stationary sources and major modifications of nitrogen oxides in an ozone transport region or in any ozone nonattainment area, except in ozone nonattainment areas or in portions of an ozone transport region where the Administrator has granted a NOX waiver applying the standards set forth under section 182(f) of the Act and the waiver continues to apply.	Act or oxides of nitrogen (NO_x) or volatile organic compounds (VOC).
Subsection (a)(9)(i)-(iii): Offset ratios (anti- backsliding requires the ratio to be the equivalent of Serious for Dukes County (1.2:1)). (9)(i) The plan shall require that in meeting the emissions offset requirements of paragraph (a)(3) of this section, the ratio of total actual emissions reductions to the emissions increase shall be at least 1:1 unless an alternative ratio is provided for the applicable nonattainment area in paragraphs (a)(9)(ii) through (a)(9)(iv) of this section. (ii) The plan shall require that in meeting the emissions offset requirements of paragraph (a)(3) of this section for ozone nonattainment areas that are subject to subpart 2, part D, title I of the Act, the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be as follows: (A) In any marginal nonattainment area for ozone—at least 1.1:1; (B) In any moderate nonattainment area for ozone—at least 1.15:1; (C) In any serious nonattainment area for ozone—at least 1.2:1;	(6)(e)1. (e) In meeting the requirements of 310 CMR 7.00: *Appendix A*(6)(d), the ratio of total actual emission reductions to the increase in actual emissions shall be as follows: 1. 1.2:1 of VOC or NO_x ;

(D) In any severe nonattainment area for ozone—at least 1.3:1 (except that the ratio may be at least 1.2:1 if the approved plan also requires all existing major sources in such nonattainment area to use BACT for the control of VOC); and (E) In any extreme nonattainment area for ozone—at least 1.5:1 (except that the ratio may be at least 1.2:1 if the approved plan also requires all existing major sources in such nonattainment area to use BACT for the control of VOC); and (iii) Notwithstanding the requirements of paragraph (a)(9)(ii) of this section for meeting the requirements of paragraph (a)(3) of this section, the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be at least 1.15:1 for all areas within an ozone transport region that is subject to subpart 2, part D, title I of the Act, except for serious, severe, and extreme ozone nonattainment areas that are subject to subpart 2, part D, title I of the Act.	
Subsection (a)(12): Anti-backsliding requirements. (12) The plan shall require that in any area designated nonattainment for the 2008 ozone NAAQS and designated nonattainment for the 1997 ozone NAAQS on April 6, 2015 the requirements of this section applicable to major stationary sources and major modifications of ozone shall include the anti-backsliding requirements contained at §51.1105.	Where applicable, the above citations demonstrate the SIP meets the anti-backsliding requirement because the applicability thresholds and offset ratios are equivalent to the Serious nonattainment designation for the 1990 1-hr ozone designation in Dukes County.

Source: ecfr (https://www.ecfr.gov/cgi-bin/text-idx?c=ecfr;sid=26a0c0c80059c7c957419a319981efee;rgn=div8;view=text;node=40%3A2.0.1.1.2.6.8.6;idno=40;cc=ecfr)