



**State of Connecticut
Department of Environmental Protection**

**Adequacy Determination of the
Connecticut State Implementation Plan for
Clean Air Act Section 110(a)
Infrastructure Elements:
1997 National Ambient Air Quality Standard for
Fine Particulate Matter**

September 4, 2008

Adequacy Determination of the Connecticut State Implementation Plan for Clean Air Act Section 110(a) Infrastructure Elements: 1997 National Ambient Air Quality Standard for Fine Particulate Matter

Pursuant to Clean Air Act (CAA) Section 110(a)(1) and (2), all States are required to submit plans to implement, maintain and enforce the 1997 national ambient air quality standard (NAAQS) for fine particulate matter less than a nominal 2.5 micrometers in diameter (PM_{2.5}), including such basic state implementation plan (SIP) requirements as emissions inventories, monitoring and modeling to assure attainment and maintenance of the standards. On August 15, 2006, the U.S. Environmental Protection Agency (EPA) issued guidance to States about compliance with CAA Section 110(a)(2)(D)(i). The Connecticut Department of Environmental Protection (CTDEP) addressed the interstate transport requirements of CAA Section 110(a)(2)(D)(i) for the PM_{2.5} NAAQS.¹ On October 2, 2007, EPA issued guidance on compliance with the remaining non-transport-related requirements of CAA Section 110(a)(2). This explanation addresses such non-transport-related requirements for the PM_{2.5} NAAQS.

Except for the two future SIP revisions noted below, Connecticut's SIP satisfies the fourteen required CAA Section 110(a)(1) and (2) infrastructure elements, as identified in EPA's guidance,² for the 1997 PM_{2.5} NAAQS.

CTDEP recognizes that it must update its program infrastructure with respect to its nonattainment and minor source new source review (NSR) permit and prevention of significant deterioration (PSD) programs. Such a SIP revision is scheduled for submission no later than May 16, 2011.³ CTDEP is now implementing the provisions of 40 CFR 51 Appendix S for PM_{2.5} in Fairfield and New Haven counties and the transitional PSD program for PM_{2.5} (*i.e.*, the PM₁₀ surrogate policy). CTDEP committed to the May 2011 SIP revision in its proposed PM_{2.5} attainment demonstration, for which a public hearing was held on August 21, 2008. CTDEP will submit the final PM_{2.5} attainment demonstration in the near future.

On July 11, 2008, the U.S. Court of Appeals (D.C. Circuit) vacated the Clean Air Interstate Rule (CAIR). EPA has through September 24, 2008 to appeal that decision, making the future of the CAIR program and the anticipated emissions reductions uncertain. CTDEP was subject to CAIR only for the ozone season nitrogen oxides program, and the vacatur is unlikely to have an impact on CTDEP's satisfaction of its interstate transport requirements for PM_{2.5}.⁴ However, should the vacatur stand, CTDEP notes that upwind states will need to evaluate reductions in sulfur dioxide

¹ See 73 FR 25516 (May 7, 2008).

² The fourteen required infrastructure elements of CAA Section 110(a)(2) are described in an October 2, 2007 guidance memo from William Harnett, Director of EPA's Air Quality Policy Division.

³ As specified in *Implementation of the New Source Review Program for Particulate Matter Less Than 2.5 Micrometers*, 73 FR 28321 (May 16, 2008).

⁴ EPA's CAIR modeling determined that Connecticut emissions do not meet or exceed the 0.2 microgram per cubic meter average annual threshold by which EPA established a significant PM_{2.5} impact on another state in the projection year 2010. From this, EPA determined that Connecticut emissions do not contribute significantly to downwind nonattainment of the 1997 PM_{2.5} NAAQS. In addition, air quality modeling conducted by CTDEP also concluded that emissions of PM_{2.5} do not significantly contribute to downwind PM_{2.5} nonattainment. See 72 FR 62420 (November 5, 2007).

and nitrogen oxide emissions to be certain that those states satisfy their interstate transport obligations.

The attached table sets out in detail those SIP elements and underlying statutory and regulatory authorities that satisfy each of the fourteen required infrastructure elements. EPA's identification of Connecticut's current SIP is set out in 40 CFR 52, Subpart H, as a collection of revisions to the original submission of March 3, 1972. With CTDEP's submission of Connecticut's final PM_{2.5} NAAQS attainment demonstration⁵ and the PM_{2.5} NSR SIP revision by May 2011, Connecticut's SIP will fully satisfy all of the infrastructure elements.

⁵ CTDEP submitted a proposed attainment demonstration on July 10, 2008 and is currently responding to comment and preparing the final submission.

Overview of How Connecticut’s State Implementation Plan Satisfies the CAA Section 110(a)(1) and (2) Program Infrastructure Elements for PM_{2.5}*

CAA Section	Required CAA Element	Corresponding Connecticut Program Element(s)
<p>110(a)(2)(A) Emission limits and other control measures</p>	<p>... “include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance...”</p>	<p>CGS Section 22a-6(a)(1). The Commissioner is empowered to “adopt, amend or repeal . . . such environmental standards, criteria, and regulations . . . as are necessary and proper to carry out his functions, powers and duties.” It is under this general grant of authority that the Commissioner has adopted emissions standards and control measures for a variety of sources and pollutants.</p> <p>CGS Section 22a-174g. California motor vehicle emission standards, including exhaust emission standards for precursors of PM and sources of black carbon.</p> <p>CGS Section 22a-174. Establishes the Commissioner’s general authority to adopt regulations and issue permits to control air pollution.</p> <p>CGS Section 22a-174(f). Limitations on open burning.</p> <p>CGS Section 22a-174k. Restrictions on operation of outdoor wood-burning furnaces.</p> <p>The sections of the air quality regulations specific emissions limits related to the control of PM_{2.5} and PM_{2.5} precursors include RCSA:</p> <p>22a-174-3a(i) – (l) Nonattainment new source review and prevention of significant deterioration.</p> <p>22a-174-18 Control of particulate matter and visible emissions.</p> <p>22a-174-19 Control of sulfur compound emissions.</p> <p>22a-174-19a Control of sulfur compound emissions from power plants.</p> <p>22a-174-20 Control of organic compound emissions.</p>

* CAA refers to the Clean Air Act
 CGS refers to the Connecticut General Statutes
 RCSA refers to Regulations of Connecticut State Agencies
 CFR refers to the U.S. Code of Federal Regulations
 CTDEP refers to the Connecticut Department of Environmental Protection
 Commissioner refers to the Commissioner of the CTDEP

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		<p>22a-174-22 NO_x emissions (<i>also included in many single source SIP revisions</i>).</p> <p>22a-174-22b Post-2002 NO_x budget program.</p> <p>22a-174-22c CAIR NO_x ozone season trading program.</p> <p>22a-174-27 Periodic motor vehicle inspection and maintenance.</p> <p>22a-174-30 Gasoline vapor recovery.</p> <p>22a-174-32 VOC RACT (<i>also included in many single source SIP revisions</i>).</p> <p>22a-174-36 Low emission vehicles.</p> <p>22a-174-36a Heavy-duty diesel engines.</p> <p>22a-174-36b Low emission vehicles II program.</p> <p>22a-174-38 Municipal waste combustors.</p> <p>22a-174-40 Consumer products.</p> <p>22a-174-41 AIM coatings.</p> <p>22a-174-43 Portable fuel containers.</p> <p>22a-174-44 Adhesives and sealants (<i>adoption in process</i>).</p>
110(a)(2)(B) Ambient air quality monitoring/data system	... “provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to (i) monitor, compile, and analyze data on ambient air quality, and (ii) upon request, make such data available to the Administrator.”	<p>40 CFR 53; 40 CFR 58. A comprehensive air quality monitoring plan, intended to meet requirements of 40 CFR 58, is submitted to EPA each year. The 2008 Annual Air Monitoring Network Plan was submitted on June 30, 2008.</p> <p>CGS Section 22a-174(d) provides the commissioner with all incidental powers necessary to control air pollution.</p>
110(a)(2)(C) Program for enforcement of control measures	... “include a program to provide for the enforcement of the measures described in subparagraph (A), and regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that national ambient air quality standards are achieved, including a permit program as required in parts C and D;”	<p>CGS Section 22a-6(a)(5). The commissioner may, in accordance with constitutional limitations, enter at all reasonable times, without liability, upon any public or private property, except a private residence, for the purpose of inspection and investigation to ascertain possible violations of any statute, regulation, order or permit administered, adopted or issued by him and the owner, managing agent or occupant of any such property shall permit such entry . . .</p> <p>CGS Section 22a-6b. Imposition of civil penalties by the commissioner.</p> <p>CGS Section 22a-7(d). Civil actions.</p> <p>CGS Section 22a-171. “The commissioner shall . . . (4) adopt, amend, repeal and enforce regulations . . . and do any other act necessary to enforce the</p>

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		<p>provisions of [Chapter 446c, entitled “Air Pollution Control,” which encompasses CGS Sections 22a-170 through 22a-206].”</p> <p>CGS Section 22a-174. Orders to correct violations.</p> <p>CGS Section 22a-175. Penalties for violations.</p> <p>CGS Section 22a-176. Consideration in making regulations and issuing orders.</p> <p>CGS Section 22a-177. Enforcement of regulations. Complaints.</p> <p>CGS Section 22a-178. Orders to correct violations.</p> <p>RCSA section 22a-3a-6(c). Orders, rulings and decisions – procedures in contested cases.</p> <p>RCSA section 22a-174-3a. Permit to construct and operate stationary sources. This section provides a permit program for enforceable emission limits and control measures.</p> <p>RCSA section 22a-174-12. Violations and enforcement of the Regulations of Connecticut State Agencies. This section provides that “The Commissioner shall designate employees of DEP to be known as enforcement personnel, who shall, acting with or without complaints, conduct investigations and ascertain whether the Commissioner's regulations are being complied with.”</p>

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110(a)(2)(D) Interstate transport	<p>... “contain adequate provisions - (i) prohibiting, consistent with the provisions of this title, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will - (I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or (II) interfere with measures required to be included in the applicable implementation plan for any other State under part C to prevent significant deterioration of air quality or to protect visibility, (ii) insuring compliance with the applicable; requirements of sections 126 and 115 (relating to interstate and international pollution abatement);”</p>	<p>Revision to the Connecticut State Implementation Plan --Addressing the Interstate Air Pollution Transport Requirements of Clean Air Act Section 110(a)(2)(D)(i), was submitted to EPA on March 13, 2007. EPA approved the SIP revision on May 7, 2008 (73 FR 25516). NSR Stringency Determination submitted to EPA-Region 1, December 29, 2005.</p>

CAA Section	Required CAA Element	Corresponding Connecticut Program Element(s)
<p>110(a)(2)(E) Adequate resources</p>	<p>... “provide (i) necessary assurances that the State (or, except where the Administrator deems inappropriate, the general purpose local government or governments, or a regional agency designated by the State or general purpose local governments for such purpose) will have adequate personnel, funding, and authority under State (and, as appropriate, local) law to carry out such implementation plan (and is not prohibited by any provision of Federal or State law from carrying out such implementation plan or portion thereof), (ii) requirements that the State comply with the requirements respecting State boards under section 128, and (iii) necessary assurances that, where the State has relied on a local or regional government, agency, or instrumentality for the implementation of any plan provision, the State has responsibility for ensuring adequate implementation of such plan provision;”</p>	<p>CGS Section 22a-171. Duties of Commissioner of Environmental Protection. “The commissioner shall (1) initiate and supervise programs for the purposes of determining the causes, effect and hazards of air pollution; (2) initiate and supervise state-wide programs of air pollution control education; (3) cooperate with and receive money from the federal government and, with the approval of the Governor, from any other public or private source; (4) adopt, amend, repeal and enforce regulations as provided in section 22a-174 and do any other act necessary to enforce the provisions of this chapter and section 14-164c; (5) advise and consult with agencies of the United States, agencies of the state, political subdivisions and industries and any other affected groups in furtherance of the purposes of this chapter.”</p> <p>Air Quality Implementation Plan, Chapter 11, Parts A-E (March 3, 1972). Describes the (A) existing organizations; (B) manpower; (C) funding; (D) physical resources and (E) local agencies. It stated, in part, “The Department of Environmental Protection will secure appropriations sufficient, in conjunction with federal assistance, to maintain the projected state funding levels.”</p> <p><i>CTDEP is the sole authority implementing the SIP and does not rely on local or regional governments or agencies to carry out this responsibility.</i></p>
<p>110(a)(2)(F) Stationary source emissions monitoring and reporting</p>	<p>... “require, as may be prescribed by the Administrator - (i) the installation, maintenance, and replacement of equipment, and the implementation of other necessary steps, by owners or operators of stationary sources to monitor emissions from such sources, (ii) periodic reports on the nature and amounts of emissions and emissions-related data from such sources, and (iii) correlation of such reports by the State agency with any emission limitations or standards established pursuant to this Act,</p>	<p>CGS Section 22a-6(a)(5). “The commissioner may, in accordance with constitutional limitations, enter at all reasonable times, without liability, upon any public or private property, except a private residence, for the purpose of inspection and investigation to ascertain possible violations of any statute, regulation, order or permit administered, adopted or issued by him and the owner, managing agent or occupant of any such property shall permit such entry ...”</p> <p>CGS Section 22a-174(c). Various powers of the commissioner related to permitting, inspections, and recordkeeping.</p> <p>RCSA section 22a-174-4. Source monitoring, record keeping and reporting. Paragraph (d)(1) states: “The commissioner may, by written notice, require the owner or operator of any source to create, maintain and submit data, records or</p>

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	which reports shall be available at reasonable times for public inspection;”	<p>reports of monitoring data and other information deemed necessary by the commissioner to evaluate compliance with chapter 446c of the Connecticut General Statutes and regulations promulgated thereunder. Such information shall be recorded, compiled and submitted on forms furnished or prescribed by the commissioner. The written notice shall provide the date by which such data, records or reports shall be submitted to the commissioner.”</p> <p>RCSA section 22a-174-5. Methods for sampling, emission testing, sample analysis, and reporting.</p> <p>(e)(1) states: “The owner or operator of a stationary source of air pollution with maximum uncontrolled emissions of any particular air pollutant greater than one hundred (100) tons per year shall be required to carry out emission tests as prescribed by the Commissioner. Such test or tests shall be conducted at such intervals as the Commissioner may specify for an individual stationary source.” Subsection (e)(2) states “In addition to the emission tests required in subdivision 22a-174-5(e)(1), the commissioner may require the owner or operator of any stationary source to conduct emission tests of emissions.”</p> <p>RCSA section 22a-174-10. Public availability of information. Paragraph (a) states: Any records, reports or other information obtained by the Commissioner or on file with the department shall, pursuant to the provisions of sections 1-7 through 20 of the General Statutes, as amended, be made available to the public.</p>
110(a)(2)(G) Emergency power	... “provide for authority comparable to that in section 303 and adequate contingency plans to implement such authority;”	<p>CGS Section 22a-181. Emergency action to protect public health or safety.</p> <p>RCSA section 22a-174-6. Air pollution emergency episode procedures. This section describes the existing emergency episode procedures in place, which are consistent with the significant harm levels as indicated in 40 CFR Part 51.151.</p> <p>Connecticut expects to be classified as a Priority III region, and, therefore, an emergency episode plan for PM_{2.5} is not required.⁶</p>

⁶ See March 24, 2008 EPA guidance in Appendix 10A. See also, Harnett, W.T. 2007. *Guidance on SIP Elements Required under Sections 110(a)(1) and (2) for the 1997 8-hour Ozone and PM_{2.5} National Ambient Air Quality Standards*, which states:

“As an aid to the States in addressing the PM_{2.5} related requirements of Section 110(a)(2)(G) pertaining to emergency episode provisions, EPA intends to take action to revise 40 CFR, Part 51, subpart H (sections 51.150). The rule changes will establish the priority classifications which determine the emergency episode plan

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110(a)(2)(H) Future SIP revisions	... “provide for revision of such plan - (i) from time to time as may be necessary to take account of revisions of such national primary or secondary ambient air quality standard or the availability of improved or more expeditious methods of attaining such standard, and (ii) except as provided in paragraph (3)(C), whenever the Administrator finds on the basis of information available to the Administrator that the plan is substantially inadequate to attain the national ambient air quality standard which it implements or to otherwise comply with any additional requirements established under this Act;”	Air Quality Implementation Plan, Chapter 13, (March 3, 1972). “This implementation plan is intended to be dynamic, not static. To this end, it will be revised when necessary.” CGS section 22a-174(d). The Commissioner is authorized with all incidental powers necessary to control and prohibit air pollution.
110(a)(2)(J) Consultation with government officials	... “meet the applicable requirements of section 121 (relating to consultation)	CGS Section 22a-171. Duties of Commissioner of Environmental Protection. “(5) advise and consult with agencies of the United States, agencies of the state, political subdivisions and industries and any other affected groups in furtherance of the purposes of this chapter.” CGS Section 22a-174(d). “The commissioner shall have all incidental powers to carry out the purposes of [Chapter 446c, entitled “Air Pollution Control,” which encompasses Conn. Gen. Stat. Sections 22a-170 through 22a-206] . . . CGS Chapter 54. Uniform Administrative Procedures Act. State Implementation Plan Revision Advisory Committee (SIPRAC) established in 1972 and generally meets each month.

requirements for each area and establish a significant harm level (SHL) for PM_{2.5}. Until these changes are final, EPA recommends that States rely on relevant information contained in upcoming EPA rule proposals or other EPA issued interim guidance to satisfy the section 110(a)(2)(G) requirements for PM_{2.5}...”

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110(a)(2)(J) Public notification	... “meet the applicable requirements of section 127 (relating to public notification),	CGS Section 4-168. Notice prior to action on regulations. CGS Section 22a-171. Duties of Commissioner of Environmental Protection. ...“(2) Initiate and supervise state-wide programs of air pollution control education;” CGS Section 22a-174(d). “The commissioner shall have all incidental powers to carry out the purposes of [Chapter 446c, entitled “Air Pollution Control,” which encompasses Conn. Gen. Stat. Sections 22a-170 through 22a-206] . . .
110(a)(2)(J) PSD and visibility Protection	... “meet the applicable requirements of part C (relating to prevention of significant deterioration of air quality and visibility protection);”	RCSA section 22a-174-3a(k). Permit Requirements for Attainment Areas: Prevention of Significant Deterioration of Air Quality (PSD) Program. This section addresses the prevention of significant deterioration of air quality and visibility protection.
110(a)(2)(K) Air quality modeling/data	... “provide for - (i) the performance of such air quality modeling as the Administrator may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any air pollutant for which the Administrator has established a national ambient air quality standard, and (ii) the submission, upon request, of data related to such air quality modeling to the Administrator;”	RCSA section 22a-174-3a(i). Ambient Air Quality Analysis: “The commissioner may request any owner or operator to submit an ambient air quality impact analysis using applicable air quality models and modeling protocols approved by the commissioner.” EPA PM2.5 NSR Rule: With respect to its NSR permit program, Connecticut will begin implementing 40 CFR 51 Appendix S for PM _{2.5} as of July 15, 2008 in Fairfield and New Haven counties.

CAA Section	Required CAA Element	Corresponding Connecticut Program Element(s)
110(a)(2)(L) Permitting fees	... “require the owner or operator of each major stationary source to pay to the permitting authority, as a condition of any permit required under this Act, a fee sufficient to cover - (i) the reasonable costs of reviewing and acting upon any application for such a permit, and (ii) if the owner or operator receives a permit for such source, the reasonable costs of implementing and enforcing the terms and conditions of any such permit (not including any court costs or other costs associated with any enforcement action), until such fee requirement is superseded with respect to such sources by the Administrator's approval of a fee program under title V;”	<p>CGS Section 22a-6(a)(10). The commissioner may . . . by regulations adopted in accordance with the provisions of chapter 54 require the payment of a fee sufficient to cover . . . the reasonable cost of reviewing and acting upon an application for and monitoring compliance with the terms and conditions of any state or federal permit, license, registration, order, certificate or approval required . . .</p> <p>CGS Section 22a-6f. Authorizes the commissioner to require annual fees.</p> <p>CGS Section 22a-174(g). “The commissioner shall require, by regulations adopted in accordance with the provisions of chapter 54, the payment of a permit application fee sufficient to cover the reasonable costs of reviewing and acting upon an application for, and monitoring compliance with the terms and conditions of, any state or federal permit, license, order, certificate or approval required pursuant to this section. . . .”</p> <p>RCSA section 22a-174-26(c)(1). “Each person to whom the commissioner issues a permit, or a modification or renewal thereto, under section 22a-174-3a, section 22a-174-2a and section 22a-174-19 of the Regulations of Connecticut State Agencies shall pay a permit fee as prescribed in the fee schedule in subdivision (2) of this subsection.” The fee schedule is set forth in Table 26-1 of subsection 2.</p> <p>RCSA section 22a-174-33(j)(1)(Z). Requires Title V source to pay all fees due under RCSA section 22a-174-26. (Approved as satisfying 40 CFR 70.6(a)(7). See 67 FR 31966 (May 13, 2002)).</p>
110(a)(2)(M) Consultation/ participation by affected local entities	... “provide for consultation and participation by local political subdivisions affected by the plan.”	<p>CGS Section 4-168. Notice prior to action on regulations.</p> <p>Connecticut Air Quality Implementation Plan, Chapter 12 “Intergovernmental Relations” (March 3, 1972). “The State will take immediate action in coordinating and delegating new responsibilities to local agencies that are prepared to accept the responsibility.”</p>