

North Carolina: Attainment Demonstrations for the Mountain, Unifour, Triad, and Fayetteville Early Action Compact Areas

Effective Update Date: 10/22/05 (70 FR 48874, 08/22/05)

Background of the Plan: Ozone is formed by a series of chemical reactions involving nitrogen oxides (NO_x), and volatile organic compounds (VOCs). Ozone and its precursors have many adverse effects on human health, and in order to mitigate these adverse health effects, EPA issued an 8-hour ozone standard on July 18, 1997, and revoked the previous 1-hour ozone standard. On April 30, 2004, EPA designated every county in the United States as unclassifiable/attainment or nonattainment based on the level of ozone present in those areas. Several areas of the United States were found to be very near the cutoff level between attainment and nonattainment, and were also within compliance with the previous 1-hour ozone standard. As a result, several of these communities entered into an agreement between State, local governments, and EPA to implement measures not necessarily required by the Clean Air Act (CAA) to achieve cleaner air as soon as possible, and sooner than required. These areas were designated nonattainment-deferred. This agreement is called an Early Action Compact (EAC), and requires communities who elect to participate, to develop and implement air pollution control strategies, account for emissions growth, and demonstrate attainment by 2007 and maintenance for at least five years of the 8-hour ozone standard. Greater details of the EAC program are provided in EPA's December 16, 2003, proposed Federal Register document entitle "Deferral of Effective Date of Nonattainment Designations for 8-hour Ozone National Ambient Air Quality Standards for Early Action Compact Areas. On December 21, 2004, the State of North Carolina submitted to EPA revisions pursuant to the EAC protocol in order to attain and maintain the 8-hour ozone NAAQS in the Mountain, Unifour, Triad, and Fayetteville EAC areas. These areas consist of a total of 19 counties

Summary of the Plan: The North Carolina state implementation plan (SIP) revisions rely on an attainment level of emissions of VOCs and NO_x to maintain the 1997 8-hour ozone standard through a combination of control measures, within the Mountain, Unifour, Triad, and Fayetteville EAC areas by 2007, and incorporated the measures developed by these EACs into North Carolina SIP. Specifically, these revisions provide the following items:

1. An attainment demonstration for the 2007-2017 period.
2. A commitment for an interim evaluation in 2012.
3. A commitment to develop the maintenance plan for a second 10-year period for 2017-2027 and a schedule for developing that plan including emission inventories and air quality modeling.
4. A commitment to update the EAC plan and submit to EPA in 2015.
5. A commitment to annually track stationary and highway mobile source emissions.
6. Commitment to adopt and implement additional control measures, if needed, throughout the maintenance period.

7. A commitment to perform air quality analyses reviews and report each December.
8. Commitments for tracking and taking follow-up action are in force unless the 8-hour ozone standard is revoked in the future.
9. A commitment to evaluate in 2008, whether or not a full modeling update is needed for all EAC areas.
10. Provide the following timeline of actions and submittals for the maintenance plan from December 2004 to December 2007.

The North Carolina submittal describes several control measures already in place or being implemented over the next few years that will contribute to attainment and maintenance of the 8-hour ozone standard. These control measures include both stationary and mobile source controls, and the attainment demonstrations were conducted and supported through photo-chemical modeling. A failure to meet any of the commitments or milestones agreed upon through the EAC process will result in EPA taking action to propose and promulgate a finding of failure to meet the milestone, and to withdraw the deferred effective date of the nonattainment designation.

Projected Design EAC Design Values:

North Carolina EAC Future Design Values (Parts Per Billion)

Area/Monitor	2007	2012	2017
Fayetteville EAC Area			
Wade	78	73	69
Golfview	77	72	68
Mountain EAC Area			
Fry Pan	77	73	73
Purchase Knob	75	70	67
Bent Creek	74	69	68
Waynesville	71	67	65
Triad EAC Area			
Cooleemee	84	79	75
Hattie Avenue	80	75	71
Union Cross	79	73	70
Bethany	76	71	70
Cherry Grove	76	72	69
McLeansville	76	71	68
Shiloh Church	76	72	68
Sophia	72	67	64
Plooirosa	69	65	63
Uniofour EAC Area			
Taylorsville	75	69	67
Lenoir/Caldwell County	73	68	66

Control Measures: The North Carolina submittal describes several control measures already in place or being implemented over the next few years that will contribute to attainment and maintenance of the 1997 8-hour ozone standard. These measures include controls on both stationary and mobile emission sources. These control measures include but are not limited to the following:

- Tier 2 vehicle standards and low sulfur gasoline
- The heavy-duty gasoline and diesel highway vehicle standards
- Large nonroad diesel engine standards
- Nonroad spark ignition engines and recreational engines standard
- Open burning ban
- Fuel switching at one of the RJ Reynolds facilities

Federal Register: (70 FR 30389, 05/26/05) North Carolina; Attainment Demonstration of the Mountain, Unifour, Triad, and Fayetteville Early Compact Areas – Proposed Rule; 70 FR 48874, 08/22/05) North Carolina; Attainment Demonstration of the Mountain, Unifour, Triad, and Fayetteville Early Compact Areas – Final Rule.

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