Certification of Adequacy of the Connecticut State Implementation Plan to Satisfy the Nonattainment New Source Review Requirements of the Clean Air Act for the 2008 8-Hour Ozone National Ambient Air Quality Standard Reclassification to Serious Nonattainment and the 2015 8-Hour Ozone National Ambient Air Quality Standard Initial Classification

23 June 2020

Connecticut Department of Energy and Environmental Protection (DEEP) certifies that its existing nonattainment new source review (NNSR) requirements in sections 22a-174-1 and -3a of the Regulations of Connecticut State Agencies (RCSA) satisfy the requirements of Clean Air Act (CAA) section 182 and 40 Code of Federal Regulations (CFR) 51.165 for the 2008 ozone national ambient air quality standards (NAAQS) reclassification to serious nonattainment and the 2015 ozone NAAQS initial classifications of marginal/moderate nonattainment.

Effective September 23, 2019, the U.S. Environmental Protection Agency (EPA) reclassified both nonattainment areas in Connecticut as serious nonattainment for the 2008 ozone NAAQS. Although DEEP had previously submitted and EPA had approved a NNSR certification for the 2008 ozone NAAQS after reclassification to moderate nonattainment,1 DEEP is re-certifying the adequacy of its NNSR program under the second reclassification, to serious nonattainment statewide for the 2008 ozone NAAQS. For the 2015 ozone NAAQS, the Greater Connecticut nonattainment area is classified as marginal and the Connecticut portion of the New York-Northern New Jersey-Long Island area is classified as moderate.2 DEEP is certifying the adequacy of its NNSR program for the 2015 ozone NAAQS.

With one exception, EPA retained the NNSR requirements for its implementation of the 2015 ozone NAAQS.3 EPA added specific criteria for developing and implementing an interprecursor trading program.4 As Connecticut has no interprecursor trading provisions, those changes have no impact on the adequacy of Connecticut’s NNSR program.

Connecticut’s existing NNSR program was established using the serious and severe nonattainment classifications under the 1-hour ozone NAAQS, even though the two nonattainment areas in the state are classified as serious for the 2008 ozone NAAQS and marginal (Greater Connecticut area) and moderate (Connecticut portion of NY-NNJ-LI area) for the 2015 ozone NAAQS. Connecticut has maintained the requirements under the more stringent classifications to assist in satisfying its attainment and anti-backsliding requirements. By demonstrating that Connecticut’s State Implementation Plan meets the NNSR requirements for serious and severe nonattainment areas, the state program satisfies the requirements of 40 CFR 51.1114 and 51.1314 as well as CAA sections 110, 182 and 184 and 40 CFR 51.165.

The NNSR minimum requirements are located in 40 CFR 51.165. The table below lists the NNSR requirements (left hand column) and the corresponding provisions in the Connecticut regulations that satisfy each requirement (right hand column). Unless otherwise specified, references to the Code of

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1 83 FR 6968 (February 16, 2018).
2 Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards. 83 FR 25776 (4 June 2018).
4 2015 Implementation Rule at 63016.
Federal Regulations in the Connecticut regulations refer to the CFR as in effect on March 15, 2002. DEEP certifies that its existing NNSR regulations at RCSA sections 22a-174-1 and 22a-174-3a satisfy the requirements of CAA section 182 for the 2008 and 2015 ozone NAAQS as specified in 40 CFR 51.165. The state regulations also satisfy the anti-backsliding requirements of 40 CFR 51.165(a)(12).

### Connecticut Regulatory Requirements that Satisfy the Requirements of 40 CFR 51.165

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<tr>
<td>40 CFR 51.165(a)(1)(iv)(A)</td>
<td>Connecticut establishes the major source thresholds in its definition of “major stationary source” in RCSA section 22a-174-1(63), as follows:</td>
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<td>(iv)(A) Major stationary source means: (I) 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, part D, Title I of the Act, according to paragraphs (a)(1)(iv)(A)(I)(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 any severe 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 moderate 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 ( \text{PM}<em>{2.5} ) in any serious nonattainment area for ( \text{PM}</em>{2.5} ). (vii) 70 tons per year of ( \text{PM}<em>{10} ) in any serious nonattainment area for ( \text{PM}</em>{10} ). (viii) 70 tons per year of any individual precursor for ( \text{PM}<em>{2.5} ) (as defined in paragraph (a)(1)(xxxvii) of this section), in any serious nonattainment area for ( \text{PM}</em>{2.5} ). (2) For the purposes of applying the requirements of paragraph (a)(8) of this section to stationary sources of nitrogen and NOx, Connecticut determines:</td>
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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

50 tpy as a result of location in an ozone transport region and a NOx major source threshold of 100 tpy.

Connecticut regulations set the major source threshold at 100 tpy for pollutants other than NOx and VOC because Connecticut is not designated nonattainment for any pollutant other than ozone. The thresholds for NOx and VOC are set at 50 tpy except in the severe area of the state where the thresholds are set at 25 tpy. As the state retains the more stringent thresholds applicable to a nonattainment area based on its historic classifications under the 1-hour ozone NAAQS, the regulatory requirements thus satisfy the requirements of 40 CFR 51.165(a)(12).

### Change Constitutes a Major Source by Itself

<table>
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<tr>
<th>40 CFR 51.165(a)(1)(iv)(A)(3) (3) Any physical change that would occur at a stationary source not qualifying under 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.</th>
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<td>The definition of “major stationary source” in RCSA section 22a-174-1(63) references the March 15, 2002 version of 40 CFR 51.165(a)(1)(iv). The 2002 definition includes language that is functionally identical to the current federal rule.</td>
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<td>March 15, 2002 version of 40 CFR 51.165(a)(1)(iv)(A): (iv)(A) Major stationary source means: (1) Any stationary source of air pollutants which emits, or has the potential to emit 100 tons per year or more of any pollutant subject to regulation under the Act, or (2) Any physical change that would occur at a stationary source not qualifying under paragraph (a)(1)(iv)(A)(1) as a major stationary source, if the change would constitute a major stationary source by itself.</td>
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<td>Thus, through its regulations, Connecticut treats as a major source any modification that by itself meets the major source threshold.</td>
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### Significant Net Emissions Increase for NOx is Significant for Ozone

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<th>40 CFR 51.165(a)(1)(v)(E) (E) For the purpose of applying the requirements of (a)(8) of this section to Table 3a(k)-1 of RCSA section 22a-174-3a sets forth the significance thresholds for determining major modifications. The threshold for NOx, as an ozone...</th>
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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.

Any Emission Change of VOC in an Extreme Area Triggers Nonattainment NSR

40 CFR 51.165 (a)(1)(v)(F)
(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 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.

Requirement is not applicable. No areas in Connecticut have ever been classified as extreme nonattainment for ozone.

Significant Emissions Rates for VOC and NOx as Ozone Precursors

40 CFR 51.165(a)(1)(x)(A) through (C) and (E)
(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

Ozone: 40 tpy of volatile organic compounds or nitrogen oxides

(61) “Major modification” means “major modification” as defined in 40 CFR 51.165(a)(1)(v), provided that, for the purposes of this definition, the term “significant” has the same meaning as in 40 CFR 51.166(b)(23)(i) and:
(A) The values for nitrogen oxides as an ozone precursor and volatile organic compounds are each twenty-five (25) tons per year, and
(B) Asbestos, beryllium and vinyl chloride are excluded.

Although the 2002 federal definition of significant sets higher thresholds than 25 tpy, the Connecticut definition of major modification establishes that a significant net
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 located in a serious or severe ozone nonattainment area that is subject to 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.

**Provisions for Emission Reductions Credits Due to Shutdowns**

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<td>(C)(I)</td>
<td>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)(I)(i) through (ii) of this section.</td>
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<tr>
<td>(i)</td>
<td>Such reductions are surplus, permanent, quantifiable, and federally enforceable.</td>
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<td>(ii)</td>
<td>The shutdown or curtailment occurred 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 describes the reduction achieved.</td>
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The requirements for emission reduction credits are in RCSA section 22a-174-3a(1)(4) and (5).

(4) Offsetting emission reductions or Emission Reduction Credits.
(A) Except as provided in subdivision (8)(B) of this subsection, prior to commencing operation pursuant to a permit issued under this section, the owner or operator of the subject source or modification shall:
(i) reduce actual emissions from other stationary sources on such premises, sufficient to offset the allowable emissions increase for each individual non-attainment air pollutant which is the subject of the application, or
(ii) obtain certified emission reduction credits in accordance with subdivision (5) of this subsection, which credits are sufficient to offset the allowable emissions increase for each individual non-attainment air pollutant; and
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.

(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.

(B) The commissioner shall not grant a permit to an owner or operator of the subject source or modification unless the owner or operator demonstrates that internal offset or certified emission reduction credits pursuant to subparagraph (A) of this subdivision:

(i) have occurred preceding the submission of such application and prior to the date that the subject source or modification becomes operational and begins to emit any air pollutant.

The commissioner may consider a time period beginning no earlier than November 15, 1990,

(ii) are not otherwise required by any of the following: the Act; a federally enforceable permit or order; the State Implementation Plan; or the regulations or statutes in effect when such application is filed,

(iii) will be incorporated into a permit or order of the commissioner and would be federally enforceable,

(iv) will create a net air quality benefit in conjunction with the proposed emissions increase. In determining whether such a net air quality benefit would be created, the commissioner may consider emissions on an hourly, daily, seasonal or annual basis. For carbon monoxide or particulate matter (total suspended particulate, PM2.5 and PM10), the net air quality benefits shall be determined by the use of atmospheric modeling procedures approved by the commissioner and the Administrator in writing. Upon the request of the commissioner, the owner or operator shall make and submit to the commissioner, a net air quality benefit determination for each air pollutant. Such determination shall include, but not be limited to, all increases and decreases of emissions from stationary sources at any premises providing the offsetting emission reductions,

(v) shall be based on the pounds per hour of potential emissions increase from the subject source or modification. The commissioner may consider other more representative periods, including, but not limited to, tons per year or pounds per day,

(vi) are identified in an emissions inventory maintained by the commissioner or otherwise approved in writing by the commissioner,

(vii) are of the same non-attainment air pollutant of which the owner or operator proposes to increase. Reductions of any exempt volatile organic compound listed in Table 1-3 of section 22a-174-1 of the Regulations of Connecticut State Agencies or those listed in 40 CFR 51.100 shall not be used to offset proposed increases emissions of non-exempt volatile organic compounds,

(viii) occurred at either: one or more stationary sources in the same non-attainment area or stationary sources in another non-attainment area if, pursuant to the Act, such
area has an equal or higher non-attainment classification than the area in which the proposed activity would take place, and if emissions from such other non-attainment area contribute to a violation of a National Ambient Air Quality Standard in the non-attainment area in which the proposed activity would take place,
(ix) for the applicable non-attainment air pollutant, shall be from reductions in actual emissions, and
(x) offset actual emissions at a ratio greater than one to one, as determined by the commissioner. In addition, the owner or operator shall offset emission increases of allowable emissions at a ratio, for volatile organic compounds or nitrogen oxides, of at least: 1.3 to 1 in any severe non-attainment area for ozone, and 1.2 to 1 in any serious non-attainment area for ozone.
(5) The owner or operator of the subject source or modification shall secure certified emission reduction credits before using them. Continuous emission reduction credits shall be secured and retired prior to their use.
Emission reduction credits shall be:
(A) Created and used in accordance with 40 CFR 51;
(B) Real, that is, resulting in a reduction of actual emissions, net of any consequential increase in actual emissions resulting from shifting demand. The emission reductions shall be measured, recorded and reported to the commissioner;
(C) Quantifiable, based on either stack testing approved by the commissioner in writing, conducted pursuant to an appropriate, reliable, and replicable protocol approved by the commissioner, or continuous emissions monitoring certified by the commissioner. Such quantification shall be in terms of the rate and total mass amount of non-attainment pollutant emission reduction;
(D) Surplus, not required by any Connecticut General Statute or regulation adopted thereunder, or mandated by the State Implementation Plan, and not currently relied upon for any attainment plan, any Reasonable Further Progress plan or milestone demonstration;
(E) Permanent, in that at the source of the emission reduction, the emission reduction system shall be in place and operating, and an appropriate record keeping system is maintained to collect and record the data required to verify and quantify such emissions reductions; and
(F) Enforceable and approved by the commissioner in writing after the submission to the commissioner of documents satisfactory to the commissioner or incorporated into a permit as a restriction on emissions.

The provisions concerning emission reduction credits apply to any source that meets the applicability requirements found in RCSA section 22a-174-3a(l)(1):
(1) Applicability. In accordance with subsection (a) of this section, the provisions of this subsection shall apply to the owner or operator of:

(A) Any new major stationary source that:
   (i) Is or will be constructed in a designated nonattainment area; and
   (ii) Is or will be major for the pollutant for which the area is designated as nonattainment;

(B) Any major modification that:
   (i) Occurs at a source that is major for the pollutant for which the area is designated as nonattainment; and
   (ii) Is or will be major for the pollutant for which the area is designated as nonattainment; or

(C) Any new major stationary source or major modification that is located in an attainment area or unclassifiable area, where the allowable emissions of any air pollutant would cause or exacerbate a violation of a National Ambient Air Quality Standard in an adjacent nonattainment area. Allowable emissions of any such air pollutant shall be deemed not to cause or contribute to a violation of a National Ambient Air Quality Standard provided that such emissions result in impacts that are less than the levels set forth in Table 3a(i)-1 in subsection (i) of this section.

Creation and use of offsetting emissions are reviewed for consistency with these regulatory requirements.

Furthermore, RCSA section 22a-174-3a(l)(7) requires the public notice made prior to permit issuance includes information concerning the owner’s proposal to offset the potential emissions increase from the source or modification.

Requirements for VOC Apply to NOx as an Ozone Precursor

40 CFR 51.165(a)(8)

(8) The plan shall provide that the requirements of this section applicable to major stationary sources and major 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.

RCSA section 22a-174-1(87), definition of “non-attainment air pollutant.”

(78) "Non-attainment air pollutant" means the particular air pollutant for which an area is designated as a non-attainment area, except that volatile organic compounds and nitrogen oxides are non-attainment air pollutants for ozone non-attainment areas.
Offset Ratios for VOC and NOx for Ozone Nonattainment Areas

40 CFR 51.165(a)(9)

(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;

(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.

(iv) 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 RCSA section 33a-174-3a(1)(4)(B)(x) establishes required offset ratios:

(4) Offsetting emission reductions or Emission Reduction Credits.

(B) The commissioner shall not grant a permit to an owner or operator of the subject source or modification unless the owner or operator demonstrates that internal offset or certified emission reduction credits pursuant to subparagraph (A) of this subdivision:

(x) offset actual emissions at a ratio greater than one to one, as determined by the commissioner. In addition, the owner or operator shall offset emission increases of allowable emissions at a ratio, for volatile organic compounds or nitrogen oxides, of at least: 1.3 to 1 in any severe nonattainment area for ozone, and 1.2 to 1 in any serious nonattainment area for ozone.

The serious nonattainment reclassification for the 2008 ozone NAAQS requires that offsets for VOC or NOx be set at a ratio of 1.2 to 1.

Offsets required in Southwest Connecticut (Connecticut portion of the multistate nonattainment area) under the moderate designation for the 2015 ozone NAAQS would be set at a ratio of 1.15 to 1. In the Greater Connecticut area, offsets for the marginal nonattainment designation for the 2015 ozone NAAQS would be set at 1.1 to 1.

As Connecticut retains the more stringent offset requirements from prior designations at higher nonattainment classifications under the 1-hour ozone NAAQS, Connecticut continues to meet the requirements of 40 CFR 51.165(a)(12) with regard to offsets. Specifically, the entire state is classified as either serious or severe nonattainment for ozone. Connecticut’s serious and severe nonattainment areas are defined in RCSA section 22a-174-1 as follows:

(103) “Serious non-attainment area for ozone” means all towns within the State of Connecticut, except those towns located in the severe non-attainment area for ozone.

(104) “Severe non-attainment area for ozone” means the towns of Bethel, Bridgeport, Bridgewater, Brookfield, Danbury, Darien, Easton, Fairfield, Greenwich, Monroe, New Canaan, New Fairfield, New Milford, Newtown, Norwalk, Redding, Ridgefield, Sherman, Stamford, Stratford, Trumbull, Weston, Westport and Wilton.
subpart 1, part D, title I of the Act (but are not subject to subpart 2, part D, title I of the Act, including 8-hour ozone nonattainment areas subject to 40 CFR 51.902(b)), the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be at least 1:1.

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<thead>
<tr>
<th>Anti-backsliding requirements, as applicable</th>
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<tr>
<td><strong>40 CFR 51.165(a)(12)</strong></td>
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<tr>
<td>(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.</td>
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<tr>
<td>As demonstrated in the applicable citations above, Connecticut retains its NNSR provisions as in effect under the designations of severe and serious nonattainment for the 1-hour ozone NAAQS, which predates the 2008 and 2015 8-hour ozone NAAQS. The existing NNSR provisions are at least as stringent as necessary to satisfy the anti-backsliding requirements.</td>
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