2023 MARAMA SIP Development Workshop

Infrastructure State Implementation Plan (I-SIP) Requirements

May 23, 2023

North Carolina Department of Environmental Quality, Division of Air Quality

Topics Covered

- Clean Air Act (CAA) Infrastructure SIP (I-SIP) Requirements
- U.S. Environmental Protection Agency (EPA) Guidance
- CAA elements addressed in an I-SIP
- EPA Completeness Determination / Approvability of I-SIPs
- Auxiliary Slides - CAA language for each element

Acronyms and Abbreviations

Acronym	Definition
CAA	Clean Air Act
CFR	Code of Federal Regulations
EPA	U.S. Environmental Protection Agency
NAAQS	National Ambient Air Quality Standards
PSD	Prevention of Significant Deterioration
SIP	State Implementation Plan

What is an Infrastructure SIP (I-SIP)?

- An I-SIP is a State Implementation Plan (SIP) in which a state air agency documents its authority and ability to implement, maintain, and enforce compliance with a new or revised primary and/or secondary National Ambient Air Quality Standard (NAAQS).

- The plan details the state's infrastructure (programs/policies, rules, authority) that is in place to maintain the NAAQS.

- CAA requires an I-SIP to address Part A (Air Quality and Emission Limitations), Section 110(a)(1) and Section 110(a)(2). [Codified in U.S. Code at Section 7410]

CAA I-SIP Requirements

42 U.S.C.

United States Code, 2013 Edition

Title 42 – The Public Health and Welfare

Chapter 85 - Air Pollution Prevention and Control

Subchapter I – Programs and Activities

Part A - Air Quality and Emission Limitations

CAA Section 110 (U.S. Code Section 7410) - State implementation plans for national primary and secondary ambient air quality standards

- **Section 110(a)(1)** – Schedule for preparing I-SIP submissions.
- **Section 110(a)(2)** – Specifies the substantive elements that I-SIP submissions need to address.

EPA I-SIP Guidance

- EPA Website
  - https://www.epa.gov/air-quality-implementation-plans/infrastructure-state-implementation-plan-sip-requirements-and#guidance%20docs
- Fact Sheet About Guidance on Development and Submission of Infrastructure State Implementation Plans for National Ambient Air Quality Standards
  - https://www.epa.gov/sites/default/files/2015-12/documents/fact_sheet_guidance_on_infrastructure_sip_elements_final_sept_2013.pdf
- Guidance on Infrastructure State Implementation Plan (SIP) Elements Under Clean Air Act Sections 110(a)(1) and 110(a)(2) (September 13, 2013)
  - https://www.epa.gov/sites/default/files/2015-12/documents/guidance_on_infrastructure_sip_elements_multipollutant_final_sept_2013.pdf
  - This guidance does not address Section 110(a)(2)(D)(i)(I), which specifically concerns interstate pollution transport affecting attainment and maintenance of the NAAQS.

CAA Section 110(a)(1)

- All states must submit an I-SIP to EPA within 3 years of promulgation of a new or revised primary and/or secondary NAAQS, after reasonable notice and public hearing.
- EPA Administrator is authorized to require that an I-SIP be submitted for a shorter period than 3 years after promulgation.
- CAA Section 110(k)(1) directs EPA to determine if an SIP is complete within 60 days of submission, but no later than 6 months after the submission date.
- CAA Section 110(k)(2) directs EPA to take final action on a SIP submission within 1 year after the submission is determined to be complete under CAA Section 110(k)(1).

CAA Section 110(a)(2)

Specifies the substantive elements that state SIP submissions need to address to receive EPA's approval. It includes requirements of various air programs, resources, and authority to be in place.

- General Topics Included in I-SIPs
  - Ambient air quality monitoring and data systems
  - Programs for enforcement of control measures
  - Adequate authority and resources to implement the plan

Individual CAA Section 110(a)(2) Elements

- §110(a)(2)(A) - Enforceable Emission Limitations and Other Control Measures
- §110(a)(2)(B) - Air Quality Monitoring, Compilation, Data Analysis, and Reporting
- §110(a)(2)(C) - Enforcement and Stationary Source Permitting
- §110(a)(2)(D) - Interstate Transport
- §110(a)(2)(E) - Resources, Conflict of Interest, and Emergency Backstop
- §110(a)(2)(F) - Stationary Source Emissions Monitoring, Data Collection, and Reporting
- §110(a)(2)(G) - Emergency Powers and Contingency Plans
- §110(a)(2)(H) - SIP Revision for Revised Air Quality Standards or New Attainment Methods
- §110(a)(2)(I) - SIP Revisions for New Nonattainment Areas (not included in I-SIP)
- §110(a)(2)(J) - Consultation and Public Notification
- §110(a)(2)(K) - Air Quality Modeling and Reporting
- §110(a)(2)(L) - Major Stationary Source Permitting Fees
- §110(a)(2)(M) - Consultation with Local Entities

Addressing the 110(a)(2) Elements

- Most of these elements have likely been addressed in your state's comprehensive §110(a)(2) SIP submitted in response to the 1970 CAA. New I-SIP submittals affirm your state's commitment to comply with CAA 110(a)(2).
- The CAA Amendments of 1990 provide a detailed listing of various requirements for each individual element of Section 110(a)(2)
- State provisions to meet the requirements of the elements
  1. State statutes
  2. State air quality rules approved by EPA for adoption into the SIP
  3. Other sources (e.g., Air Planning Agreement with EPA, Annual Monitoring Network Plan)
  4. Other state adopted rules not in the SIP (weight-of-evidence)

Addressing the 110(a)(2) Elements

- Use previous I-SIPs as your starting point
- Update to incorporate revisions to statutes, and rules that have been revised and approved by EPA into your SIP
- Follow EPA's guidance
- Consult with your EPA Regional Office, as needed, regarding schedule and content
  - For example, rules in the rulemaking process that have not yet been submitted to EPA for adoption into the state's SIP.

Addressing the 110(a)(2) Elements

- Elements that May Require a Separate SIP Submission from I-SIP
  - Element §110(a)(2)(I) - SIP Revisions for New Nonattainment Areas
    - Per EPA's September 13, 2013, guidance, this element does not need to be addressed in the context of an infrastructure SIP submission.
    - Requirement is only addressed when an attainment demonstration is required by a separate provision and schedule as defined by the CAA.
  - Element Section 110(a)(2)(D)(i)(I) – Interstate Transport ("Good Neighbor" SIP)
    - Modeling is typically required to quantify impact on downwind states. For this reason, a state may not be able to fully address this element in its initial I-SIP submittal and may need to address it in a follow-up submittal.

EPA Completeness Determination / Approvability of I-SIPs

- Elements and sub-elements of section 110(a)(2) for a given NAAQS are, for the most part, severable. EPA may act on I-SIP elements together or separately, as appropriate.
- EPA typically acts on the following elements as a group
  - Prevention of Significant Deterioration (PSD) Elements
    - §110(a)(2)(C) - Enforcement and Stationary Source Permitting
    - §110(a)(2)(J) - Consultation and Public Notification
    - §110(a)(2)(D)(i)(II) - Interstate Transport - Prong 3 – interference with PSD
  - §110(a)(2)(D)(i)(I) – Interstate Transport (“Good Neighbor” SIP)
    - Prong 1 – Significant Contribution to Nonattainment
    - Prong 2 – Interference with Maintenance

Notes: Prong 1 and 2 is EPA terminology used to refer to the two different sub-elements of Section 110(a)(2)(D)(i)(I).
Prong 3 (PSD) and 4 (Visibility) is EPA terminology used to refer to the two different sub-elements of Section 110(a)(2)(D)(i)(II).

EPA Completeness Determination / Approvability of I-SIPs

- Completeness determination addresses whether the air agency has provided information sufficient to commence formal EPA review for approvability.
- Any SIP submission is deemed to be complete 6 months after submission, unless the EPA has before that date made an affirmative finding that the submission is complete or incomplete.
- Refer to 40 CFR Part 51 Appendix V ("Criteria for Determining the Completeness of Plan Submissions").
- Air Agency Transmittal Letter Tips:
  - Clearly articulate which elements it is requesting EPA to review and approve to avoid completeness and approvability issues.
  - Request that EPA not adopt state statutes and legal documents referenced in I-SIP into the SIP (75 FR 27938, May 19, 2010).

Auxiliary Slides

- The following slides provide the CAA language for each element in *italics*

- EPA's guidance provides details on how to address each element

Section 110(a)(2)(A)
(Enforceable Emission Limitations and Other Control Measures)

(A) *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, as may be necessary or appropriate to meet the applicable requirements of this chapter;*

Section 110(a)(2)(B)
(Air Quality Monitoring, Compilation, Data Analysis, and Reporting)

(B) 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.

Section 110(a)(2)(C)
(Enforcement and Stationary Source Permitting)

(C) 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 of this subchapter;

The I-SIP should address each of the following three sub-elements:

- Enforcement;
- State-wide regulation of new and modified minor sources and minor modifications of major sources; and
- Preconstruction permitting of major sources and major modifications in areas designated attainment or unclassifiable for the subject NAAQS as required by CAA Title I, Part C (i.e., the major source PSD program).

Section 110(a)(2)(D)(i)(I)
(Interstate Transport)

(D) contain adequate provisions
(i) prohibiting, consistent with the provisions of this subchapter, 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,

- *Prong 1 – significant contribution to nonattainment*
- *Prong 2 – interference with maintenance*

Often referred to as the “Good Neighbor” SIP

- Modeling is typically required to quantify impact on downwind states. For ozone and $PM_{2.5}$, EPA uses a significant contribution threshold of 1% of the NAAQS.
- For this reason, a state may not be able to fully address this element in its initial I-SIP submittal and may need to address it in a follow-up submittal.

Section 110(a)(2)(D)(i)(II)
(Interstate Transport)

(D) contain adequate provisions
(i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will -
(II) interfere with measures required to be included in the applicable implementation plan for any other State under part C of this subchapter to prevent significant deterioration of air quality or to protect visibility,

- *Prong 3 – interference with PSD*
- *Prong 4 – interference with visibility protection*

Section 110(a)(2)(D)(ii)
(Interstate Transport)

(D) contain adequate provisions –
(ii) insuring compliance with the applicable requirements of sections 7426 and 7415 [CAA Sections 126 and 115] *(relating to interstate and international pollution abatement);*

- CAA Section 126 – provides a process for one or more states to petition EPA to regulate pollution from sources in one or more upwind states.

- CAA Section 115 – enables the United States to work cooperatively with other nations to address transboundary air pollution.

Section 110(a)(2)(E)
(Resources, Conflict of Interest, and Emergency Backstop)

(E) 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 7428 [CAA Section 128] *of this title, 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;

Section 110(a)(2)(F)
(Stationary Source Emissions Monitoring, Data Collection and Reporting)

(F) 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 chapter, which reports shall be available at reasonable times for public inspection;

Section 110(a)(2)(G)
(Emergency Powers and Contingency Plans)

(G) provide for authority comparable to that in section 7603 [CAA Section 303] *of this title and adequate contingency plans to implement such authority;*

Section 110(a)(2)(H)
(SIP Revision for Revised Air Quality Standards or New Attainment Methods)

(H) 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 chapter;

Section 110(a)(2)(I)
(SIP Revisions for New Nonattainment Areas)

(I) in the case of a plan or plan revision for an area designated as a nonattainment area, meet the applicable requirements of part D of this subchapter (relating to nonattainment areas);

- **This element does not need to be addressed in the I-SIP submission.**
- Specific SIP submissions for designated nonattainment areas, as required under CAA Title I, Part D, are subject to a different submission schedule than those for I-SIP elements and are reviewed and acted upon by EPA through a separate process.

Section 110(a)(2)(J)
(Consultation and Public Notification)

(J) meet the applicable requirements of section 7421 [CAA Section 121] *of this title (relating to consultation), section 7427* [CAA Section 127] *of this title (relating to public notification), and part C of this subchapter (relating to prevention of significant deterioration of air quality and visibility protection);*

Sec. 121 – Consultation
In carrying out the requirements of this Act requiring applicable implementation plans to contain –
(1) any transportation controls, air quality maintenance plan requirements or preconstruction review of direct sources of air pollution, or
(2) any measure referred to –
(A) in part D (pertaining to nonattainment requirements), or
(B) in part C (pertaining to prevention of significant deterioration), and in carrying out the requirements of section 113(d) (relating to certain enforcement orders)

Section 110(a)(2)(J)
(Consultation and Public Notification)

Section 127 – Public Notification

(a) Each State plan shall contain measures which will be effective to notify the public during any calendar [year] on a regular basis of instances or areas in which any national primary ambient air quality standard is exceeded or was exceeded during any portion of the preceding calendar year to advise the public of the health hazards associated with such pollution, and to enhance public awareness of the measures which can be taken to prevent such standards from being exceeded and the ways in which the public can participate in regulatory and other efforts to improve air quality. Such measures may include the posting of warning signs on interstate highway access points to metropolitan areas or television, radio, or press notices or information.

(b) The Administrator is authorized to make grants to States to assist in carrying out the requirements of subsection (a).

Section 110(a)(2)(K)
(Air Quality Modeling and Reporting)

(K) 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;

Section 110(a)(2)(L)
(Major Stationary Source Permitting Fees)

(L) 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 chapter, 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 subchapter V of this chapter,

Section 110(a)(2)(M)
(Consultation with Local Entities)

(M) provide for consultation and participation by local political subdivisions affected by the plan.

Contacts

Randy Strait, Planning Section Chief
Division of Air Quality
randy.strait@deq.nc.gov
919-707-8721