



*Anti-Backsliding Requirements:
Clean Air Act Section 110(l)
Noninterference Demonstrations*

Sushma Masemore, PE



Topics Covered

- Clean Air Act Section 110(I) Requirements
- Applicability and Eligible Control Measures
- Designing a Non-Interference Demonstration
- Example Non-Interference Demonstration
- Other North Carolina Examples



CAA Section 110(l)

“Each revision to an implementation plan submitted by a State under this chapter shall be adopted by such State after reasonable notice and public hearing. The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in section 171 of this title), or any other applicable requirement of this Act.”

- Example: a control measure is removed from a SIP
- Air agency must demonstrate that any modification to its SIP will not interfere with attainment and maintenance of **any of the NAAQS**, RFP, or any other applicable requirement of the CAA

Where does Section 110(l) apply?

- Applies to all requirements of the CAA
- Applies to all areas of the country, regardless of classification (i.e., attainment, nonattainment, unclassifiable or maintenance) for all of the six criteria pollutants and all applicable requirements (e.g., RACT/RACM, I&M, NSR, PSD)
- Noninterference demonstration should address all pollutants whose emissions and/or ambient concentrations may change as a result of the SIP revision
- Noninterference demonstration not required for a revoked NAAQS
 - However, the state must demonstrate noninterference with any relevant or applicable CAA requirements, including a measure adopted in its SIP for a prior NAAQS

Affected Control Measures

- “Mandatory” control measures
 - SIP requirement for an area based on designation status and classification.
 - **Cannot** be removed from the SIP unless the area is redesignated to attainment.
- “Discretionary” control measures
 - Measures not tied to an area’s classification or not mandated by the CAA.
 - **Can** be removed from an attainment, nonattainment or maintenance plan if EPA approves the Section 110(I) noninterference demonstration.
- Certain CAA sections may prohibit an area from removing a control measure:
 - General Savings Clause (Section 193)
 - Significant Interstate Contribution (Section 110(a)(2)(D))
 - Interstate Ozone Transport Region (Section 176A and Section 184)

How Does an Air Agency Design a Noninterference Demonstration?

- Consult with your EPA Regional Office for guidance.
- Two options for the affected pollutant(s):
 1. **Substitution** of one measure by another with equivalent or greater emissions reductions/air quality benefit; or
 2. **Air quality analysis** showing that removing the measure will not interfere with other applicable requirements (i.e., without a substitute measure). This can involve a review of monitoring data and/or involve air quality modeling.
- Timing:
 - The analysis should be “**contemporaneous**” to the time when the change to the control measure is expected to occur. Contemporaneous means within 1 year before or after implementation of the change.
- Pollutants covered: Depends on the control measure
- Sectors affected:
 - All anthropogenic source sectors unless otherwise directed by your Regional Office.
 - Needed to understand the magnitude of emissions increases relative to total emissions for all sectors.

Example 1: Relaxation of Federal Summertime Low-Reid Vapor Pressure (RVP) Requirement for Gasoline

- RVP: a measure of fuel volatility that is linked with increases in evaporative (VOC) emissions from gasoline powered vehicles and equipment.
- EPA promulgated volatility regulations in 40 CFR Part 80.27(a)(2) that set maximum RVP standard of 9.0 psi for attainment areas and 7.8 psi for nonattainment areas.
- NC areas subject to 7.8 psi gasoline requirement during the ozone season:
 - Triad: Davidson, Forsyth, Guilford and Davie
 - Triangle: Wake, Durham and Granville
 - Charlotte: Mecklenburg and Gaston

Example 1: Reasons for Seeking RVP Relaxation

- All 3 areas in compliance with the ozone NAAQS.
- Request from NC Petroleum and Convenience Marketers to study relaxation from 7.8 psi to 9.0 psi
 - Citing economic disadvantage between adjacent counties without stricter RVP requirements that are able to sell cheaper gasoline.
 - 7.8 psi gasoline was on average 9.4 cents/gallon more expensive in summer of 2012.
 - Cost difference of \$13.1 million in the Triad and \$13.8 million in the Triangle cited by the industry
- NC is NO_x-limited for ozone formation
- Required Steps
 1. SIP Revision
 - Updating Maintenance Plans
 - Noninterference Demonstration
 2. EPA Region IV to review and approve the SIP revision
 3. EPA Administrator to amend federal gasoline volatility rule
 4. NC Department of Agriculture to implement the new RVP standard

Example 1: Study Design/Approach

1. Air Quality Data Presentation

2. Emissions Analysis

Pollutants: VOC and NOx

Onroad Mobile: MOVES modeling

Nonroad Mobile: MOVES2014 modeling or other approved methods

Point and Area Sources: Triennial inventory grown to future years

3. Time periods: base year and future years (after implementation)

4. Geographic areas: each maintenance county

Results for Charlotte Area

Year	Increase in Anthropogenic Emissions (tons/da)		Change in Daily Anthropogenic Emissions (%)	
	VOC	NOx	VOC	NOx
2015	0.42	0.11	0.38%	.09%
2026	0.32	0.01	0.32%	.01%

Example 1: Conclusions

- Relaxation will not affect maintenance of the 2008 O3 NAAQS due to the small increase in emissions.
- VOC emissions change are minor when biogenic emissions from natural sources are accounted for.
- EPA approved maintenance SIP revision, 110(I) demonstration, and federal rule change related to RVP.

References:

Charlotte Area: <http://deq.nc.gov/about/divisions/air-quality/air-quality-planning/state-implementation-plans/charlotte-gastonia-salisbury-nc-2008-8-hour-ozone-area>

Triangle Area: <http://deq.nc.gov/about/divisions/air-quality/air-quality-planning/state-implementation-plans/raleigh-durham-chapel-hill-area>

Triad Area: <http://deq.nc.gov/about/divisions/air-quality/air-quality-planning/state-implementation-plans/greensboro-winston-salem-high-point-area>

Other North Carolina Examples

- Substitution Method

- Revisions to state's Inspection and Maintenance (I&M) Program

https://ncdenr.s3.amazonaws.com/s3fs-public/Air%20Quality/planning/IM/NC_IM_SIP_Maintenance_Demonstration_10-11-2013.pdf

- Air Quality Analysis Method

- NO_x SIP Call Transition Requirements for Large Non Electrical Generating Units (under EPA review)

<http://deq.nc.gov/about/divisions/air-quality/air-quality-planning/state-implementation-plans/nitrogen-oxides-sip-call-transition-requirements-for-large-non-electrical-generating-units>

- Repeal of Transportation Facilities Rules

<http://deq.nc.gov/about/divisions/air-quality/air-quality-planning/state-implementation-plans>

- Removal NO₂ Emissions Control Requirements from Nitric Acid Manufacturing Plants (under public notice)

<https://deq.nc.gov/about/divisions/air-quality/air-quality-planning/state-implementation-plans/pre-hearing-draft-north-carolina-clean-air-act-section-110l-noninterference-demonstration-removal>



EPA Reference Documents

- Demonstrating Noninterference Under Section 110(l) of the Clean Air Act When Revising a State Implementation Plan, DRAFT, USEPA, June 8, 2005.
- Guidance on Removing Stage II Gasoline Vapor Control Programs from State Implementation Plans and Assessing Comparable Measures, Memorandum from Stephen D. Page, Director, Office of Air Quality Planning and Standards, to Regional Air Division Directors, August 7, 2012.

Thank you.

Sushma Masemore, PE

919-707-8700

sushma.Masemore@ncdenr.gov

Questions?

